Mohanlal Sukhadia University

मोहनलाल सुखाड़िया विश्वविद्यालय, उदयपुर, 313001

NAAC-SSR (Assessment Year: 2017-22)

Criterion- 2

Teaching-learning and Evaluation

Key Indicator 2.6:

Student Performance and Learning Outcomes

Metric 2.6.1:

The institution has stated learning outcomes (Program and Course outcomes)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

POs & COs for all courses

INDEX

Faculty of Commerce

Department of Accountancy & Business Statistics

Courses offered-

- M. Com.
- MFC
- B. Voc.
- PGDIT

2.6.1 Program Outcome, Program Specific Outcomes and Course Outcomes for all courses in a word file/ PDF

M Com (ABST)

Specific outcome of this post graduate program is to enrich the students with advanced knowledge of contemporary theory of accounting, auditing and taxation. Besides, the program focuses on enriching the student with the knowledge and skill of research tools and techniques. In all, the envisaged outcome is to prepare a future academician and researcher in the subject.

MFC:

This post-graduate programme is intended to equip the student with practical knowledge of accounting, finance and quantitative analysis. Outcome envisaged is to prepare a finance professional to work at supervisory level..

B Voc (Accounting, Taxation, Auditing):

Undergraduate vocational program is focused on giving practical exposure to the students of accounting skills related with financial cost and Management Accounting, auditing taxation and quantitative analysis related with business. This course specifically envisages employability of the students in respective areas

PGDIT

This is a part time postgraduate skill-based diploma programme which focuses on imparting knowledge and skills related with taxation. Specific outcome envisaged of this program is to prepare employable postgraduates in the arena of taxation profession.

Certification Courses

These are skill based programmes which have been launches specially for those who have knowledge and experience of particular subject but not specific degree. These programmes helps a candidate to get skilled practically in different areas of accounting, taxation and business statistics. The basic outcome of these programmes is that it enables a candidate to start his or her business in such areas or one can work as tax consultant or accountant or office assistant through theses certificate courses.

Master of Vocation (Accounting, Taxation, Auditing):

Postgraduate vocational program is focused on giving practical exposure to the students of accounting skills related with BusinessPractical Accounting, Financial Statement Analysis, Business Analysis, SAP Accounting, Advanced MS Excel, Stock market trading and quantitative analysis related with business. This course specifically envisages employability of the students in respective areas.

Faculty of Architecture

Courses offered-

- B. Arch.

Mohanlal Sukhadia University, Udaipur

College of Architecture

B.Arch

TEACHING SCHEME & SYLLABUS
Effective from Academic Year 2021-2022

COURSE MATRIX

YEAR I	SEMESTER I							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B1AR01-CT01	Architectural Structures-I	2	0	0	20	80	100	2
B1AR02-CT02	Environmental Studies	2	0	0	20	80	100	2
B1AR03-CT03	Human Settlement & Vernacular Architecture	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B1AR04-CP01	Architectural Drawing & Graphics	2	0	4	120	80	200	4
B1AR05-CP02	Visual Arts & Basic Design- I	1	0	4	90	60	150	3
B1AR06-CP03	Computer Applications- I	0	0	2	30	20	50	1
B1AR07-CP04	Building Material & Construction- I	1	0	4	90	60	150	3
B1AR08-CP05	Model Making & Workshop	1	0	2	60	40	100	2
B1AR09-CP06	Professional Communications	0	0	2		50	50	1
	Total	**11**	**0**	**18**	**450**	**550**	**1000**	**20**
	Total Teaching Hours	**29**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credits

YEAR I	SEMESTER II							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B2AR01-CT04	Surveying & Leveling	2	0	0	20	80	100	2
B2AR02-CT05	Climatology	2	0	0	20	80	100	2
B2AR03-CT06	Architectural Structures II	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B2AR04-CP07	Architectural Design- I	2	0	4	120	80	200	4
B2AR05-CP08	Visual Arts & Basic Design- II	1	0	4	90	60	150	3
B2AR06-CP09	Computer Applications- II	1	0	2	60	40	100	2
B2AR07-CP10	Building Material & Construction-II	1	0	4	90	60	150	3
B2AR08-CP11	Surveying Lab	0	0	2	30	20	50	1
B2AR09-CP12	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**11**	**0**	**18**	**480**	**520**	**1000**	**20**
	Total Teaching Hours	**29**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credits

YEAR 1I	SEMESTER III							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B3AR01-CT07	Humanities	2	0	0	20	80	100	2
B3AR02-CT08	History of Architecture-I	2	0	0	20	80	100	2
B3AR03-CT09	Architectural Structures III	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B3AR04-CP13	Architectural Design- II	1	0	6	120	80	200	4
B3AR05-CP14	Building Material &Construction-III	1	0	4	90	60	150	3
B3AR06-CP15	Computer Applications- III	0	0	2	60	40	100	2
B3AR07-CP16	Structure Lab	0	0	4	60	40	100	2
B3AR08-CP17	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**8**	**0**	**18**	**420**	**480**	**900**	**18**
	Total Teaching Hours	**26**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR II	SEMESTER IV							
	THEORY	Hours			Marks			Cr
Course Code	Course Name	L	T	P	IM 20%	EM 80%	Total	
B4AR01-CT10	Specifications & Estimation	2	0	0	20	80	100	2
B4AR02-CT11	History of Architecture-II	2	0	0	20	80	100	2
B4AR03-CT12	Architectural Structures IV	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	Course Name	L	T	P	IM 60%	EM 40%	Total	Cr
B4AR04-CP18	Architectural Design- III	1	0	6	120	80	200	4
B4AR05-CP19	Building Material &Construction-IV	1	0	4	90	60	150	3
B4AR06-CP20	Measured Drawing & Documentation	1	0	2	60	40	100	2
B4AR07-CP21	Computer Applications- IV	1	0	2	60	40	100	2
B4AR08-CP22	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**10**	**0**	**16**	**420**	**480**	**900**	**18**
	Total Teaching Hours	**26**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR III	SEMESTER V							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B5AR01-CT13	Building Plumbing Services	2	0	0	20	80	100	2
B5AR02-CT14	History of Architecture-III	2	0	0	20	80	100	2
B5AR03-CT15	Architectural Structures V	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B5AR04-CP23	Architectural Design- IV (Including Educational Tour)	1	0	6	120	80	200	4
B5AR05-CP24	Building Material &Construction-V	1	0	4	90	60	150	3
B5AR06-CP25	Interior Design	1	0	2	60	40	100	2
B5AR07-CP26	Elective-I 1. Furniture Design 2. Product Design 3. Digital Design	1	0	4	90	60	150	3
B5AR08-CP27	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**10**	**0**	**18**	**450**	**500**	**950**	**19**
	Total Teaching Hours	**28**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR III	SEMESTER VI							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B6AR01-CT16	Building Electrical Services	2	0	0	20	80	100	2
B6AR02-CT17	History of Architecture-IV	2	0	0	20	80	100	2
B6AR03-CT18	Architectural Structures VI	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B6AR04-CP28	Architectural Design- V	1	0	6	120	80	200	4
B6AR05-CP29	Building Material &Construction-VI	1	0	4	90	60	150	3
B6AR06-CP30	Landscape Design	1	0	2	60	40	100	2
B6AR07-CP31	Elective-II 1. History of Architecture of Rajasthan 2. Vernacular Architecture of Rajasthan 3. Arts & Crafts of Rajasthan	1	0	4	90	60	150	3
B6AR08-CP32	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**10**	**0**	**18**	**450**	**500**	**950**	**19**
	Total Teaching Hours	**28**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR IV	SEMESTER VII							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B7AR01-CT19	Building Mechanical Services	2	0	0	20	80	100	2
B7AR02-CT20	Contract Documents & Byelaws	2	0	0	20	80	100	2
B7AR03-CT21	Acoustics & Illuminitation	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B7AR04-CP33	Architectural Design- VI	1	0	6	120	80	200	4
B7AR05-CP34	Working Drawing	1	0	4	90	60	150	3
B7AR06-CP35	Settlement Planning	1	0	2	60	40	100	2
B7AR07-CP36	Elective-III 1. Universal Design 2. Research Methodology 3.Architectural Journalism	1	0	4	90	60	150	3
B7AR08-CP37	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**10**	**0**	**18**	**450**	**500**	**950**	**19**
	Total Teaching Hours	**28**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR IV	SEMESTER VIII	
Course Code	**Course Name**	Duration
	Practical Training 1. Presentation & Approval Drawings 2. Site Visits & Studies 3. Critical appraisal of built projects 4. Working Drawing & Details 5. Training Report	140 days

YEAR V	SEMESTER IX							
	THEORY	**Hours**			**Marks**			**Cr**
Course Code	**Course Name**	**L**	**T**	**P**	**IM 20%**	**EM 80%**	**Total**	
B9AR01-CT22	Professional Practice & Management	2	0	0	20	80	100	2
B9AR02-CT23	Sustainable Architecture	2	0	0	20	80	100	2
B9AR03-CT24	Disaster Resistant Architecture	2	0	0	20	80	100	2
	PRACTICAL/ STUDIO							
Course Code	**Course Name**	**L**	**T**	**P**	**IM 60%**	**EM 40%**	**Total**	**Cr**
B9AR04-CP38	Architectural Design- VII	1	0	6	120	80	200	4
B9AR05-CP39	Dissertation (Including Thesis Seminar)	1	0	4	90	60	150	3
B9AR06-CP40	Training Presentation	0	0	4	90	60	150	2
B9AR07-CP41	Elective-IV 1. Housing 2. Urban Design 3.Urban Conservation	1	0	4	90	60	150	3
B9AR08-CP42	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**9**	**0**	**20**	**480**	**520**	**1000**	**19**
	Total Teaching Hours	**29**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

YEAR V	SEMESTER X							
		Hours			Marks			Cr
Course Code	Course Name	L	T	P	IM 60%	EM 40%	Total	
B10AR01-CP43	Thesis Project	2	0	10	210	140	350	7
B10AR02-CP44	Elective- V: Design Elective Related to Thesis 1. Interior Design 2. Landscape Design 3. Urban design	1	0	4	90	60	150	3
B10AR03-CP45	Elective VI: Technology Elective Related to Thesis 1. Plumbing Design 2. Electrical Design 3. Mechanical Design	1	0	4	90	60	150	3
B10AR04-CP46	Guided Study & Field Trip	0	0	2	30	20	50	1
	Total	**4**	**0**	**20**	**420**	**280**	**700**	**14**
	Total Teaching Hours	**24**						

L- Lecture
T- Tutorial
P- Practical / Studio
IM- Internal Marks
EM- External Marks
Cr- Credit

ARCHITECTURAL STRUCTURES I **B.ARCH Semester: I**
Code: B1AR01-CT01
Course Objectives: Introducing simple structural concepts and behaviour of structural elements.
Anticipated Learning Outcomes: Understanding of concepts taught in the semester through simple numerical calculations and models

UNIT	CONTENT
1	**Forces:** Concept of Force, Graphical Presentation of Force, Coplanar and non Coplanar Forces, Concurrent and Non Concurrent Forces, Composition and Resolution of Coplanar Forces by Graphical and Analytical Methods.
2	**Centroids And Moment Of Inertia Of Plane Areas:** Built up Steel Sections, Centre of Gravity And Moments of Inertia, Parallel Axes Theorem, Product of Inertia, Radius of gyration, Perpendicular axis theorem.
3	**Lifting Machines:** Mechanical Advantage, Velocity Ratio and Efficiency, Law of Machine, Pulleys and Pulley Blocks.
4	**Simple Stresses and Strains:** Concept of stress and strain in three dimensions and generalized Hooke's law; Young's modulus; Tension test of mild steel and other materials: true and apparent stress, ultimate strength, yield stress and permissible stress; Stresses in prismatic & non prismatic members and in composite members.
5	**Types of Loads:** Requirements of good structures, safety, stability, economy, Dead, Live, Wind, Impact, Earthquake, Concentrated, Uniformly Distributed and Varying Loads, loads system, critical combination of loads, earthquake forces, and wind loads on tall building.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	B.C.Punmia, "Strength of Materials", Laxmi Publications (P) Ltd., New Delhi	2006
2	Ashok Jhunjhunwala, "Engineering Mechanics", Tata McGraw Hills	2009
3	Singer and Patel, "Strength of Material", Harper Collins Publishers	2008
4	Timoshenko & Gere, "Mechanics of Structures", CBS Publishers and Distributers.	2009
5	S.B Junnarkar, "Mechanics of Structures Vol. I & II", Charotar Publishing House, Anand	2009

ENVIRONMENTAL STUDIES **B.ARCH Semester 1**
Code: B1AR02-CT02
Course Objectives: To bring about awareness of a variety of environmental concerns and to create a pro-environment attitude and behavioural pattern in society based on sustainable lifestyles.
Anticipated Learning Outcomes: Awareness of a wide range of environmental concerns and ability to act at their own level to protect the environment we all live in.

UNIT	CONTENT
1	**Fundamentals of Ecology & Environment** - Fundamental of Ecology, Environment, Resources, Sustainable habitats and ecological footprints of cities.
2	**Fundamentals of Impact of human activities on Environment** - Impact of human activities on ecology and our environment leading to water pollution, air pollution, noise pollution etc., overall environmental degradation, reduced quality of life, climate change and natural disaster.
3	**Fundamentals of environmental Planning and Design** - Built Environment, new urbanism and sustainable architecture leading to energy efficient, environment friendly, low waste human settlements, climate friendly, energy efficient green buildings and art in our built environment.
4	**Fundamentals of Environmental Legislations** - Introduction to salient provisions of environmental legislation in India and concerned departments / agencies for basic understanding.
5	**Fundamentals of Environmental Impact Assessment** and Environmental clearance of projects pertaining to Built Environment for basic understanding.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Engine P. Odum and Garry W Barreit "Fundamentals of Ecology" Thomson – Brooks/ Cole	2006
2	A.K.Jain "Ecology and Nature Resource Management for Sustainable Development" Management Publishing Co.	2001
3	Goudi Andren "The human impact in Natural Environment", Basic Btackwell, Oxford	1981
4	McHarg Ian "Design with Nature" – Natural History Press, New York	1969
5	James Steele, "Ecological Architecture", Thames & Hudson	2005

HUMAN SETTLEMENT &VERNACULAR ARCHITECTURE **B.ARCH Semester I**
Code: B1AR03-CT03

Course Objectives: Introduce traditions of building structures for habitation, made without the intervention of professional architects.
Anticipated Learning Outcomes: Familiarity with simple ways of building and settling a community that related to local customs, social systems, climate, available materials and construction methods.

UNIT	CONTENT
1	Vernacular architecture including primitive or aboriginal architecture; indigenous architecture; ancestral or traditional architecture; folk, popular, or rural architecture;
2	Ethnic architecture or ethno-architecture; informal architecture; the so-called "anonymous architecture" or "architecture without architects;" and even “non-pedigree” architecture
3	Early human settlements — Causal factors and pattern of development. Human settlements of River valleys civilisation (e.g. Indus-valley civilisation, Egyptian civilisation, etc. Early Vedic civilisation patterns, Canonical patterns as per various Indian contexts.
4	Vernacular architecture in Indian context Definition(s) of vernacular architecture and related terminologies; Difference between vernacular architecture and traditional architecture; Relevance of vernaculararchitecture in present context; Typologies in different climatic regions of India.
5	Settlements and dwelling patterns Regional dwelling patterns like ‘dhanis’ (hamlets), villages and their overall adaptation in the said context; Settlements and their vicinity to water resource(s) as places of worship and social activity; water related architecture and typical water resources like kua, kohar, baoli/bavdi, jhalora, bera/beri.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Brunskill, R. W. Illustrated Handbook of Vernacular Architecture. Castle Rock : Faber & Faber.	1987
2	Christian Schittich (Ed.) Vernacular Architecture Atlas for living throughout the world. Birkhauser	2019
3	Lindsay Asquith & Marcel Vellinga, Vernacular Architecture in the 21st Century, Theory Education & Practice, Taylor & Francis	2020
4	Kingston Wm.Heath, Vernacular Architecture & Regional Design, Routledge	2020
5	Cooper,I and Dawson, B. Traditional buildings of India. London : Thames & Hudson.	1998

ARCHITECTURAL DRAWING & GRAPHICS **B.ARCH Semester: I**
Code: B1AR04-CP01
Course Objectives: Introducing basic principles of design, space articulation and architecture and the use of drawing as a communication tool for design information.
Anticipated Learning Outcomes: Ability to assemble simple spatial elements in articulated constructs and visually represent them through hand-made 2D drawings and models.

UNIT	CONTENT
1	**Free hand & Scale drawing** – Introduction to subject. Getting acquainted with necessary instruments of drawing. Learning to draw straight & curved lines with different qualities. Terminology & abbreviations used in architectural drawing. Learning good lettering to improve and maintain quality of presentation. Different types of lettering for titles and annotation of drawings. Introduction to various types of lines such as outline, construction line, centre line etc. Use of scale in drawings and their use in practice & construction of plain & diagonal scale. Reduction and enlarging of given drawings
2	**Orthographic projections** – Learning meaning of terms `Plan and Elevations' and using them for drawing simple objects through orthographic projections. Orthographic projection of lines for any given condition determination of true length, traces and inclinations to the planes of projection of any given line. Traces of planes, plane figure inclined to one or both the reference planes. Simple solids like prisms, pyramids, tetrahedron cone, spheres in different position to the reference plane.
3	**Metric & Complex Projections** – Different ways of presentation of solids in 3D projections like Axonometric, Isometric, oblique. Learning principles of solids, applying them to workout and drawing developed surfaces of simple geometric solids and using them to make models of some of them. Section planes in different angles, drawing of true section and introduction of slicing method. Interpenetration of solids.
4	**Perspective Projections** – Understanding basic principles of perspective drawings. Introduction of basic elements such as station point, picture plane, eye level, centre of vision, cone of vision, vanishing points etc. Drawing one point and two point perspectives through plan and elevation method, plan and vanishing points method & measuring point method. Types of perspective projections such as one point, two point, three point, worm's eye view, bird's eye view, Normal view etc.
5	**Sciography** – Introduction to sciography, understanding shade & shadow, umbra & penumbra, Principles of conventional angle of light and its rays acting as a projectors to cast shadow of simple plane. Studying sciography and methods of representing it in 2D projections. Applying sciography to 3D geometrical projections especially Isometric projections.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Philip Meggs, "A History of Graphic Design", John Wiley & Sons; 3 edition	1998
2	N.D.Bhatt, "Elementary Engineering", Charotar Publishing House, Anand	1991
3	Edward J.Muller, James G. Fausett, Philip A. Grau, "Architectural Drawing and Light Construction", Prentice hall New Jersey	1991
4	Alexander W. White, "The elements of Graphic Design Space, Unity, Page, Architecture and Types", All worth press, 1 edition.	2001
5	Francis D.K.Ching with Steven P. Juroszek, "Design Drawing", John wiley & sons, NY.	1998

VISUAL ARTS & BASIC DESIGN- I **B.ARCH Semester: I**
Code: B1AR05-CP02

Course Objectives: Introducing free-hand drawing and Two-Dimensional graphic design as a way of understanding the place of art in architecture.
Anticipated Learning Outcome: Ability to draw in various media and materials, to develop the power of drawing as a means of coordinating eye and hand in studio and field observation, to judge proportion, scale, and spatial relationships, understand principles of visual composition and experiment with them.

UNIT	CONTENT
1	**Elements of Visual Arts:** Brief historical review of Fine arts and interdependency of Visual arts, Architecture, painting & sculpture. Exposure to the life & works of famous artists & art forms. Theories related to visual perception –Proximity, repetition, simplest and largest figure, continuity & closure, Figure & ground relationship. Study of Line, Form, Colour, Texture, Space through Observation, Perception and Expression. Study of classification of colours with different hues , values and shades. Colour wheel and colour composition, Properties of colour.
2	**Principles of Art and Design:** Exploration of the basic principles of composition such as Balance, Proportion, Harmony, Contrast, Emphasis, character with building examples. Ordering principles such as Axis,Symmetry,Hierarchy,Datum,Rhythm & Repetition etc. and its role in architectural expression.
3	**Two Dimensional Explorations:** Introduction to Principles of Organization/ Composition. Study of Visual properties of 2-Dimensional forms both Geometrical & Non-Geometrical surfaces and visual textures, optical illusions etc. Emphasizing on Elements and Principles of Art and Design by Composing Shapes and Forms in Various Mediums.
4	**Indoor and Outdoor Sketching:** Learning to Draw by Seeing and Observing. Free hand line sketching and drawing of natural & manmade, Still and Moving Objects such as Human Figures, Vegetation, Automobiles, Historic or new built up structures etc.
5	**Rendering:** Shading Techniques using Materials such as Pencils, Pencil Colours, Water Colours, Poster Colours, Pen and Ink, charcoal & crayons for development of environmental and architectural ideas. Simple geometric objects, complex geometries and objects in nature & Architecture , shade and shading techniques.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Robert Gill, “Rendering with pen and ink”, Thames & Hudson	1990
2	Gianni A. Sarcone, “Drawing & Illustration”, Arcturus Publication	2012
3	Otto G. Ocvirk, “Art Fundamentals”, Mcgraw Hill	2006
4	Gianni A. Sarcone, “Drawing optical illusions”, Arcturus Publication	2012
5	Trudy Friend, “Landscape problem and solutions”, David & Charles	2005

COMPUTER APPLICATIONS- I **B.ARCH Semester: I**
Code: B1AR06-CP03
Course Objectives: Introducing basic computer skills as relevant to the architectural profession and to bring all students from different backgrounds up to a common level of computer proficiency.
Anticipated Learning Outcomes:
Ability to do word and image processing to make short reports and seminar presentations and make 2D orthographic projections in CAD.

UNIT	CONTENT
1	**Word processing:** Basic templates for creating text documents, editing, formatting, spelling/grammar check, dictionary and thesaurus, page layout, fonts, indentation, inserting tables and images, document review and annotation in software like MS Word.
2	**Numerical processing:** preparing and editing spreadsheets in software like MS Excel. Collating raw data into numbers for analytical use.
3	Slide Presentations in software like MS PowerPoint, insertion of drawings, audio/video clips.
4	Introduction to Computer Applications in Architecture. Introduction to drafting and modeling software relevant to architecture viz. AutoCAD, Proge CAD, ZWCAD, Draft sight, Google Sketchup, 3ds Max etc.
5	Simple exercises in to 2D CAD software (AutoCAD/Revit) specifically for proficiency of, drawing/editing objects, text, dimensioning, making and inserting blocks, etc. and an understanding of units settings, scale, limits, line type, line weight, layers, colours, and print commands.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Cadfolks, “Autocad 2014 for Beginners”, Create Space Independent Publishing Platform	2014
2	Bill Fane, “AutoCAD 2014 For Dummies”, John Wiley & Sons	2013
3	Randy H. Shih, “Exploring DraftSight” Schroff Development Corp	2009
4	Chris Grover, “Google Sketch Up”, Shroff/O'Reilly	2009
5	Kelly L. Murdock, “Google SketchUp and SketchUp Pro 7 Bible”	2009

BUILDING MATERIAL & CONSTRUCTION-I **B.ARCH Semester: I**
Code: B1AR07-CP04
Course Objectives: To introduce students to primary building materials and simple construction techniques as applicable to a low-rise building- three to four storied contemporary building.

UNIT	CONTENT
1	**Building Stones**–Classification of rocks, Quarrying of building stones, Properties of building stones, Common building stones and their uses, Qualities of good building stones, Defects in stones and their remedial measures, Physical tests on stones such as absorption test, hardness test, crushing test etc., Artificial stones, Dressing and various finishes on stones. B.I.S. specification for stones. Various building elements such as foundation, wall, roof/floor and openings using stones in load bearing construction. Classification of arches. Construction of staircase, ramp, retaining wall, columns and piers in stone. Use of stone in various building components such as door window frame, lintel, sill, etc.
2	**Earth, Soil and Laterite**–Types and Properties of Earth, Soil and Laterite. Construction systems such as adobe, rammed earth, wattle and daub, CSEB etc., Problems of Earth, Soil and Laterite construction and their remedial measures. Soil stabilizers, Physical tests on earth, soil & laterite, BIS specification. Various building elements such as foundation, wall, openings using earth, soil and laterite in load bearing construction. Construction of staircase, ramp, retaining wall, Column and Piers in earth, soil and Laterite. Adobe, rammed earth, wattle & daub construction in mud.
3	**Bricks** - Composition of good brick earth, Manufacturing of bricks, Properties of bricks, Qualities of good bricks, Classification of bricks, Market forms of bricks such as hollow brick, bullnose brick, perforated, etc. Uses of bricks in building, storage of bricks, Physical tests for bricks, Brick substitutes, BIS specifications. Various building elements such as foundation, wall, roof, floor and openings using bricks in load bearing construction. Special bonds in brick such as rat trap bond, herring bone bond, etc. Details at junctions and quoins. Construction of staircase, ramp and retaining wall in Brick.
4	**Clay Products & Pozzolanas** – Types of Tiles, Characteristics of a good tile, Manufacture of tiles, Earthenware, Stoneware, Porcelain, Clay blocks. Natural & Artificial Pozzolanic materials, Advantages of addition of pozzolanas, Storing of pozzolanas, Chemical & physical characteristics of fly ash. BIS specifications. Various building elements such as roof and floor using clay products such as roof and floor tiles. Use of clay products in various building components.
5	**Protective finishes, Machines & Equipments –** Protective finishes on building stones, earth laterite bricks and clay products. Protective finishes such as Damp proofing and water proofing in case of construction in stones, earth, laterite and bricks. Study of Machines & Equipments for manufacturing, transportation, preparation and laying of building stone, earth, brick and clay products. Drawings of machines and equipments used for manufacturing, transportation, preparation and lying of building stone, earth, brick and clay products.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S.C.Rangwala, “Engineering Materials”, Charota Publishing Housing Pvt. Ltd. Anand (Gujrat)	1997
2	Sushil Kumar, “Building Construction”, M/s. Standard Publishers & Distributors, Delhi	2003
3	Robin Barry, “The construction of buildings (Vol. I-V)”, Blackwell publishing	2000
4	Francis D.K.Ching, “Building Construction Illustrated”, John Wiley	1975
5	Handbook on Building Construction Practices, BIS, New Delhi	1997

MODEL MAKING AND WORKSHOP **B.ARCH Semester 1**
Code: B1AR08-CP05
Course Objectives: Introduce different techniques of model making in various materials and basic processes for fabrication and assembly of simple building components
Anticipated Learning Outcomes: Ability to make true scale models of architectural designs, manually and mechanically and familiarity with carpentry, joinery, smithy and moulding with different materials and techniques.

UNIT	CONTENT
1	**Model Making:** (a) Surface Modelling: Basic geometry like cube, cuboid, cylinder, cone, pyramids by single surface development through cutting and pasting. (b) Form Modelling: basic geometry by using thermocol & various solid materials to understand the characteristics of materials.
2	**Model Making (Advance):** Study of complex figures to achieve complexity in model making, with addition & subtraction in basic geometry by using paper, mount sheet, mount boards etc.
3	**Photography:** About the Types of Camera, accessories, lenses, films their usages, setting of camera, aperture, & Shutter speed settings, compositions with respect to view finder, E.V. value colour, white balance, I.S.O. & Exposure.
4	**Carpentry & Metal Workshop:** Types of joint in wood such as butt, dovetails, rebate, tongue and groove etc. how to cut and weld the metal, molding, bolting, usages of fabrication in architecture.
5	**Modeling & Casting Techniques:** volumetric study using clay and Plaster of Paris, Clay Modeling, Types of Clay, Casting in Plaster of Paris and other materials

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Donald Stoltenberg, “The Artist & Built Environment”, Davis Publication	1980
2	Keith Critchlow, “ Order in Space”, Thames & Hudson	2000
3	R.C.Gupta, ”Basic Shop Theory carpentry”, Dhanpat Rai publications	
4	Edword Luice Smith, Paul J Karlstroam,” Fletcher Benton”, Harry N Abrams publications, First Edition	1990
5	Robert J. Lang, “Origami animals”, Crescent Books Publishers	1992

PROFESSIONAL COMMUNICATIONS **B.Arch Semester: I**
Code:B1AR09-CP06

Course Objectives: Introduce basis language skills for oral professional communication that enables effective conversation in the classroom and participation in conferences and seminars.

Anticipated Learning Outcomes : Students should be able to speak and understand spoken English to carry out a meaningful conversation on topics related to Architecture, particularly in the Studio.

UNIT	CONTENT
1	Importance of conversation, definition, process and feedback in communication, cultural influences as barriers to effective communication, features of effective communication
2	Types of professional communication, Letters, Email, short messages, reports, listening and responding, Live, Tele – and Video-conferencing as a media of modern communication, ethics related to various forms of communications.
3	Planning, composing, and writing, Guide to effective writing: Planning and conducting conversations, interviews, preparation and rehearsal of oral statements for presentations, body language, effective listening, telephonic communication.
4	Dimensions of communication (Formal and Informal, upward, downward etc.)
5	Writing a short Research Paper. This exercise is to be followed up continually in all courses throughout the program wherein students are assigned to write a paper on a particular topic related to the course as decided by the subject teacher concerned. This may include reportage of readings, site visits, field trips, conversations with experts and public, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Raman, M. & Sharma, S., Technical Communication : Principles and Practice, 2nd Ed.	
2	Market, Mike, Technical Communication	2012
3	Rizvi, M. Ashraf, Effective Technical Communication,	
4	Anderson, Paul V., Technical Communication : A Reader- Centred Approach, 6 Ed.	

SURVEYING & LEVELING **B.ARCH Semester: II**
Code: B2AR01-CT04

Course Objectives: Introduce principles of topographical survey and their application.
Anticipated Learning Outcomes: Working knowledge of manual and digital surveying techniques, ability of demarcating features and setting out a simple building on site.

UNIT	CONTENT
1	**Introduction:** Principles and classification of survey, Basic measurements in surveying, Basic methods of surveying, Different types of transverse.
2	**Horizontal Survey:** Chain survey - Introduction, Instruments, Types of chains and tapes, their uses and construction details. Compass survey - Introduction, Different type of compass, Meridians, Bearings, Dip, Declination, Local attraction, Adjustment of angles, Loose needle and fast needle method, Compass transverse. Plane Table survey - Elements of plane table survey, Plane table transverse.
3	**Vertical survey:** Levelling - Basic definitions, Types of levelling, Instruments like Theodolite, Dumpy level etc., sources of errors, Computations & Permanent adjustment of levels. Theodolite survey - Introduction, Basic definitions, Construction details, Temporary adjustment, Measurement of vertical and horizontal angle, Area computations by planimeter.
4	**Contouring:** Contour – Definition, contour signature of various land forms, Contouring and Earth work calculation.
5	**Setting out work for buildings:** Introduction, Controls for setting out, horizontal control, vertical control, setting out in vertical direction, Positioning of structure, Setting out of foundation trenches.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Arora, “Surveying”, Raj Sons Publications Pvt. Ltd.	1996
2	S.C.Rangwala, “Surveying & Levelling”, Charotar Publishing House, Anand (Gujarat)	2005
3	Dr. B.C.Punmia, “Surveying”, Laxmi Publication (P) Ltd., New Delhi	2002
4	William Irvine, “Surveying for Construction”, McGraw Hill Book Co., New Delhi	1995
5	John Clancy, “Site Surveying & Levelling”, Arnold London	1991

CLIMATOLOGY **B.ARCH Semester: II**
Code: B2AR02-CT05

Course Objectives: Understanding the elements of climate and how architecture responds to them architecture in order to develop bioclimatic design in buildings. **Anticipated Learning Outcomes:** Ability to interpret climatic data for design, understanding sun path diagrams, shadow angles, daylight factors, read wind charts and assess volume of natural ventilation

UNIT	CONTENT
1	**Introduction to Climatology:** Importance of climate in Architecture, Weather & Climate, tilt of earth axis, solar radiation quantities & earth's thermal balance. Macro and Micro climate, elements of climate such as temperature, humidity, solar radiation, wind etc. Solar geometry, sun path diagram, types and design of shading devices.
2	**Analysis of Climate:** Different types of climatic zones and their characteristics. Climatological site analysis and its application in site planning and design evolution.
3	**Thermal Comfort:** Thermal comfort factors, Methods of heat transfer, Thermal comfort Indices, Application of ET, CET, Psychometric chart and Bioclimatic chart. Thermal Behaviour of Building Elements & Materials: Thermal quantities, Time lag & decrement factor, Thermal conductivity, Thermal transmittance, Thermal Resistance, Thermal bridging, Thermal behaviour of different materials, Effect of multilayered bodies.
4	**Day light, Ventilation & Air Movement:** Natural light sources, daylight factors, day light contours & calculations. Air movement & ventilation, functions of ventilations, types of ventilation, Air movement standards, Effect of opening on ventilation.
5	**Passive means of thermal control:** Simple passive techniques such as orientation, form, building envelope, opening etc. Advance solar passive techniques for cooling & heating such as wind tower, solar chimney, roof ponding, Earth air tunnel, trombe wall, solarium, etc. Study of passive environmental control mechanism in traditional or modern built environment.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Milli Majumdar, "Energy Efficient Buildings in India", Teri & MNES	2001
2	Arvind Krishnan, "Climate Responsive Architecture – A design handbook for energy efficient buildings", Tata McGraw Hill, Delhi	2001
3	Koenigsberger, "Manual on tropical housing & building", Orient Longman	1975
4	Ishwarchand, P.K.Bhargava, "The Climatic Data Handbook", CBRI Roorkee & Tata McGraw Hills Delhi.	1999
5	Randall McMillan, "Environmental Science in Building", Palgrave	1983

ARCHITECTURAL STRUCTURES-II **B.ARCH Semester: II**
Code: B2AR03-CT06

Course Objectives: To understand simple structural concepts and behaviour
Anticipated Learning Outcomes: To demonstrate and understanding of concepts taught during the semester through simple calculations and models.

UNIT	CONTENT
1	**Shear Force And Bending Moment:** Shear Force and Bending Moment Diagrams in case of simply supported Beams, Cantilevers and beams with overhangs due to Concentrated Loads and Distributed Loads.
2	**Bending Stresses in Beams:** Theory of Simple Bending, M/I=F/Y=E/R Equation and Its Derivation, Section Modulus, Distribution of Normal Stress due to Bending.
3	**Determinacy**: Definition of determinate and indeterminate structures, redundant frames, Frames and Trusses: Pre jointed Plane Frames, Determination of Forces in the members by Method of Joints and Method of Sections.
4	**Shearing Stresses in Beams:** Composite Beams, Shear Stress Distribution In Rectangular, Circular, T And I Sections
	Torsion: Elementary concepts of torsion, shear stress in solid and hollow circular shafts, angle of twist, power transmitted by a shaft, combined bending and torsion;

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	B.C.Punmia, “Strength of Materials”, Laxmi Publications (P) Ltd., New Delhi	2006
2	R. K. Bansal, “Engineering Mechanics & Strength of Materials”, Laxmi Publications (P) Ltd.	2008
3	V.S.Prasad, “Structural Mechanics & Analysis”	2005
4	Singer and Patel, “Strength of Material”, Harper Collins Publishers.	2009
5	Timoshenko & Gere, “Mechanics of Structures”, CBS Publishers and Distributors	2006

ARCHITECTURAL DESIGN -I **B.ARCH Semester: II**
Code: B2AR04-CP07

Course Objectives: Introducing Architectural Design as the ideation of a functional space crafted by robust elements in an aesthetic manner and exploiting 3D drawings as a medium of near-realistic representation of architectural intent.
Anticipated Learning Outcomes: Ability to assimilate learning from Basic Design and Visual Arts, Building Construction and Structures and apply to an Architectural Design by weighing design choices, to draw insights from personal experience of surrounding environment, extract programmatic requirements therefrom and translate into a Design Concept to be expressed through hand-made 3D drawings and models.

UNIT	CONTENT
1	**Space, Form & Structure** – Interdependence of form, structure, function and space. Study of simple structural systems and behaviour under load, working model of structures like post and Lintel, Cantilever, arched, corbelled, trussed etc.
2	**Architectural Concept** – Various sources of inspiration for design. Types of concepts. Concept as a response to site and context. Design determinants.
3	**Circulation & Space** – Types of circulation such as internal, external. Elements of circulation. Types of space such as public, semi public, private, served & servant spaces, etc.
4	**Form composition** – Relationship of plan, Elevation and section, organization of form, composition of built form.
5	**Design** – Application of anthropometry in design of simple living and working spaces through study of furniture placement and clearances in space.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Francis D.K.Ching, “Visual Dictionary of Architecture”, Van Nostrand Reinhold	1995
2	Ernst and Peter Neufert, “Architect Data”, Blackwell Science Ltd.	2000
3	V.S.Pramar, “Design Fundamentals in Architecture”, Somya Publication Pvt. Ltd.	1973
4	Lorraine Farrelly, “The fundamentals of Architecture”, Ava Publications	2007
5	Fil Hearn “Ideas that shaped buildings”, The MIT Press Cambridge.	2003

VISUAL ARTS & BASIC DESIGN -II **B.ARCH Semester: II**
Code: B2AR06-CP08

Course Objectives: Introducing design elements in three-dimensional forms and space leading to classical methods of architectural form development, theory and application of colours,

Anticipated Learning Outcomes: Ability to identify and analyse the elements, principles and vocabulary of three-dimensional design; Identify and apply colour properties and concepts

UNIT	CONTENT
1	**Form** – Form and nature, Visual and emotional effects of geometric forms and their derivatives – sphere, cube, pyramid, cylinder, cone etc. Properties of forms. Transformation of forms such as dimensional, substractive, additive forms. Articulation of forms.
2	**Space** – Space defining elements – horizontal and vertical elements, Openings in space defining elements, spatial relationship, spatial organization.
3	**Anthropometry –**Space and human activity. Average measurements of human body in different postures, its proportion and graphic presentation. Basic human functions and their implications for space requirement. Minimum and optimum areas for various functions.
4	**Proportion and Scale –** Visual and Human scale, Theories of proportions – Modular theory, golden section, Ken, etc. Application of these theories in Nature, Art & Architecture.
5	**3D Explorations -** Study of 3D Forms using principles of Design like repetition, symmetry, rotation, rhythm etc. for making murals, sculptures, installations using different materials like clay, plaster of Paris, wood, paper, metal etc. Abstraction used as basis of development of ideas.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Francis D.K. Ching, “Architecture Form, Space & Order”, John Wiley & Sons, Incorporated	2007
2	Simon Unwin, “Analysing Architecture”, Routledge	2003
3	Debkumar Chakrabarti, “Indian Anthropometric Dimensions”, NID	1997
4	Alvin R. Tilly, “The measures of man & woman human factors in design”, Whitney library of design, NY.	1993
5	K.W.Smithies, “Principles of Design in Architecture”, Van Nostrand Reinhold company.	1981

COMPUTER APPLICATION -II **B.ARCH Semester: II**
Code: B2AR07-CP09

Course Objectives: Empowering students to use computers as 2D drafting and 3D modelling tool and to familiarise realistic rendering and architectural presentation techniques using computers

UNIT	CONTENT
1	**Introduction to Advanced CAD commands** – Creating and insertion of blocks, External reference, raster image ,Attributes etc.
2	**Layout and print setting** – Create layouts by using Layout Wizard, view ports. paper size, plot scale, style table, paper space and model space etc.
3	**Introduction to BIM**–Introduction and its advantage over CAD. User Interface, Intro to real building elements i.e. walls, door, window, floor, slab etc.
4	**Customization** – changing element properties, applying material. Insertion of components from library. Using BIM to create the simple building form.
5	**Site –** Creating site, contours, applying material, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Cadfolks, "Autocad 2014 for Beginners", Create Space Independent Publishing Platform	2014
2	Bill Fane, "AutoCAD 2014 For Dummies", John Wiley & Sons	2013
3	George Omura , Brian C. Benton, "Mastering AutoCAD 2014 and AutoCAD LT 2014", John Wiley & Sons	2013
4	Chuck Eastman, Paul Teicholz , Rafael Sacks, Kathleen Liston, "BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors", John Wiley & Sons	2008
5	Scott MacKenzie, "Learning ArchiCAD 17", Packt Publishing	2014

BUILDING MATERIAL & CONSTRUCTION -II **B.ARCH Semester: II**
Code: B2AR05-CP10
Course Objectives: To introduce students to design elements, materials and methods of construction for simple buildings.
Anticipated Learning Outcomes: Understanding construction materials and techniques for simple building elements.

UNIT	CONTENT
1	**Lime and Sand:** Sources of lime, Classification of lime & their characteristics, Manufacturing of lime, uses of lime in building elements and components, Building limes according to BIS. Natural sources of sand, classification of sand, properties of sand, classification of Mortars, proportion of lime mortar. Various building elements such as foundation, wall, openings using lime products. Construction of staircase, ramp and retaining wall in lime products.
2	**Cement:** Introduction to Indian cement industry, Composition and properties of cement, Setting action of cement, Manufacturing of Cement, Tests and storage of cement, Varieties of cement and its application in various building elements and components. BIS Specifications. Various building elements such as foundation, wall, openings using cement products. Construction of staircase, ramp and retaining wall in cement products such as hollow and perforated cement blocks.
3	**Timber:** Classification of tree, Structure of tree, Defects in timber, Qualities of good timber, Preservation of timber, Seasoning of timber, Market forms of timber, Uses of timber, Indian timber trees. BIS Specifications. Details of carpentry joints in timber, wall construction in timber. Study of timber fasteners. Columns & Piers in timber. Roofs in timber. Terms used for sloped timber roofs, wooden roof truss and its types, covering of sloped roof in timber with various roof covering materials. Timber flooring like woodblock and parquet floor. Doors in timber such as braced and battened, paneled, glazed and sliding. Windows in timber such as paneled, battened, glazed, top hung, pivoted, gable window, dormer window, bay window, French window, etc.
4	**Industrial Timber:** Properties of veneers, ply woods, Block board, fibre boards, Impreg timber, Compreg timber etc. Application of Industrial timber. BIS Specifications. Various building elements such as walls, roof, floor and openings in industrial timber. Wall paneling and flooring construction using industrial timber. Door, windows in industrial timber.
5	**Protective finishes, Machines & Equipments:** Protective finishes on lime, cement, timber and timber products. Study of machines & equipments for manufacturing, transportation, preparation and lying of lime, cement and timber & industrial timber. Drawings of machines and equipments used for manufacturing, transportation, preparation and laying of building timber and timber products. Stairs and ramps in timber.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S.C.Rangwala, “Engineering Materials”, Charotar Publishing Housing Pvt. Ltd. Anand (Gujrat)	1997
2	Sushil Kumar, “Building Construction”, M/s. Standard Publishers & Distributors, Delhi	2003
3	Robin Barry, “The construction of buildings (Vol. I-V)”, Blackwell publishing	2000
4	Francis D.K.Ching, “Building Construction Illustrated”, John Wiley	1975
5	Handbook on Building Construction Practices, BIS, New Delhi	1997

SURVEYING LAB **B.ARCH Semester: II**
Code: B2AR08-CP11

UNIT	CONTENT
1	Chain Surveying: a. Ranging and Fixing of Survey Station. b. Plotting Building Block by offset with the help of cross staff
2	Compass: To determine the magnetic bearing of a line a. Using surveyor's compass b. Using prismatic compass
3	Dumpy leveling : To determine the reduce levels in closed circuit using Dumpy Level. Plane Table Survey: To determine the horizontal levels
4	Theodolite: To carryout temporary adjustment of Theodolite & Measurement of horizontal angle. a. By method of repetition. b. By method of Reiteration
5	Trigonometric Leveling: To determine the Height of an object by trigonometric leveling a. Instruments in same vertical plane b. Instruments in different vertical planes c. Survey Camp (including exercise on triangulation, Theodolite and dumpy level) with minimum duration of 3 days.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Arora, “Surveying”, Rajsons Publications Pvt. Ltd.	1996
2	S.C.Rangwala, “Surveying & Levelling”, Charotar Publishing House, Anand (Gujarat)	2005
3	Dr. B.C.Punmia, “Surveying”, Laxmi Publication (P) Ltd., New Delhi	2002
4	William Irvine, “Surveying for Construction”, McGraw Hills Book Co., New Delhi	1995
5	John Clancy, “Site Surveying & Levelling”, Arnold London	1991

HUMANITIES **B.ARCH Semester: III**
Code: B3AR01-CT07

UNIT	CONTENT
1	**Introduction to Sociology:** Relationship between Sociology and Architecture and its relevance: Society and its types, Family as the basic Unit of 'Society'. Man, Environment and Society, Sociological aspects in the history of the evolution of housing/ shelter forms. Human as resource. Maslow theory of hierarchy
2	**Power Structure in Society:** Social stratification – Concept and Theories (Davis and Moore and Marx). Institutions of Local self government in the Rural and Urban Areas – Gram Panchayat and Municipality.
3	**Social Problems:** Urbanisation, Overcrowding, Slums, Issues in Housing, Developmental programmes related to urban and rural society. Problems of interaction, Isolation, privacy, accessibility, conflict, and alienation related to the planning and design of different buildings with the references to the people of different age group/Population groups. **Socio-Spatial Problems:** Migrants, slums high density, high-rise living.
4	**General Economics Concepts:** Demand and Supply, Elasticity of Demand, , Market and its types, competition, price determination, cardinal and Ordinal utility, Factors of production **Elementary Idea of Economic Planning:** Broad features of the ongoing five year plan with special references to social and economic factors effecting location, construction and financing of the building industry and housing in particular. **Agencies/Institution/Organisations:** Directly or indirectly influencing economic aspects of architectural projects.
5	**Land Economics:** Land as limited resource, demand for land acquisition. **Economics of regional Development:** Economic development in relation to the regional planning, regional economics theories, problems and prospects of balanced regional development. **Building Economics:** sources of finance (public or private), interests, rents, taxes, insurance, recurring costs, disposable income and expenditure patterns.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Wallis, Wilson D and Willey M.M, "Text book of Sociology", 1st edition, Khel sahitaya Kendra, New Delhi.	2001
2	Schaefer, Richard T. "Sociology: A brief introduction", 4th edition McGraw hill, Boston.	2002
3	Stone P.A. "Building Economy: Design production and organisation a synoptic view", 2nd edition, Pergamon Press, Oxford	1976
4	Giddens Anthony, "Sociology", Polity Press, Cambridge (UK)	2006
5	Porteous, John Douglas; "Environment Behaviour: Planning and Everyday Urban Life", Addison, Wesley	1977

HISTORY OF ARCHITECTURE **B.ARCH Semester: III**
Code: B3AR02-CT08

UNIT	CONTENT
1	**Indus Valley Civilization, the Vedic Period & Buddhist architecture** INDUS VALLEY CIVILIZATION: Introduction to the origins and spread of the Indus Valley Civilization. Nature of growth and salient features of the socio-economic, political, cultural and religious facets that influenced the emergence of an architectural style. Focus on the Town Planning, i.e zoning, road networks, drainage system, clusters and individual residences, the Great Bath and granaries. **Examples:** The major cities of Harappa and Mohenjo-Daro. VEDIC PERIOD: Origins of new settlers, area where they settled, individual residences, clusters and village layouts, forms and materials. Socio-political, economic, cultural and religious aspects of the society, evolution of towns and city planning. **Examples:** A typical Vedic village, including individual residences, clusters, fencing & gate BUDDHIST ARCHITECTURE: Factors leading to the formation of the religion. Salient features of the religion, its philosophy and methods of worship. Evolution of religious structures like the stupa and the stambha covering their religious symbolism. Evolution of the Chaitya and rock-cut architecture. **Examples:** Great Stupa at Sanchi in detail with the Ashok stambha, Chaitya at Karla, near Lonavla
2	**North-Indian (Nagara) & Jain temple architecture** NAGARA STYLE ARCHITECTURE: Factors that led to the need for a temple as a built-form. Salient features of the religion, its philosophy and methods of worship. Evolution and growth of North-Indian or Nagara style temple architecture. **Examples:** Udaigiri, near Sanchi, Gupta temple at Tigawa, , Lingaraj temple at Bhubhaneshwar, Sun temple at Modhera, Sun temple at Konark, Kandheriya Mahadev temple at Khajuraho, Chenna Keshava temple at Belur & Somnathpur, Chaumukh temple at Ranakpur, Dilwara temple at Mount Abu JAIN TEMPLE ARCHITECTURE: Evolution of Jain temple architecture and its distinct architectural language and growth with reference to socio-economic, political and religious factors. **Examples:** Chaumukh temple at Ranakpur, Dilwara temple at Mount Abu
3	**South Indian (Dravida) temple architecture** Evolution and growth of the South Indian or Dravida architectural language, its religious, socio-economic, cultural, political influences. Evolution of the gopuram and growth of temple cities. Fusion of Nagara and Dravida styles and the reasons for the evolution of Star-shaped temples. Focus on construction materials and techniques, symbolic and religious association of forms in the architectural style. **Examples:** Ladkhan temple & Durga temple at Aihole, The rathas and shore temple at Mahabalipuram, Kailasa temple at Ellora, Temple cities of Srirangam & Meenakshipuram, Chenna Keshava temple at Belur & Somnathpur
4	**Islamic Architecture in India – Pre Mughal period** DELHI REGION Salient features of the religion, its philosophy and methods of worship. Evolution of Islamic architecture in India and its development, covering mosques, tombs, forts & other structures. Focus on new construction techniques like arch, dome, squinch, surface decorations, etc **Examples:** Qutb Complex, including Quwwat-ul-Islam, Qutb Minar, Extensions by the Khaljis, Alai Darwaza, Alai Minar, Tughlaqabad, Tomb of Ghiyas-ud-din Tughlaq, Khirki Masjid, Ferozshah Kotla & Hauz Khas REGIONAL SULTANATES Growth and development of Indo-Islamic architecture in areas outside Delhi. Focus on Gujarat, Gulbarga & Bijapur. To study the influences of local traditional architecture and fusion with Islamic architecture, both religious and non-religious. **Examples:** Jami Masjid, Ahmedabad, Dada Hari's wav, Jami Masjid, Gulbarga, Sayyad Usman's Rauza, Ahmedabad, Ibrahim Rouza & Gol Gumbaz, Bijapur

UNIT	CONTENT
5	**Islamic Architecture in India –Mughal period** Growth and development of Indo Islamic architecture during the Mughal period. Focus on newer construction technology, material and architectural influences in tomb and palace architecture **Examples:** Tombs of Mubarak Shah, Sikandar Lodi, Shershah Suri, Humayun, Itmad-ud-Daula, Akbar & Taj Mahal. Palace complex at Fatehpur Sikri

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Indian Architecture (Hindu and Buddhist), Percy Brown – D.B.Taraporvala Sons & Co.,	
2	Indian Architecture (Islamic Period), Percy Brown - D.B.Taraporvala Sons & Co., Mumbai	1997
3	Buddhist and Hindu Architecture, Satish Grover – Taschen London 1998	
4	Islamic Architecture in India, Satish Grover – CBS Publisers & Distributors New Delhi	2002-03

ARCHITECTURAL STRUCTURES-III **B.ARCH Semester: III**
Code: B3AR03-CT09

UNIT	CONTENT
1	**Slope and Deflection:** Relations between load, shear force & bending moment, slopes and deflections of indeterminate beams using double integration method, moment area method and Macaulay's method
2	**The long and short columns or struts;** buckling load , Euler's theory, limitations, various end- conditions, equivalent length of a strut, Rankine's theory, Slenderness ratio, strut with eccentric load.
3	**Arches and Folded plates:** analysis of three hinged, two hinged and fixed type parabolic arches with supports at the same level and at different levels, Introduction to folded plates **Shells and Domes:** Introduction to Shells and domes
4	**Beams:** Slope-deflection method and Kani's method for analysis of continuous beams.
5	**Design concepts:** Design concept of factor of safety and limit state; failure modes of a structure, Elastic theory of R.C.C. Design, permissible stresses and permissible deflections for R.C.C. and Steel structures. Introduction and use of Design codes. IS456 and IS 800.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	B.C.Punmia, Strength of Materials of Structure, Laxmi Publications Ⓟ Ltd., New Delhi	2006
2	R.K. Bansal, Strength of materials	2008
3	Timoshenko & Gere, Mechanics of Structures, CBS Publishers and Distributors	2006
4	K.R. Arora, Soil Mech. & Foundation Engineering, Standard Publishers and Distributors, Delhi.	2007
5	Terzaghi & Peck, Soil Mechanics in Engineering Practices, John Wiley & Co	2010

ARCHITECTURAL DESIGN-II **B.ARCH Semester: III**
Code: B3AR04-CP13

UNIT	CONTENT
1	**Theme:** Understanding the nature of built environment as a resultant of the determinants of Built Form, such as climate. Introduction of determinants of built form.
2	**Parameter:** Form & Space: Understanding user and its surroundings and devising requirements with the help of space & materials standards. Form & Function: Exposure to building elements & components and their effects on Air circulation, Day lighting, Thermal Comfort etc. Study of the human considerations like comfort, privacy, security etc.
3	**Expected Skills:** To develop the ability to translate abstract principles of design into architectural solutions for small problem. 3D visualization and presentation through models. Theoretical inputs from History & Sociology. To enhance & develop skills with respect to site analysis and application.
4	**Design Outlines:** Application of climate in design of simple function and simple program. Building scale project on a site area of approx. 100-200 sq. mt. Location of site can be in Urban or Rural setting and in any climatic zones and can be an annexure building of any existing setup. At least two major exercises and one time problem should be given.
5	**Projects:** List of suggested topics to be covered as design problem keeping in mind the following categories: the Educational institutes - Kindergarten, Balwadi, etc. Public facilities – Post office, police station, etc., Health Facilities – Dispensary, clinic, etc. Commercial facilities – General store, Boutique etc. Hospitality – Café, canteen etc. Residential – Farm house, Cottage etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Koenigsberger O., “Manual of Tropical housing and building”, Orient Longman, New Delhi	2003
2	Rasmussen, Steen, Eiler, “Experiencing Architecture”, MIT Press, Cambridge, Masachusetts	1977
3	Chiara Joseph de and others, “Time, Savers & Standards of building types”, McGraw Hills	1980
4	Pevsner, Nikolaus, “A History of Building Types”, Thames & Hudsen, London	1976
5	V.S.Parmar, “Design Fundamentals in Architecture”, Somaiya Publications Pvt. Ltd., New Delhi	1997

BUILDING MATERIAL & CONSTRUCTION-III **B.ARCH Semester: III**
Code: B3AR05-CP14

UNIT	CONTENT
1	Cement Concrete: MATERIAL: Brief history of development of concrete, ingredients of concrete, properties of concrete like strength, durability, workability etc. BIS specification for concrete, Methods of proportioning concrete mixes, Factors effecting strength of concrete, Important operations in concreting like mixing ,transporting, placing, compacting, curing & removal of form work. Tests on fresh concrete like slump test, flow test etc & on hardened concrete like compression test, tension test etc. Strength & failure of concrete, Chemicals used in concrete construction ex. Admixtures, mould releasing agents, Concrete curing compounds etc. Concreting under special condition, Gunite and Shotcrete work for repair of concrete. CONSTRUCTION: Application of cement concrete in foundation, Cement concrete flooring on ground level, cement concrete floor tiles, Paver Blocks in flooring ; Cement Concrete Blocks Such as hollow, solid and cellular in wall construction along with steel bars at the junction. Application of cement concrete products
2	Special Structural Concrete: MATERIAL: Basic introduction to special concrete used for structural work ex reinforced concrete, Fiber reinforced concrete, Light weight concrete, fly ash concrete, High strength-high performance concrete, No-fines concrete, ready mix concrete. Introduction to theory of reinforcing concrete, Properties and advantage of reinforced concrete, types & grades of steel bars as per BIS specification, Bending and placing of reinforcement in RCC Work. CONSTRUCTION: Application of RCC in various building elements such as shallow foundation for isolated column, RCC wall, DPC / Plinth & floor / roof beam. One way & two way slab in RCC. Arches & Lintels in RCC. Door, window, frames in RCC. Construction of different types of RCC stairs.
3	Plastics & Polymer: MATERIAL: Brief history of plastics, polymerisation of plastics, Classification & Properties of plastics, fabrication of plastic articles, Application of plastics in building services & building construction Geo-synthetics and its classification, Properties & uses of geo-textiles. Natural & synthetic rubber, Uses of rubber in building construction, Vulcanisation of rubber. CONSTRUCTION: Application of PVC & Rubber in various building elements & components, Vinyl, Linoleum & rubber flooring, plastic doors & windows, PVC roofing, Glass fibre reinforced plastic sheets for roofing.
4	Asbestos, Ashphalt, Bitumin & Tar MATERIAL: Introduction and history of Asbestos, Asphalt, Bitumen & Tar. Asbestos & its forms, properties, uses and harmful effects of asbestos. Asphalt & its types such as natural asphalt & residual asphalt. Bitumen & its forms in the market, Modified Bitumen, tar and its types. Uses of these materials in building construction.
5	Protective Finishes, Machines &Equipments MATERIAL: Brief introduction of adhesives, Sealants & joint filers and protective finishes for cements concrete, RCC, Plastic, Asbestos, Asphalt, bitumen & tar. Study of machines & equipments for manufacturing, transportation, preparation, laying/Casting, Compaction, repairing of these materials. CONSTRUCTION: Drawing of machines & Equipments used.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S.P.Arora, S.P. Bindra, "Building Construction Including Engineering Material". Dhanpat Rai Publications (P) Ltd., New Delhi	2010
2	Handbook on Concrete Reinforcement and Detailing, SP 34:1987, BIS New Delhi	2002
3	CPWD specifications (Vol.1), Director General of Works, New Delhi	2009
4	P. Kumar Mehta "Concrete Technology for Sustainable Development in the twenty-first century", Cement Manufactures Association, New Delhi	1999
5	Hegger,Auch-schwelk,Fuchs,Rosenkranz:"Construction material manual";Birkhauser,Munich.	2006

COMPUTER APPLICATION-III **B.ARCH Semester: III**
Code: B3AR06-CP15

UNIT	CONTENT
1	**Advance BIM commands:** Complex modeling: Creating complex building forms by using massing i.e. blend mass, mass by extrusion, creating voids in them. Roofs: Creating various type of roofs i.e. flat roof, sloped roof designing roof in elevation views, defining slope and creating openings in roof slab, insertion of layers in roof slab. Staircase: Creation of various types of staircase and ramp i.e. straight, deg legged, spiral etc. Designing and customization of staircase as per requirement. Exercise: Designing of a complex building form using massing and insert walls, doors, windows, slab, staircase.
2	**Scheduling:** Creating various schedule for documentation purpose. Type of schedule i.e. door, window, wall etc. Insertion of various fields in schedule i.e. type, width, cost etc. Formatting and calculating totals. Extracting information to external utilities like MS Excel. Exercise: Creation of door window schedule which includes total number of doors, windows, total cost and export it to excel format.
3	**Light and Energy Analysis:** Using BIM for simple lighting and energy analysis. Insertion of various interior and exterior lights and its customization. Creating sun path and animation of solar study of a whole day.
4	**Import and Export Options -** import and export the file into other file formats i.e. JPEG, PDF, CAD etc. for printing, rendering and documentation purpose. Advance print options for setting paper size, orientation.
5	**Rendering–**Applying various materials, scale, render quality, setting backgrounds etc. Creating moving animations and saving it in various formats. Exercise: Hard copy submission of rendered views .

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Chuck Eastman, Paul Teicholz , Rafael Sacks, Kathleen Liston, “BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors”, John Wiley & Sons	2008
2	Scott MacKenzie, “Learning ArchiCAD 17”, Packt Publishing	2014
3	Ryan Duell, Tobias Hathorn, Tessa Reist Hathorn,“Autodesk revit Architecture 2014 Essentials”, John Wiley & Sons	2013
4	Tatjana Dzambazova , Eddy Krygiel , Greg Demchak; “Introducing Revit® Architecture 2010: BIM for Beginners”; John Wiley & Sons	2009
5	Ken Good’; “Discover Smart Bim : An Interactive Guide to Archicad”; Author house	2009

STRUCTURE LAB **B.ARCH Semester: III**
Code: B3AR07-CP16

UNIT	CONTENT
1	**Physical Test of Construction Materials:** Cement, Bricks, Aggregates
2	**Laboratory Tests of Cement:** Normal Consistency Test, Initial & Final Setting Time, Soundness Test
3	**Laboratory Tests of Aggregates:** Sieve Analysis Test, Fineness Modulus, Water Absorption Test
4	**Compressive Strength Tests of Concrete:** Cube Test, Cylindrical Test
5	**Workability Tests of Concrete :** Slump Test, Compaction Factor Test

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	M.S.Shetty, "Concrete Technology", S. Chand & Co.	2005
2	M.L.Ghambir, "Building Materials: Products, Properties and Systems", Tata Mc Graw Hill, Delhi	2011
3	S.C.Rangwala, "Engineering Materials, Material Science", Charter Publishing House, Anand	2007
4	Gurucharan Singh, "Buidling Construction and Material", M/s. Standard Publications & Distribution, Delhi	2007
5	S.C. & K.S.Rangwala, "Engineering Materials", Charter Publishing House, Anand	2007

SPECIFICATION & ESTIMATION **B.ARCH Semester: IV**
Code: B4AR01-CT10

UNIT	CONTENT
1	**Specification:** Introduction, Main items of work, Importance of specification,Types of specifications - General and detailed specifications - Method of preparation of specifications
2	**Estimate:** Introduction, Types of Estimate, Detailed Estimate - Units of Measurements, Details of measurement and calculation of quantities of various items of work, Methods of Building Estimate - separate or individual wall method, Centre line method.
3	**Rate Analysis:** Analysis of rates for main items of work in buildings, considering current market rates for building materials, labor wages, plants and tools, transportation, handling, storage and contractor's profit.
4	**Detailed Estimation:** Preparation of Detailed estimate (Details of Measurements and Calculation of quantities & Abstract of - Estimated cost) for different types of buildings including R.C.C. framed buildings.
5	**Cost & Valuation:** Cost price and value. Factors controlling the cost of Urban real properties, Valuation, Depreciation, Rent and its implications

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Carol A. Sampson, “Techniques for Estimating Materials Cost”, Watson Guptil Publication New York	2001
2	S.C.Rangwala, “Estimating, Costing & Valuation”, Charotar Book Stall, Anand	2006
3	B.N.Dutta, “Estimating & Costing in Civil Engineering”, UBS Publication, New Delhi	2005
4	M. Chakroborty, Bhakti Vedanta, “Estimating Costing Specification & Valuation in Civil Engg.”, Book Trust, Delhi	2010
5	Central Public Department, “CPWD Specification, Vol.I & 2”, Nirman Bhawan, Delhi.	2004

HISTORY OF ARCHITECTURE-II **B.ARCH Semester: IV**
Code: B4AR02-CT11

UNIT	CONTENT
1	**Egyptian & West Asiatic** Socio-economic, political, cultural and religious character of the ancient civilizations. The evolution of architectural form and character from the these factors, available materials and construction technology. **EGYPTIAN:** Examples: Mastaba at Beit Khallaf, Pyramid of Zoser at Sakkara, Great Pyramid of Cheops at Gizeh, Temple of Khons at Karnak WEST ASIATIC: Examples: Ziggurats: White temple at Warka, Urnamu at Ur. Palaces: Palace of Sargon at Khorsabad
2	**Greek:** To study the development and formation of the classical orders in chronological sequence, namely the Doric, Ionic & Corinthian orders, The use of optical correction, illusions, proportions, scale and other designing techniques in evolution of a distinct architectural language architecture Examples: Temples and temple complexes: Acropolis, which includes the Parthenon & Erichtheon. Urban architecture: The Agora at Athens
3	**Roman:** To study the development in architectural style with new construction technology; such as arches, domes, vaults, etc. To study the influence of socioeconomic prosperity in architecture, withpublic & private, religious and nonreligious examples. Examples: Residential: House of Pansa at Pompeii. Temple: Pantheon at Rome. Forum: Forum of Trajan with Basilica and Column. Recreational: Thermae of Caracalla. Sports: Coliseum & Circus Maximus.
4	**Early Christian, Byzantine & Romanesque** **EARLY CHRISTIAN & BYZANTINE** To study all aspects of the evolution of a new religion; Christianity, and its influence on the Architectural style. Evolution of church architecture through functions and construction technology Examples: St Peter's Basilica (old), Santa Sophia (Hagia Sophia) at Istanbul **ROMANESQUE:** To study the influence of the growing power of religion and inter-religious conflicts on architecture. To study the influence of improvements in construction techniques like rib-and-panel vaulting, etc. Examples: Italy: Pisa complex including Cathedral, Campanile (Leaning tower) and Baptistery. Central Europe: Worm's Cathedral & S.Michel, Pavia
5	**Gothic** To study significant improvements in construction technology like flying buttresses and its effect on the architectural character. To compare the varied development of architectural forms in France & England in religious and nonreligious structures. Examples: Cathedrals: Reims cathedral, Salisbury cathedral. Parish churches: St Andrews, Heckington. Manor houses: Penshurst place, Kent, Oxburgh Hall, Norfolk, Compton Wynyates, Warwickshire

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Traditions in Architecture, Dora Crouch – Oxford University Press, N. York	2001
2	History of Architecture, Bamister Fletcher – SBS Publishers & Distributors, Delhi	1997
3	History of Architecture, Spiro Kostof – Oxford University Press, N. York	1995
4	History of western architecture, David Watkin – Lawrance King Publishing London	2005
5	High Gothic, Guthor Binding – Taschen London	1999

ARCHITECTURAL STRUCTURES-IV **B.ARCH Semester: IV**
Code: B4AR03-CT12

UNIT	CONTENT
1	**Soil and soil mass constituents;** water content, specific gravity, voids ratio, porosity, degree of saturation, air voids and air content; unit weights, density index etc., inter-relationships of the above
2	**Plasticity Characteristics of Soils**: Determination of water content, specific gravity; particle size distribution sieve and sedimentation analysis; consistency limits; voids ratio and density index Soil Classification: classification of soil for general engineering purposes; particle size textural, H.R.B and Unified and I.S. classification systems.
3	**Earth Pressure**: Active, passive and earth pressure at rest. Rankine's theories of earth Pressure, Earth pressure on cantilever sheet piles Stability analysis of retaining walls
4	**Bearing capacity of soils;** shallow foundation; Terzaghi's and Meyerhoff's formula for bearing capacity; plate loading test, standard penetration test.
5	**Foundation:** Basic concept of Pile and Raft foundation.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Dr. B.C. Punmia, "Strength of Materials & Mechanics of Structures": Vol. I, Laxmi Publications (P) Ltd.	2006
2	Reinforced Concrete : Limit State Design by Nemi Chand and Brothers, Roorkee	2009
3	Singer and Patel, "Strength of Material", Harper Collins Publishers	2008
4	Wang & Salmon; "Reinforced Concrete Design", Harper & Row.	2009
5	S.B Junarkar, "Mechanics of Structures Vol. I & II", Charotar Publishing House, Anand	2009

ARCHITECTURAL DESIGN-III **B.ARCH Semester: IV**
Code: B4AR04-CP18

UNIT	CONTENT
1	**Theme:** Understanding the Design of built spaces as a resultant of sociocultural influences of the place.
2	**Parameter:** Organization of functional activities in relation to user requirements and the site, considering materials and structure in relation to the design proposal. Influence of humanities and culture in a design project. Response to socio-economic factors such as income level, privacy, territoriality, interaction etc.
3	**Expected Skills:** To develop the ability to understand the cultural frame work of meaning and symbolism in architecture and incorporation of climate strategies and constructional systems appropriate to social and economical context.
4	**Design Outlines:** Application of vernacular style in design of simple function and simple programme. Site scale project on a site area of approx. 250-500 sq.mt. Location of site can be in Urban or Rural setting and in any climatic zones. At least two major exercises and one time problem should be given.
5	**Projects:** List of suggested topics to be covered as design problem keeping in mind the following categories: Educational Institutes – Primary Schools etc., Public facilities – Neighborhood Library, Bank Local Branch etc., Health Facilities – Primary health centre etc., Commercial facilities – Neighborhood shopping centre etc., Recreation & Hospitality – Restaurant, etc., Residential – Row house, bungalow, etc.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Kingston Wm. Heath, "Vernacular Architecture and Regional Design; Cultural Process and Environmental Design", Elsevier UK	2009
2	Jonathan A. Hale, "Building Ideas an introduction to architectural theory", Johnwiley and sons ltd. New York	2000
3	Yatin Pandya, "Concepts of space in traditional Indian architecture", Mapin Publishing	2013
4	A. Peter Fawcett, "Architecture : Design Notebook", Architectural Press, London	2003
5	Kulbhushan & Minakshi Jain, "Architecture of the Indian Desert", Aadi Centre Ahmedabad	2000

BUILDING MATERIALS & CONSTRUCTION-IV **B.ARCH Semester: IV**
Code: B4AR05-CP19

UNIT	CONTENT
1	**Iron & Steel:** MATERIAL: Brief history of Iron, Study of Iron ores its varieties, Manufacturing of Pig-Iron and wrought iron, Properties of iron, composition and Types of cast iron & wrought iron, Properties & uses of cast & wrought iron, types of casting techniques. Brief history of steel, manufacturing of steel, Properties of Steel, market forms of steel, Mechanical treatment of steel such as hot working & cold working of steel, Heat Treatment of steel. CONSTRUCTION: Application of iron and steel in various building elements such as steel grillage foundation, pad foundation, Steel column & beams, Trusses in steel, North light truss, Monitor Roof, Structural Floor/roof industrial flooring, Door/Window openings in iron & steel, Metal stair case, Methods of connecting steel work.
2	**Aluminium & their alloys:** MATERIAL: Brief history of Aluminium, Manufacturing & properties of Aluminium, market forms of aluminium, Uses of Aluminium and Its alloys in building industries. CONSTRUCTION: Application of aluminium in various building elements such as aluminium door & window, Structural glazing, curtain wall.
3	**Other matels & their alloys:** MATERIAL: Introduction to copper and its alloys such as Brass, bronze, Zinc & its alloys. Study of other Metals such as Cobalt, Lead, nickel, Titanium, magnesium, tin and their alloys. Properties and uses of these metals. CONSTRUCTION: Application of metals in various building elements & Components such as metal roofing system, wall system.
4	**Glass & Glass products:** MATERIAL: Brief introduction of history of glass, composition of glass, manufacturing & classification of glass, Properties of glass, Types of glasses & their performances, Treatments of glass, Glass industry, Glass as a green building material. Uses of glass in building industry. CONSTRUCTION: Application of glass in various building elements and components. Glass Floor, wall & partitions systems, Skylight, Glass staircase.
5	**Protective Finishes, Machines & Equipment** Brief introduction of adhesives, sealants, joint filler & protective finishes for ferrous, non ferrous materials & Glass. Machines & equipment for applications of these materials. CONSTRUCTION: Drawings of tools, machines & equipments for fabrication, erecting & maintenance.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	CPWD specifications (Vol.1 & 2), Director general of works New Delhi	2009
2	S.P.Arora, S.P. Bindra, “Building construction including engineering material”.Dhanpat Rai publications (P) ltd. New Delhi	2010
3	Schittich, Staib, Balkow, Schuler, Sobek, Glass Construction Manual, 2nd revised and expanded addition, Birkhauser	2007
4	Robin Barry, “The construction of buildings (Vol. I-V)”, Blackwell publishing	2000
5	Handbook on Building Construction Practices, SP62:1997, BIS New Delhi	1997

MEASURED DRAWING & DOCUMENTATION **B.ARCH Semester: IV**
Code: B4AR06-CP20

UNIT	CONTENT
1	**Introduction:** Reading and interpreting documented work to understand the constituents of Measured Drawing. To understand its importance. Difference between measured and working drawing. Application of conventional, Modern and Digital Techniques of measurement used at settlement, Building, Building Element & Component level exercise such as measuring height of building from ground, Height of Dome, etc.
2	**Exercises for learning:** Colloquial techniques of measurement such as furlong, Footsteps, open hand, etc. And application of Sketching and photography as a tool for documentation.
3	**Study, Measure and Document:** Elements of style / period such as wall, Roof, Door ,window, furniture, etc. building elements and components of renaissance, Gothic, Colonial, Art Deco, Modern, style/ Period. Study, Measure and Document: Individual architect's style of designing wall, Roof, Door, Window, etc. such as works of Le-Corbusier, Louis I Khan, Lauri Baker ,Charles Correa, Raj Rewal etc.
4	**Study, Measure and Document:** Historical precincts / Building of Art, Culture and heritage Value. Preparation of Graphical Documentation consisting of site plan, building plan, sections, elevations and details on Suitable architectural scale.
5	**Documentation techniques:** Graphical and Descriptive. Documenting art, architecture, social, economic, cultural, or structural data in soft as well as hard format.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Feildon B. M., "An introduction to conservation", UNESCO Press	1982
2	Anuradha V. Kumar, "Conservation of Building Stones", INTACH Publication, New Delhi	
3	ARCHIFUNDA, "Heritage Conservation & Cultural Continunity", Archifunda	2002
4	Colonel S.S.Jacob, "Jeypore Portfolio of Architecture Details", Idological Book House, Varanasi India	1977
5	P.K Mishra, "Researches in Archeology and Conservation"	1999

COMPUTER APPLICATION-IV **B.ARCH Semester: IV**
Code: B4AR07-CP21

UNIT	CONTENT
1	**Rendering-** To introduce 2D and 3D rendering and visualization softwares. Basic setup including page size, resolution, colour scheme i.e. CMYK/RGB, units etc. Introduction to basic rendering tools: Selection tools i.e. lasso tool, marquee tool, magic wand tool, brush and its customization using option bar, paint bucket tool, gradient tool, text tool. Layers: Creation of new layers, arranging/merging layers applying effects using layers i.e. colour, shadow, gradient, patterns, emboss, opacity etc. Importing/ Creating patterns for hatching. **Exercise:** To prepare portfolio cover page by using above tools.
2	**Layers:** Creation of new layers, arranging / merging layers applying effects using layers i.e. color, shadow, gradient, patterns, emboss, opacity etc. Importing / Creating patterns for hatching. **Exercise:** To prepare portfolio cover page by using above tools.
3	**Import and Export options:** Importing and exporting 2D and 3D models to and from various softwares in jpeg, eps, pdf etc. Packaging and Saving high resolution images and videos. **Exercise:** import plan, section, elevation in supported format i.e. EPS, JPEG and render it
4	**Creating rendered images –** Exporting files into JPEG, pdf and other format.
5	**Print Options –** Page setup, Page Layout, image resolution, etc. Exercise: Hard copy submission of rendered views.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Lisa Danae Dayley, Brad Dayley, “The Essential Photoshop Book” Adobe Photoshop CS5 Bible, Wiley India Pvt. Ltd	2010
2	Eileen Mullin, “The Essential Photoshop Book”, Prima Publishing US	1998
3	Olivier Lecarme , Karine Delvare, “The Book of GIMP - A Complete Guide to Nearly Everything”, No Starch Press	2013
4	Kogent, “Photoshop CS6 in Simple Steps”, Dreamtech Press	2012
5	Davinder Singh Minhas, “Photoshop” New Dawn Press	2005

BUILDING PLUMBING SERVICES **B.ARCH Semester: V**
Code: B5AR01-CT13

UNIT	CONTENT
1	**Water Supply: sources, demand, treatment and distribution of water.** Sources of water supply, Plumbing system types for various buildings. Quality of potable water. Calculation of water requirements for various building types based on Indian standards (BIS). Water treatment methods– Screening, Aeration, Sedimentation, Filtration, Disinfection, Softening. Storage and distribution of water. Choice of pipe materials, types of fixtures and fittings.
2	**Sanitation: Sanitary pipes, fittings and fixtures- Layout and design** Principles of sanitation, Study of Indian standards and plumbing by-laws (NBC). Introduction to various sanitary pipes, joints, fittings and fixtures, their function, placement and constructional details. Study of internal & external drainage system of various buildings including small residences, apartments, public buildings etc. Single stack system, one pipe and two pipe systems, testing of house drains, Gradients used in laying drains and sewers, Self-cleaning and non-scoring velocities for drain pipes,
3	**Sanitation: Waste water treatment and disposal methods** Study of Traps, Inspection chambers, Manholes, Septic tanks, Soak pits, and Public sewage line. Study of Disposal systems for domestic effluent from fitting to sewer line. Study of low cost sanitary systems (sulabh complexes) and other CBRI details. Waste water – Sewage disposal, primary treatment, secondary treatment and tertiary treatment. Modern types of Sewage Treatment Plants.
4	**Storm water drainage & Rain water harvesting** Principles of storm water drainage. Types of drain pipes. Storm water gutter / Storage sumps. Study of storm water disposal at site and settlement level. Rain water harvesting system. Recycling of water. **Solid waste, collections, treatments and disposal** Prevalent SWM practices and deficiencies: Storage of waste at source, collection, segregation, transportation of waste. Disposal of solid wastes: Sanitary land filling, Composting, Incineration, Pyrolysis – advantages and limitations. Biogas system and Modern renewable energy system.
5	**Application: Layout design and construction** Layout design and details of water supply distribution system in a Campus. Layout design and details of sewage and drainage system for different building types. Storm water drainage and rain water harvesting system design for a building project. Course may be integrated with concurrent architectural design.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	B.C. Punmia, “Waste Water Engineering”, Laxmi Publications.	2009
2	S.J. Arceivala, “Waste Water Treatment for Pollution Control”, Tata McGraw Hills Publication.	2008
3	K.N. Duggal,”Elements of Environmental Engineering”, Chand & Co.	2010
4	“Uniform Illustrated Plumbing Code – India (UIPC-I)”, Indian Plumbing Association	2014
5	Charanjeet S. Shah; Water Supply and Sanitation; Galgotia Publication	2015
6	H.S. Bhatia; Environmental Services (Plumbing); Galgotia Publication	

HISTORY OF ARCHITECTURE-III **B.ARCH Semester: V**
Code: B5AR02-CT14

UNIT	CONTENT
1	**RENAISSANCE & BAROQUE ARCHITECTURE** **Renaissance Architecture:** Characteristic features of the Renaissance Architecture. Famous designers and Works of the period Brunelleschi : Florence Cathedral, S. Maria Novella, S. Andrea Alberti: Palazzo Rucellai, S. Maria Novella; Bermanate: Tempietto, Plan of St. Peter's; Michelangelo: Laurentian Library, Campidoglio, St. Peter's Palladio: Villa Barbaro, Villa Americo Capra, S. Giorgio Maggiore **Baroque Architecture:** Characteristic features of the Baroque Architecture. Famous Designers and works of the period Bernini: St. Peter's- Plaza, S. Andrea.; Borromini: S. Carlo alle Quattro Fontane, S. Ivo Della Sapienza; Christopher Wren: St. Stephen, Walbrook ; St. Paul's Cathedral
2	**NEOCLASSICAL & INDUSTRIAL ARCHITECTURE** **Neoclassical Architecture:** Characteristic features of Neoclassical Architecture. Famous Designers and works of the period. Robert Adam: Kedleston Hall, Syon House; William Chambers: Somerset House; Louis Boullee: Cenotaph for Sir Issac Newton, Library of the King Claude Nicolas Ledoux: Salt works of Arc and Senans Karl Friedrich Schinkel: Royal Guard House, Altes Museum Sir John Soane: Bank of England; Thomas Jefferson: Monticello House, Virginia State Capitol. **Industrial Architecture:** Characteristic features of Industrial Architecture. Famous Designers and works of the period. Joseph Paxton: Crystal Palace; Henri Labrouste: Bibliotheque Ste.-Genevieve, Bibliotheque Nationale; Gustave Eiffel: Eiffel Tower, Statue of Liberty Emanuele Rocco: Galleria Umberto; George Gilbert Scott: St Pancras Station Charles Garnier: Paris Opera House
3	**LATE 19TH CENTURY MOVEMENTS** Characteristic features of Art and Architectural movements of late 19thCentury. People and places associated with the movements. Famous Designers and works of the period. **Art & Crafts Movement:** John Ruskin & William Morris; Philip Webb: Red House; Richard Norman Shaw: New Zealand Chambers; Greene & Greene: Gamble House **Art Nouveau:** Victor Horta: Tussel House, Hotel Van Etevelde; Hector Guimard: Paris Metro Entrances; Antonio Gaudi: Casa Mila, Casa Batllo and Church of Sagrada Familia; Charles Rennie Mackintosh: Glasgow School of Art, Hill House **Viennese Secession:** Otto Wegner: Postal Savings Bank; Josef Maria Olbrich: Secession Building; Adolf Loos: The essay "Architecture and Ornament", Steiner House, Moller House and Goldman & Salatsch Store.
4	**EARLY 20TH CENTURY MOVEMENTS** Characteristic features of Art and Architectural movements of early 20thCentury. Famous Designers and works of the period. People and places associated with the movements. **Deutscher Werkbund:** 1st and 3d Exhibition Peter Behrens: AEG Turbine Factory; Bruno Taut: Glass house **Futurism:** Filippo Marinetti: Futuristic Manifesto; Antonio Sant' Elia: La Cita Nuova **Constructivism:** Vladimir Tatlin: Monument to the Third International; Konstantin Melnikov: Soviet Pavilion, Rusakov Workers' Club **Expressionism:** Erich Mendelsohn: Einstein Tower; Rudolph Steiner: Goetheanum **De Stijl:** Theo Van Doesburg& Piet Mondrian; Gerrit Rietveld: Schroeder House; J.J.P. Oud: Seaside Houses, Café de Unie. **Art Deco:** William Van Alen: Chrysler Building; Shreve, Lamb & Harmon: Empire State Building; B. Marcus Priteca: Pantages Theatre
5	**British Colonial India** In search of appropriate style; development of hybrid styles; Indo Sarcenic, Indo Gothic and Indo Deco styles. Famous Designers and works in the major cities namely Madras, Calcutta, Bombay and Delhi. **Madras** Caldwell & Havilland: St Andrews Church; Robert F. Chisholm: Senate House and National Art Gallery; Henry Irwin: Madras high court, Chennai Central Railway Terminus **Calcutta** Thomas Lyon: Writer's Building; Charles Wyatt: Government Building; William Emerson: Victoria Memorial **Bombay** George Gilbert Scott: Rajbai Tower-Bombay University Library; Fredrick William Stevens: Victoria Terminus, Municipal Hall; George Wittet: Gateway Of India and Prince of Wales Museum **Delhi** Sir Edwin Lutyens: India Gate. Viceroy's House; Herbert Baker: Parliament House, Secretariat Buildings

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Marian Moffett, Michael Fazio, Lawrence Wodehouse; Buildings Across Time; McGraw Hill	2004
2	Francis D. K. Ching, Mark M. Jarzombek, Vikramaditya Prakash; A Global History of Architecture, John Wiley & Sons	2007
3	William J. R. Curtis, Modern Architecture since 1900, Phaidon Press ltd.	1996
4	Vikram Bhatt & Peter Scriver; Contemporary Indian Architecture, After the Masters;Mapin Publishing Pvt. Ltd.	1990
5	Kenneth Frampton; World Architecture 1900-2000: A critical Mosaic, Volume 8 South Asia; Springer-Verlag Wien New York	2000

ARCHITECTURAL STRUCTURES-V **B.ARCH Semester: V**
Code: B5AR03-CT15

UNIT	CONTENT
1	**RCC Beams Design:** Introduction to different types of beams, Design of rectangular beams; design of singly reinforced beams, design of doubly reinforced beam, design of T-beam, design of L-beam
2	**RCC Columns Design:** Introduction to RCC column, Design of square column, Design of rectangular column, Design of circular column
3	**RCC Slabs Design:** Introduction to RCC slab, Difference between one way slab and two way slab, Design of one way slab, Design of two way slab, Design of cantilever slab
4	**RCC Footing Design:** Introduction, Pressure distribution beneath footing, Design of Rectangular footing, Design of square footing, Design of circular footing, Design of combined rectangular footing
5	**Retaining Wall Design:** Introduction, Types of retaining walls, Design of T-shaped retaining wall

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S Unnikrishnapillai & Devdasmenon, Reinforced concrete design; Third Edition, "Mcgraw hill publication education"	2002
2	B C Punmia, Design of R.C.C. Structures; "Laxmi Publication"	2006
3	P.C. Varghese, Limit state design of Reinforced concrete; Second Edition, "PHI learning private limited"	2011
4	Ramanutham,Design of reinforced concrete design; "Dhanpat Rai Publication"	2011
5	Kenneth M.leet & Dionisiobernal, Reinforced concrete design; "The McGraw Hills Companies"	2000

ARCHITECTURAL DESIGN-IV **B.ARCH Semester: V**
Code: B5AR04-CP23

UNIT	CONTENT
1	**Theme:** Understanding the integration of structure and construction systems in design of Built Spaces.
2	**Parameters:** Structure and construction as disciplines that evolve making of a space. Structural systems as choices based on program, space and form character. Structure as a space maker and structure as order.
3	**Expected Skills:** To develop ability to study and analyze natural and man-made structural systems, co-relation between function, structure, space and form. Different structural models in building systems. Models as analytical tools of decision making. Understanding of Gravity loads transfer, structural grid and Framing systems. Co-relation between Structural Grid, Design Grid and Parking Grid.
4	**Design Outline:** Integration of structure and construction in the design of a Multi-functional simple programmatic Building Project at Neighborhood level in Urban or Rural context, ideally on a Building Site for a built-up area of 501-1000 sq. m. The Course may be integrated with Structures, Building materials & construction and Interior Design.
5	**Projects:** A minimum of two Design Projects to be given in the semester from the list of suggested topics in various categories of Building types: Residential: Apartments, Students Hostel etc.; Educational: Primary, Secondary school, etc.; Commercial: Neighborhood shopping Centre, bank etc.; Recreational: Health clubs, Gymkhana etc.; Public: Neighborhood Centre, Marriage halls, etc.; Religious: Temple, Mosque, Gurudwara, Church etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Richard Weston; Materials Form and Architecture; Laurence king Publishing, Singapore	2003
2	Gunter Pfeifer, Antje M. Liebers, Per Brauneck; Exposed Concrete Technology & Design; BirkHauser, Switzerland	2005
3	Catherine Croft; Concrete Architecture; McGraw Hill, New Delhi	2004
4	Donald Watson & Michael J. Crosbie; Time Saver Standards for Architectural Design, McGraw Hill	2004
5	Francis D.K. Ching, Building Construction Illustrated, John Wiley & Sons 2001	2001

BUILDING MATERIALS & CONSTRUCTION-V **B.ARCH Semester: V**
Code: B5AR05-CP24

UNIT	CONTENT
1	**Damp Proofing** MATERIALS: Causes and effect of dampness, techniques and methods of damp prevention, materials used for damp proofing– flexible, semi-rigid and rigid materials. Damp proofing treatments in buildings. CONSTRUCTION: General preparatory work for damp proofing. Treatment of foundations, dampness from adjacent ground, treatment of foundation on poor soil, treatment above ground level. External and internal tanking, in-situ damp proofing treatment, cavity wall construction.
2	**Water Proofing** MATERIALS: Difference in water proofing and damp proofing, various systems of water proofing, materials for water proofing such as bitumen felt and paints, epoxy formulations, lime concrete, slurry coats, polyethylene film, glass fiber tissue reinforced bitumen, etc. CONSTRUCTION: Preparatory work for water proofing. Water proofing for different roof types such as concrete and masonry flat or sloping roofs, timber sloping roof, shell roofs etc. Parapet and coping details, water proofing of underground reservoirs & swimming pools. Covering of expansion joints, water proofing techniques for roof gardens, etc.
3	**Fire & Pest Resistance** MATERIALS: Important considerations in fire protection, Non-combustible and combustible materials. Properties of some common materials such as timber, stone, bricks, terracotta, steel, wrought iron, cast iron, Aluminium, glass, asbestos, cement, mortar etc. Classification of pests, effects of pests in buildings, pest control methods such as Biological, Environmental, Mechanical & Chemical. Laws & Regulations for pest control. CONSTRUCTION: General measures of fire safety in buildings such as smoke detectors, alarm systems, etc. Fire extinguishing arrangements, escape routes, etc. Pest control measures by design and constructional means for new and existing buildings. Design criteria internal & external anti-termite measures at foundation level & masonry level.
4	**Thermal Insulation** MATERIALS: Effects of heat transfer and thermal insulation behavior of the material and building components, General principles of thermal insulation, materials of heat insulation such as slab or block insulations, blanket insulations, loose fills, insulating boards, reflective sheet materials etc. CONSTRUCTION: Methods of heat insulation of roofs, exposed walls and exposed windows, doors and ventilators.
5	**Protective & Decorative finishes and Machines & Equipment:** MATERIALS: Objectives of building finishes, characteristics and ingredients of a good paint. Paints: classification and types. Covering capacity of paints, preparation of paints. Varnishes & Varnishing; Objectives and characteristics of a good varnish, ingredients of varnish, types of varnishes, process of varnishing. Polishes & polishing. Distempers & distempering, properties of distempers. Miscellaneous finishes such as wall filling, papering, whitening, coal tarring, wax polishing, wood oiling, glazing etc. CONSTRUCTION: Application of paints on different surfaces such as wood, metal, plastered concrete surfaces etc. in detail. Application of varnishes, distempers in various building elements, components & furniture. Tools and equipment for various protective and decorative finishes.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Handbook on Building Construction Practices, BIS, New Delhi	1997
2	S.P. Arora, S.P. Bindra, Building Construction, Dhanpat Rai Publications.	2012
3	Hegger, Auch-Schwelt, Fuchs, Rosenkranz, Construction Materials Manual; Brkhauser Boston	2006
4	Francis D.K. Ching; Building Construction Illustrated, John Wiley & Sons 2001	2001
5	Barry R; Construction of Building, Vol.2; Affiliated East West Press Pvt. Ltd.	1999

INTERIOR DESIGN **B.ARCH Semester: V**
Code: B5AR06-CP25

UNIT	CONTENT
1	The profession of Interior Design; Role of an Interior designer– past & present. Interior Space: Space as raw material; quantitative and qualitative study such as types of spaces; size of a space; organization of spaces, etc. Light as an animator of space, direct & indirect lighting. Interior Elements: Floor; Floor finishes, their functional and aesthetical criteria; floor coverings, etc. Wall; Wall finishes and their functional and aesthetical criteria; wall coverings, Ceiling; types; finishes and their functional & aesthetical criteria. Openings; such as Doors and Windows; their types and treatments. Inclined elements such as stairs; ramps; their types and finishes
2	Perception of Interiors: Surface & Visual characteristics of Interior elements and their effect on the perception of space. Principal of Visual composition, Principle on where and how to perceive shapes & forms, the primary six principles such as figure-ground, closure, symmetry, proximity, similarity and continuance. Study of proxemics, behavioural settings.
3	Furniture & Accessories: An overview of historical perspective of furniture and styles. Interior styles such as Italian, English, French, Japanese, etc. Modern trends and contemporary attitudes to Interior Design i.e. Modular furniture. Utilitarian, Incidental and Decorative accessories in public and private interiors.
4	Interior Environmental System: Understanding thermal, visual, auditory and sanitary condition necessary for comfort and convenience of occupants. Coordination of heating and air conditioning system, water supply, sanitary drainage system, electrical & lighting system and acoustics with a building's structural system.
5	Design: Interior Design process, Interior design concepts, Interior space planning & human dimensions. Two interior schemes of different functional types; Residential/ Commercial/ Institutional etc. at different scales will form the major design assignments. The course may be integrated with the concurrent architecture design.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Elizabeth Wilhide, The Interior Design Directory, Quadrille London	2009
2	Francis D.K. Ching, Interior Design Illustrated, NY Van Nastrand Reinhold	1987
3	Time Saver Standards for Interior Design & Space Planning, McGraw Hill	1992
4	The Fundamentals of Interior Design, AVA Academic, Switzerland	2009
5	Karla J. Nielson, David A. Taylor, Interiors an introduction, McGraw Hill	2002

ELECTIVE I (FURNITURE DESIGN) **B.ARCH Semester: V**
Code: B5AR07-CP26

UNIT	CONTENT
1	Introduction: Furniture design and its types based on; function (sit, surface, storage etc.), state (movable, built-in, modular, stack etc.) and forms. Role of furniture design in interiors.
2	Historical & Cultural Context of Furniture Design: Industrial Revolution, Great Reform Movements: 1850-1914, Modernism to Pre-World War: 1900-1945, Post World War: 1945-1970s, Post Modernism: 1970-2000, Emerging design trends: 21st century.
3	Materials: types of materials, market forms, construction or assembly techniques such as bending, molding, casting etc. Joinery details, fabrication, tools and machinery involved.
4	Design & Production: Concept generation methods and design, Developing design and drawing techniques, skills (analog and digital), Technical drawings (design and details) and Model on scale.
5	Design: The subject may be integrated with the concurrent course of Interior Design. At the term of the course, the students will formulate, develop and resolve design solutions for furniture and present it in a form of a portfolio made in appropriate scale.The portfolio must present all drawings and details with respect to ergonomics, aesthetics, materials and construction, on an appropriate scale.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Juli Capella & Quim Larrea, Designed by Architects in the 1980's, Mitchell London	1988
2	Karla J. Nielson, David A. Taylor, Interiors an Introduction 3d Edition, McGraw Hill New York	2002
3	Joint & Connection: Ideas in Furniture Design and their background, Birkhauser Verlag Basel.Boston.Berlin	1992
4	Charles D. Gandy & Susan Z. Stidham, Contemporary Classics, furniture of the masters, McGraw Hill Book Company	1981
5	Francis D.K. Ching, Interior Design Illustrated, NY Van Nastrand Reinhold	1987

ELECTIVE I (FURNITURE DESIGN) **B.ARCH Semester: V**
Code: B5AR07-CP26

UNIT	CONTENT
1	Introduction: Furniture design and its types based on; function (sit, surface, storage etc.), state (movable, built-in, modular, stack etc.) and forms. Role of furniture design in interiors.
2	Historical & Cultural Context of Furniture Design: Industrial Revolution, Great Reform Movements: 1850-1914, Modernism to Pre-World War: 1900-1945, Post World War: 1945-1970s, Post Modernism: 1970-2000, Emerging design trends: 21st century.
3	Materials: types of materials, market forms, construction or assembly techniques such as bending, molding, casting etc. Joinery details, fabrication, tools and machinery involved.
4	Design & Production: Concept generation methods and design, Developing design and drawing techniques, skills (analog and digital), Technical drawings (design and details) and Model on scale.
5	Design: The subject may be integrated with the concurrent course of Interior Design. At the term of the course, the students will formulate, develop and resolve design solutions for furniture and present it in a form of a portfolio made in appropriate scale. The portfolio must present all drawings and details with respect to ergonomics, aesthetics, materials and construction, on an appropriate scale.

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S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Juli Capella & Quim Larrea, Designed by Architects in the 1980's, Mitchell London	1988
2	Karla J. Nielson, David A. Taylor, Interiors an Introduction 3d Edition, McGraw Hill New York	2002
3	Joint & Connection: Ideas in Furniture Design and their background, Birkhauser Verlag Basel.Boston.Berlin	1992
4	Charles D. Gandy & Susan Z. Stidham, Contemporary Classics, furniture of the masters, McGraw Hill Book Company	1981
5	Francis D.K. Ching, Interior Design Illustrated, NY Van Nastrand Reinhold	1987

ELECTIVE I (PRODUCT DESIGN) **B.ARCH Semester: V**
Code: B5AR07-CP26

UNIT	CONTENT
1	Introduction: Product design and its types and need. Role of a product designer, product design process- research, development, production and marketing. Difference between Industrial and Product Design.
2	Historical & Cultural Context of Product Design: Industrial Revolution, Great Reform Movements: 1850-1914, Modernism to Pre-World War: 1900-1945, Post World War: 1945-1970s, Post Modernism: 1970-2000, Emerging design trends of 21stcentury.
3	Common Materials and their application. Hard Materials: Stone, Wood & Metals.
4	Design and production: Concept generation methods and design, Developing design via sketching, on scale drawing techniques, skills (analog and digital), Technical drawings (design and detail) and Model on scale. Emphasis on ergonomics, material and aesthetics and user experience.
5	Design: The subject may be integrated with the concurrent course of Interior Design. A portfolio comprising of design for a product, presented in an appropriate scale. The design must fulfil the requirements such as ergonomics, aesthetics and construction technique.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Juli Capella & Quim Larrea, Designed by Architects in the 1980's, Mitchell London	1988
2	Roland Knauer, Transformation: Basic Principles & Methodology of Design, Birkhauser Basel.Boston.Berlin	2008
3	European Masters/ 3 vol. 10 Industrial Design, EDICIONES ATRIUM S.A.	1991
4	Drawing for 3-Dimensional Design, Concept. Illustration. Presentation, Thames & Hudson.	1990
5	Robert W. Gill; Rendering with pen & ink; Thames & Hudson	2003

ELECTIVE I (DIGITAL DESIGN) **B.ARCH Semester: V**
Code: B5AR07-CP26

UNIT	CONTENT
1	Introduction: Digital design and its practices. Digital or computational Designs such as Parametric, Isomorphic, Metamorphic etc. and their techniques. Inter-relationships of geometric and architectural parameters.
2	History & Evolution of Digital Architecture: Works of Gehry Partners, Zaha Hadid, Morphosis, SOM, KPF, Foster & Partners, Greg Lynn, etc. with respect to computational designs and contemporary practices.
3	Computational Design Thinking & Fundamentals of Software: Basic concept formulation, computational thinking and lexicon, visualization. Rhino+ Grasshopper (exploring new NURB systems, using generative algorithms and 3D modeling tools and required plug-ins).
4	Digital fabrication & Scaled Models : Creation of shop drawings (drawing issued for fabrication or production) Coordination of Autodesk software with Rhino, Grasshopper and similar files formats. Introduction to 3D printing, laser cutting and fabrication techniques.
5	Design Portfolio: At the end of the term, a portfolio will be made containing process documentation (sketches, diagrams both 2D and 3D)by setting up a layout or a scheme (composition of information on paper), using Adobe Illustration & In-design.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Jane Burry+ Mark Burry; The New Mathematics of Architecture, Thames & Hudson	2010
2	Helmut Pottman, Andrea Asperl, Michael Hofer & Axel Kilian; Architectural Geometry, 1st Edition, Bentley Institute Press, Eton Pennsylvania USA	2007
3	Roland Knauer,Transformation: Basic Principles & Methodology of Design, Birkhauser Basel.Boston.Berlin	2008

BUILDING ELECTRICAL SERVICES **B.ARCH Semester: VI**
Code: B6AR01-CT16

UNIT	CONTENT
1	**Building Energy** Significance, Scope, Building Energy Sources-Conventional – Hydro, Fossil Fuels, Nuclear, etc. & Non-Conventional - Bio-Gas, Photo Voltaic, Wind, Wave Energy, etc. Building Energy Scenario - Trends in Consumption, Impact of user behaviour and Energy Conservation. Terminology used – Electric Charge, Current, Voltage, Power, Resistance, AC & DC etc. Basics of electrical circuit- Ohm's Law & Kirchoff's Law- Series and Parallel Circuits.
2	**Electrical Transmission & Distribution** Transmission of electricity - Transmission Voltages, Power Factor and Power Loses. Electrical Distribution Systems- Demand, Tariff Legislation and Code of practice. Rules- National Electrical Code. Single Phase and Three Phase Supply Electrical Sub-Station – Transformer, Metering & Monitoring, HT & LT Panels, Switch Gears, Power Backup & Emergency Supply.
3	**Electrical Wiring and Installations** Types of wiring systems, Methods of Wiring, Joint and Loop-In. Types of electrical Wires and their choice in planning electrical wiring in Building Switch boards, Distribution boards, Sockets, junction boxes, control equipment, and other fittings and fixtures. Protection against overload, short circuit, earth faults, lightening Conductors and other safety measures. Special systems- Bus Way, Bus Bar Trunk, Race Way, lighting Tracks
4	**Building Automation and Control Systems** Building Automations, Significance and Scope. Electronic and Communication Systems- Telecom, Intercom, Computer Systems and Data Networking- Wired & Wireless. Electronic Security System- Security and Surveillance Systems. Automatic Control Systems- Elementary Local Loop and complete control systems
5	**Electrical Layout Design** Single Line Diagram & Electrical layouts. Calculation of load for small project like Shop, Showroom, Office, Residence etc. Designing Basic Electrical layout to be integrated with concurrent Design Studio.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S.L. Uppal- G.C. Garg; Electrical Wiring Estimation and Costing; Khanna Publication	2010 – 6th Edition
2	Fred Hall & Rager Greeno; Building Services Handbook; Butterworth-Heinmann	2011 – 6th Edition
3	Raina K.B. & Bhattacharya S.K.; Electrical Design, Estimation and Costing; New Age International Publishers, New Delhi	2007
4	Steve Doty & Wayne C. Turner; Energy Management Handbook; The Fourmount Press, USA	2009 – 7th Edition
5	B. Mazumdaar; Textbook of Energy Technology; APH Publishing Corporation	2005

HISTORY OF ARCHITECTURE-IV **B.ARCH Semester: VI**
Code: B6AR02-CT17

UNIT	CONTENT
1	**MODERN ARCHITECTURE: The Great Masters** Factors contributing to the development of the style. The life, Philosophy and contribution of the Great Masters to Architecture Luis Sullivan: The Chicago School Of Architects, Auditorium Building, Wainwright and Guaranty Building, Carson Pirie Scott Store. Frank Llyod Wright: Prarie School Houses such as Winslow, Ward Willits and Robie House. Early Public buildings such as Larkin & Unity Temple. Usonian Homes such as Hanna House. The culmination of the idea of the Organic Architecture- Falling Waters. Later Public buildings such as Johnson Wax and Guggenheim Museum. Walter Gropius: Fagus Shoe factory & Bauhaus School. Mies Van der Rohe: Weissenhoff Housing Estate, German Pavilion at Barcelona, Farnsworth House, Illinois; Lake Shore Drive Apartments, Chicago; Crown Hall and Seagram Building, New York. Le Corbusier: Towards a new Architecture- the Five Points. Villa Savoye, Swiss Pavilion, Unite d'Habitation, Notre Dame du Haut. City Planning and Design of buildings of Capitol Complex at Chandigarh. Sanskar Kendra, Mill Owner's Association, Shodhan and Sarabhai houses at Ahmedabad.
2	**MODERN ARCHITECTURE: After The Masters** Life, Philosophy and Contribution of Modern Period Architects after the great masters. Alvar Aalto: Paimio Sanitorium, Viipuri Library, Villa Mairea, Saynatsalo Town Hall Louis Isadore Kahn: Salk Institute, California; Kimbell Art Museum, Texas; IIM Ahmedabad; Bangladesh National Assembly, Dhaka Eero Saarinen: TWA Terminal J.F. Kennedy Airport, New York; Dulles International Airport ; Kresge Auditorium and Chapel at MIT Kenzo Tange: Hiroshima Peace Memorial, Yoyogi Olympic Gymnasiums, Tokyo; Tokyo City Hall. John Utzon: Sydney Opera House, Kuwait National Assembly, Bagsverd Church, Denmark
3	**POST MODERN ARCHITECTURE: Classicism & High-Tech** Post Modern architecture as a counter proposal to Modern architecture. Different Trends and Meanings of Post Modern Architecture. The Life, Philosophy and Contribution of Post Modern Architects. Robert Venturi: Vanna Venturi House and Guild House, Philadelphia and Sainsbury Wing National Gallery London. Philip Johnson: The Glass House, Connecticut; AT&T Building, Manhattan; National Centre for Performing Arts, Mumbai. Micheal Graves: Public Service and Humana Corporation Buildings, Walt Disney World Swan & Dolphin Resort Richard Rogers: Georges Centre Pompidou, Llyods Building, Millennium Dome. Renzo Piano: Tjibaou Cultural Centre, California Academy of Sciences. Norman Foster: HSBC Hong Kong, Sainsbury Centre for Visual Arts, Swiss Re Tower, Santiago Calatrava: Lyon Airport Railway Station, The Turning Torso.
4	**POST MODERN ARCHITECTURE: Deconstructivism & Regionalism** The other flavors of Post Modern Architecture in the Developed and Developing World. Peter Eisenman: House VI, Wexner Centre for Visual Art, Bio Centrum Frank Owen Gehry: Walt Disney Concert Hall, Nationale Nederlander, Prague; Guggenheim Museum, Bilbao. Daniel Libeskind: Jewish Museum, Berlin; Imperial War Museum, Manchester ; Denver Art Museum Extension & Residences, Colorado. Zaha Hadid: Vitra Fire Station, Weil Am Rhein Germany; Phaeno Science Centre, Wolfsburg ; London Aquatics Centre. Hassan Fathy: Mosque, New Gourna; Ministerli House, Cairo; Hassan Rashad House, Ibiar Tanta, Egypt. Geoffrey Bawa: Parliamentary Complex, Sri Jayawardenapura; University of Ruhunu, Matara ; Kandalama Hotel, Dambulla; Sri Lanka. Laurie Baker: Loyola Graduate Women's Hostel, Centre for Development Studies, Indian Coffee House, Trivandrum.

UNIT	CONTENT
5	**INDIAN ARCHITECTURE – Post Independence** Post Independence Indian Architects after Le Corbusier and Louis Kahn. Achyut P. Kanvinde: Campus Architecture, IIT Kanpur ; Dudhsagar dairy Complex, Mehsana ; National Insurance Academy, Pune; Nehru Science Centre, Mumbai. Joseph A. Stein: India International Centre ; Triveni Kala Sangam and India Habitat Centre, Delhi B. V. Doshi : Gandhi Labour Institute, CEPT, Institute of Indology, Ahmedabad ; Aranya Township, Indore; Vidyadhar Nagar, Jaipur; IIM Bangalore. Anant D. Raje : Indian Statistical Institute, Delhi ; Indian Institute of Forest Management, Bhopal; Farmers Training Institute, Palampur. Charles Correa: Gandhi Samarak Sangrahalaya, Ahmedabad; Kala Academy, Panjim; Jawahar Kala Kendra, Jaipur; British Council Headquarters, Delhi; Artist's Village, Belapur ; Chamapulimaud Centre for Unknown, Lisbon. Raj Rewal : Asiad Games Village, National Institute of Immunology and Scope Office Building, Delhi. Uttam C. Jain : Jodhpur University Campus Extension ; Indira Gandhi Institute of Development Research, Mumbai ; Nagar Nigam, Jaipur.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Marian Moffett, Michael Fazio, Lawrence Wodehouse; Buildings Across Time; McGraw Hill	2004
2	Francis D. K. Ching, Mark M. Jarzombek, Vikramaditya Prakash; A Global History of Architecture, John Wiley & Sons	2007
3	William J. R. Curtis, Modern Architecture since 1900, Phaidon Press ltd.	1996
4	Vikram Bhatt & Peter Scriver; Contemporary Indian Architecture, After the Masters;Mapin Publishing Pvt. Ltd.	1990
5	Kenneth Frampton; World Architecture 1900-2000: A critical Mosaic, Volume 8 South Asia; Springer-Verlag Wien New York	2000

ARCHITECTURAL STRUCTURE -VI **B.ARCH Semester: VI**
Code: B6AR03-CT18

UNIT	CONTENT
1	Introduction Introduction to steel members, Uses of steel over RCC, Introduction to Rivet connections, Introduction to bolted connections, Introduction to welded connections
2	Design of Tension members Introduction to tension plates, Introduction to tie members in trusses, Designing of tension plates, Designing of tie members
3	Design of Compression members Introduction to steel columns and struts, Designing of steel columns, Designing of steel struts and uses of steel columns
4	Design of Beams Introduction to steel beams, Designing of laterally supported beams, Designing of laterally unsupported beams, Uses of built up sections and steel beams.
5	Design of Foundations Introduction of grillage foundation, Theory of column bases, Designing of grillage foundation and Designing of column bases
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Prof. R. Chandra, Design of Steel Structure (Vol.I); "Standard Publisher & Distributors"	2005
2	Negi,Design of Steel Structure; "Tata McGraw Hills Publishing Co. Ltd."	2004
3	S. Subramaniam, Design of Steel Structure; "Oxford university press"	2008
4	B.C.Punmia& A K Jain, Design of Steel Structure; "Laxmi publication"	2006
5	S.K.Duggal, Design of Steel Structure;"Tata McGraw Hills Publishing Co. Ltd."	2004

ARCHITECTURAL DESIGN -V **B.ARCH Semester: VI**
Code: B6AR04-CP28

UNIT	CONTENT
1	**Theme:** Understanding the integration of Building services in the design of built spaces. Introduction to various Building services as functional enhancer of space.
2	**Parameters:** Environmental concerns in design such as light, ventilation, water, waste and Energy. Integration of structural, constructional and spatial systems with Building Services systems.
3	**Expected Skills:** To develop ability to study and analyze natural and man-made, ancient and Modern Building services systems. Co-relation between structural, constructional, spatial and Building plumbing and Electrical systems. Requirement of services as per Building codes, Basic layout and Design of Plumbing and Electrical services in Buildings.
4	**Design Outline:** Integration of services with structure, construction and function in the design of Multifunctional Simple Programmatic Building Project at community level in Urban or Rural context ideally on a Building site for a built-up area of 1001- 2500 sq.m. Course to be integrated with Plumbing and Electrical services and landscape Design courses.
5	**Projects:** A minimum of two Design Projects to be given in the semester from the list of suggested projects in various categories of Building types: Residential: Community Hostel, Youth, Hostel, etc. Educational: Higher Secondary School, Special school, etc. Health: Community Health Centre, Hospital, etc. Hospitality: Hostels, Motels, Resorts, etc. Commercial: Community shopping centre, commercial complex, offices, etc. Industrial: Industry, Laboratories etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Smith Lee; Plumbing Technology- Design & Installation; Delman Publishers Inc.	2007
2	Fred Hall & Rager Greeno; Building Services Handbook; Butterworth-Heinmann	2011- Sixth Edition
3	Ralph Hammann, " Creative Engineering, Architecture, and Technology; DOM publishers	2010
4	Pierre Loze, "Art & Build" Images Publishing	2009
5	Joseph De Chiara, Micheal J. Crosbie; Time Saver Standards for Building Types; McGraw Hill	2001-Fourth Edition

BUILDING MATERIAL & CONSTRUCTION -VI **B.ARCH Semester: VI**
Code: B6AR05-CP29

UNIT	CONTENT
1	**Pre-cast, Prefabricated & Pre-stressed Construction:** MATERIALS: Pre-stressing, prefabrication and precast and their present scenario in country. Standardization & modular coordination, jointing, tolerances, mass production storage and handling of materials. Types of pre-stressing techniques such as pre-tensioning & post tensioning. Advantage & disadvantages of Pre-stressing, Post-tensioning systems such as Freyssinet system, Gifford-Udall-cct system etc. CONSTRUCTION: Prefabrication technology – column & beam system, panel system, box system, Prefabrication techniques and various building components, Comparison between RCC and Pre-stressed concrete.
2	**Long span structures:** MATERIALS: Structural, Design & constructional issues of long span structures, long span structure system such as one way systems: Beams in timber, steel & concrete; Trusses in timber & Steel; Arches in timber, steel and concrete; Cable Structures in Steel. Plate structures in timber & concrete; shell structures in wood & concrete. Two way systems: Plate structures in steel & concrete; shell structures in steel & concrete. Principles of pneumatic structures. Machines and equipments for long span structures. CONSTRUCTION: Constructional details of various structures in steel, concrete – portal frames, folded plate, domes, space frame, tensile structure etc.. Foundations for long span structures.
3	**High Rise Structures:** MATERIALS: Different types of forces on high rise structures, Types of High Rise structures – Exterior structures such as Braced Frames, tube structures, tube in tube structure, Diagrid structures, trussed tubes, bundled tubes, space truss etc. Interior structures such as Rigid frame structures, Braced frame cores, shear wall cores etc. Machines &equipments for high rise construction. CONSTRUCTION: Deep foundations such as piles, caissons, diaphragm walls. Foundations under special conditions etc.
4	**Appropriate Construction Technology:** MATERIALS: Appropriate construction technologies used as an alternative for conventional practices. Selection Criteria and objectives for using such technologies. Application of Building Materials processed from Agricultural and Industrial waste. Introduction about agencies involved in promotion of such materials and technologies like BMTPC, CBRI, etc. Appropriate construction techniques, spanning systems, building components and Building Materials. Ferrocement its constituents & characteristics, comparison with RCC, various applications of Ferrocement. CONSTRUCTION: Appropriate construction techniques such as precast channel unit, RCC plant & joist, waffle unit, concrete L panel, Doubly curved shell, Ferrocement roofing channels, spanning systems such as corbelling, arch etc.
5	**Advance Materials & Construction Technologies:** MATERIALS: Introduction and brief history of smart materials, classification such as smart, Intelligent, Repurposed, Transformational, nano etc. Innovation in materials such as Translucent concrete, LED tiles, ECO glass, Electroluminescent fabric, Reaction glass etc. Processing and conversion of materials. New technologies of construction. CONSTRUCTION: Lift slab construction, slip form construction.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Francis D.k. Ching, Barry S. Onoye, Douglas Zuberbuhler; Building Structures Illustrated; John Wiley & Sons	2009
2	Michael Barnes, Michae Dickson, Thomas Telford; Widespan Roof Structures	2000
3	Johann Eisele, Ellen Kloft, High Rise Manual; Birkhauser Boston	2003
4	M.J. Tomlison; Foundation, Design & Construction; Longman Group Ltd.	1995
5	Barry R.; Construction of Buildings, Volume 1, Foundation and on-site Concrete Walls, Floors and Roofs; Affiliated East West Press	1996

LANDSCAPE DESIGN -V **B.ARCH Semester: VI**
Code: B6AR06-CP30

UNIT	CONTENTS
1	**Introduction to Landscape Architecture** Definitions, Hierarchy and Scope in Architecture. Landscape Design in History – Persian, Spanish, Italian, French, Mughal, English and Japanese Gardens. Contemporary concepts and concerns in Landscape such as living green roof, terrace, wall, etc. and Modifying micro climate w.r.t. Temperature, humidity, precipitation and percolation.
2	**Elements of Landscape Architectural Design** Landform: Significance, Expression, types and uses of Landform. Plant material: Significance, Types Characteristics and uses of plant material. Planting Design process and Principles. Plant Material in local context. Botanical & Common names, Characteristics and uses. Selection of Plants. Water: Characteristics and uses of water in Landscape, Materials & Design of water features such as fountains and pools. Pavement: Types, Characteristics &. Uses of pavements in Landscape. Basic Pavement, Materials and Design. Site Structures: Steps, Ramps, walls, fences, seating, etc., their materials & design.
3	**Site Studies, Planning & Development** Site survey to study site characteristics such as Access, Topography, Vegetation, Hydrology, Views and Context. Site planning issues. Such as sitting individual buildings and relating Buildings to a site. Building clusters and Types of spaces, Site circulation and zoning of Activities & spaces on site.
4	**Landscape Architectural Design Process & Services:** Basic Design Process: Research, Analysis, Design & Construction Drawings such as Master Plan, Grading Plan, Section and Planting Plan. Drainage & Irrigation System Layout plan, Outdoor Lighting System layout plan.
5	**Landscape Architectural Design Project** Design and Presentation of landscape scheme for Building Projects from the previous or concurrent, Architectural Design Studio, Small exercise to test application through design of parks, play grounds, road layouts, parking etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Michael Laurie; An Introduction to Landscape Architecture; Elevier Publications	1986
2	Sylvia Crowe; Garden Design	1994
3	Geoffrey & Susan Jellicoe, Landscape of Man	1975
4	Kevin Lynch, Site Planning	1984
5	PradeepKrishan, Trees Of Delhi, Penguin India	2006

ELECTIVE-II - HISTORY OF ARCHITECTURE OF RAJASTHAN
B.ARCH Semester: VI
Code: B6AR07-CP31

UNIT	CONTENT
1	**Background & Historical context** Context and Physical Characteristics; Forces responsible for architectural development of Rajasthan like social, political and economic factors, culture and building resources, building techniques & processes characteristic to Rajasthan.
2	**Development and Evolution of architecture** Earliest archeological evidences – Mauryan & Post Mauryan period, Gupta & Post Gupta period, Pratihara period, Rajput period, Rajput-Mughal period, Rajput-British period; Buildings for the expression of power like Hill Forts & Citadels - Amber, Mehrangarh, Kumbhalgarh, Jaisalmer and Chittorgarh and palaces like City Palace Jaipur and City Palace Udaipur.
3	**The organic and the planned cities** Settlement patterns- Common planning principles & articulation of built form and the factors influencing their spatial organization; cultural values that shaped the overall architectural language; Brief understanding of planning of early cities with an organic character like Jaisalmer, Shekhawati towns and of planned cities like Jaipur.
4	**History of building craft** Traditional treatise - Rajvallabh, Devtamurtiprakaran, Prasadmandana, Rupavatra, Rupamandana, Vastushastra; Visual records - Manuscripts, miniature paintings, Mughal paintings; Local traditions of artisanship – artisans, temple builders, sculptors, stone carvers, inlayers, etc**.**
5	**Building types and their uses** Havelis and houses, temples and other religious buildings, bazaars and public buildings, buildings for water and gardens - examples from cities like Jaipur, Jodhpur, Udaipur, Jaisalmer, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Bannister Fletcher, History of Architecture, Twentieth Edition, CBS Publishers, Delhi	1999
2	Shikha Jain, Havelis: a living tradition of Rajasthan, Shubhi Publications	2004
3	The Stone Crafts of Rajasthan, CDOS, Jaipur	2011
4	G.H.R. Tillotson, The Rajput Palaces: the development of architectural style, Oxford University Press, New York	1999
5	G.H.R.Tillotson, Paradigms of Indian Architecture, Routledge	1997
6	Rima Hooja, History of Rajasthan, Rupa Co., New Delhi	2006

ELECTIVE-II -VERNACULAR ARCHITECTURE OF RAJASTHAN
B.ARCH Semester: VI
Code: B6AR07-CP31

UNIT	CONTENT
1	**Vernacular architecture in Indian context** Definition(s) of vernacular architecture and related terminologies; Difference between vernacular architecture and traditional architecture; Relevance of vernacular architecture in present context; Typologies in different climatic regions of India.
2	**Regional context and corresponding built form in Rajasthan:** Factors influencing the development of vernacular architecture like climate, topography, availability of building materials, resources, building skills and techniques. Conception of space and evolution of a generic form.
3	**Settlements and dwelling patterns** Regional dwelling patterns like 'dhanis' (hamlets), villages and their overall adaptation in the said context; Settlements and their vicinity to water resource(s) as places of worship and social activity; water related architecture and typical water resources like kua, kohar, baoli/bavdi, jhalora, bera/beri.
4	**Typical built typologies** Study of relative built typologies for residential, religious and public use of cities like Jaisalmer, Jaipur, Jodhpur, Bikaner and Udaipur in terms of context, physical characteristics and culture.
5	**Characteristic spaces and thematic elements** Spaces like courtyards, platforms, jharokhas (balconies) etc.; Embellishments & Architectural expressions– Symbolism and Ornamentation, compound walls, patterns on doors and windows, mirror work and motifs, flooring patterns, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Amos Rapoport; House Form & Culture; Prentice Hall	
2	Dora P. Crouch & June G. Johnson, Traditions in Architecture – Africa, America, Asia and Oceania, Oxford University Press, Inc., USA, 1st edition	2001
3	J. Tod, Annals and Antiquities of Rajasthan; Volume-II, KMN Publishers, New Delhi	1983
4	MinakshiJain&Kulbhushan Jain; Architecture of the Indian Desert; AADI Centre, Ahmedabad, India	2000
5	Minakshi Jain &Kulbhushan Jain; Indian City in the Arid West;AADI Centre, Paldi, Ahmedabad, India	

ELECTIVE-II - ARTS & CRAFTS OF RAJASTHAN
B.ARCH Semester: VI
Code: B6AR07-CP31

UNIT	CONTENT
1	**Background & Regional formation of Rajasthan.** Traditional geographical, political and cultural divisions; Pre-and proto history of Rajasthan focusing on various prehistoric cultures; Inter-religious interactions- Aspects of arts and crafts, literature and cultural relations with neighboring states during respective historical eras.
2	**Classification of Arts & Crafts based on nature and material used** The Chhatiskarkhana of Jaipur; Crafts - Jewelry, metal, wood, lac-based crafts, textiles, paper crafts, miscellaneous arts – Miniature painting, frescoes, etc.; Tribal crafts; Influence of arts and crafts on built form.
3	**Building stone craft tradition in Rajasthan** Rock formations in Rajasthan and stone types; Shaping the stone – quarrying, selection, dressing, finishing, carving and patterning; Stone craft clusters in Rajasthan; Stone Masonry (walls; dry and with lime mortar / cladding and finishes).
4	**Building elements in stone** Structural elements in stone (foundations, columns, beams, brackets and roofs – flat and domed); Architectural elements in stone (jharokhas, copings, railings, jaalis); Landscape elements in stone (fountains, water bodies, benches, signage, lamps); Interior elements/ sculptures/artifacts of various sorts; Maintenance of Stone Buildings.
5	**Reinterpretation of stone craftsmanship** The new generation artisan; Innovations and adaptations to new tools and applications in stone; contemporary use of stone while studying works of Raj Rewal, Charles Correa, Ashok B Lall and Nimish Patel,

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Rima Hooja, History of Rajasthan, Rupa Co., New Delhi	2006
2	The Stone Crafts of Rajasthan- A Manual, CDOS, Jaipur	2011
3	V.S. Bhatnagar, Life and times of Sawai Jai Singh, Impex India, New Delhi	1979
4	Rajasthan Sate Gazeteers, Volume – 2, History and culture, Directorate District Gazetteers, GoR& Volume-3, Economic Structure and Activities	
5	Jadunath Sarkar, History of Rajasthan	

BUILDING MECHANICAL SERVICES **B.ARCH Semester: VII**
Code: B7AR01-CT19

UNIT	CONTENT
1	**Principles of Refrigeration and HVAC** Basics of Thermodynamics: Heat, Transfer of heat, Change of state, Temperature, Specific Heat, Latent Heat, Saturation Temperature, Evaporation, Condensation, Enthalpy, Entropy, Pressure-Temperature Relationship for liquids, Refrigerants, Refrigeration Cycle. Human Comfort: Humidity, Absolute Humidity, Relative Humidity, Specific Humidity, Temperature Range, Air Quality Parameters, Air Movement, Need of HVAC. Principles of Air-Conditioning: Psychometric Process, Air Cycle, Summer and Winter air conditioning, evaporative cooling, Constituents of Heat Load Estimation- Material, Orientation, Heat, Light, Occupancy, Building Use (Mathematical calculations are excluded). Air Conditioning Zoning: Purpose & advantages, Air distribution systems- Non Duct & Duct Systems, Air outlets, Compressors, Evaporators, Condensers, etc.
2	**HVAC System Components and Equipment** Window & Split units; Variable air-volume, water volume, vapor absorption system (Variable refrigerant Flow). Central Air conditioning systems: AC Plant Room, Direct Expansion and chilled water system, Types of compressors (air cooled and water cooled), Cooling Towers, Air handling units, Fan Coil Unit, Fresh air-sick building syndrome.
3	**Fire Prevention, Protection & Life Safety** Causes of building fire: Triangle of fire Prevention: Materials for different building components and their fire rating, Considerations for: Building Heights, F.A.R. & Open Space, service ducts and shafts, refuse chutes, electrical installations & emergency power supply, lightening protection, escape lighting and escape signage, fire and smoke dampers, opening and glazing (façade fire prevention) Life Safety: Fire exits- numbers and arrangement, fire escape staircase and its pressurization, ramps, Compartmentation, Fire detection and alarm systems, safety drills. Fire Protection: Fire extinguishing and fire fighting installations- types of extinguishers, dry and wet riser system, automatic sprinkler system, fire tank and pump house.
4	**Elevators and Escalators** Types of Elevator and escalator mechanism, Design considerations: location in a building, serving floor, grouping, lift size, lift car dimensions, door arrangements, waiting time analysis, sky lobby. Types & installation provisions of elevators & escalators: passenger lift, hospital (stretcher lift), goods lift, car lifts, dumbwaiters, travelators, step type escalator, belt type escalators, cleat type escalator, levytator etc.
5	**Mechanical Layout Design** Application of air conditioning system in hotels hospital and commercial building. Ventilation System design for basement, car park, toilet and kitchen ventilation (air washer and scrubbers), air cooling systems. Schematic layout for fire protection in building showing exits, escape routes, fire extinguishers (sprinkler systems), tanks and pump room. All designs to be integrated with concurrent Design Studio.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	John W. Mitchell, James E. Braun; Heating, Ventilation, and Air Conditioning in Buildings ; John Wiley &Sons Inc.	2012
2	William K.Y. Tao , Richards R. Janis; Mechanical and electrical Systems in Buildings; Pearson Education Inc.	2014
3	M.Y.H. Bangash, T. Bangash; Lifts, Elevators, Escalators and Moving Walkways; Travelators/Taylor & Francis/Balkema	2007
4	Bureau of Indian Standards; National building code of India-2016; Bureau of Indian Standards	2016
5	William H.Severns and Julian R Fellows; Air conditioning and Refrigeration; John Wiley & sons, London	1987

CONTRACT DOCUMENTS & BYELAWS **B.ARCH Semester: VII**

Code: B7AR02-CT20

UNIT	CONTENT
1	**Building Contracts** Type of contracts and contract documents, detailed knowledge about various conditions of contract as published by the Indian Institute of Architects, interim certificates defect, liability period, retention amount and virtual completion. Articles of agreement, execution of work payment and Arbitration, arbitrators, umpire and nature of arbitration, Appointment, conduct, powers and duties of arbitrators and umpires, Procedure for arbitration, preparation and publication of awards and impeachment.
2	**Tenders** Types of tender documents, tender draft notices and invitation of tenders. Procedure for opening and selection of tenders & award of contract. Analysis and report to owner. Work order.
3	**Building Byelaws:** Brief history of Town planning Act 1954 with reference to Building Projects. Various factors for formalization of Bye Laws & its implications. Comprehensive study of Jaipur Building Bye-laws relating to Ground coverage, FSI Calculation, Building Height & Building use regulation. Study of special provisions in bye-laws in respect of Special category of Buildings Role of Approving authorities, special rules governing hill area development & coastal area management.
4	**Approval & Clearance:** Preparation and procedure of approval drawings. Methods of enforcement & monitoring. Fire clearance, Structure safety approval, Environment clearance, consent to establishment, Occupancy & completion certificate, Indemnity Bond, other special clearances.
5	**Other Laws:** An overview of laws related to the profession of Architecture and Physical Development. Introduction to Labour Act, Building construction worker act & Real estate Bill 2017.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	V.S.Apte; Architectural Practice & Procedure	2008
2	Roshal Namavati; Professional Practice	2008
3	Dr. K.G.Krishnamurthy; Construction Management	2005
4	Ministry of Urban Development; Model Building Byelaws	2016
5	Bureau of Indian Standards; National Building Code (NBC)	2016

ACOUSTICS & ILLUMINATION **B.ARCH Semester: VII**
Code: B7AR03-CT21

UNIT	CONTENT
1	**Fundamentals & Behavior of sound:** Acoustics-need & scope, pioneers and their works, Acoustics examples from past .Basic Theory: Generation, Propagation, Transmission, Reception of sound, Human ear and hearing, loudness perception, subjective effects. Basic terminology - Frequency, pitch, tone, timbre, sound pressure, sound intensity, loudness, threshold of audibility & pain, wavelength and velocity of sound. Properties & Characteristics of Sound. Reflection and absorption of sound. Inverse Square law, Decibel scale & decibel addition. Behavior of sound in an enclosed space. Ray Diagrams, Sound paths, Effect of geometry and shapes. Sound Absorption coefficient, Reverberation, Calculation of reverberation time-Sabine formula. Acoustical defects in an enclosed space and their remedial measures.
2	**Noise Control:** Physiological and psychological effects of noise. Types of noises- Structure borne & Air borne noise, flanking of sound. Noise classification Outdoor and indoor noises. Transmission of noise & Transmission loss, Noise control and sound insulation & absorption. Sound leaks through openings. Acceptable noise levels for building types and indoor noise levels. Noise criteria curve & noise reduction coefficient. Noise reduction through landscaping and design techniques. Land use planning for Noise control. Noise reduction from mechanical equipment their mounting details and insulation.
3	**Design & construction for sound:** Introduction to sound amplification and Distribution system. Selection of Acoustic materials like porous materials, membrane absorbers, cavity resonators, space absorbers, variable absorbers and their construction details and fixing. Environmental aspects of acoustical materials. Construction details of walls, partitions, floors, ceiling doors & windows for Noise reduction. Acoustic design process in different types of buildings like Auditoriums, concert halls, lecture halls. Site selection, noise survey, room zoning and shape. Acoustical privacy in open plan offices. Halls for speech & music .Raking of seats, stage forms etc.
4	**Illumination:** Introduction to illumination and Terms- lux, candle power , lumen, luminance, illuminance, luminous flux, luminous intensity ,glare etc. Evolution of lighting technologies. Light and vision . Photometry and measurement .Laws of Illumination such as inverse square law, cosine law, lamberts cosine law. Methods of lighting-ambient, task and accent. Classification of lighting systems-direct, diffused, indirect. Key technical terms such as CRI, CCT etc. Artificial light sources, types-incandescent, fluorescent, HID & LID, LED and their application, advantages & limitations.
5	**Lighting Design:** Functional & aesthetic uses of lighting. Characteristics of good lighting, Architectural lighting methods. Use of Artificial lighting as an element in Architectural scheme for Exhibitions, Museum, office, Residences, Outdoor Lighting road, façade & landscape . Lighting techniques -Spot, Flood, Light beams etc. Lighting Design: Lumen method, Point by Point Method, Graphical representation of general Lighting scheme. Energy efficient lighting Design strategies.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Egan David; Architectural Acoustics; Mcgraw-Hills Book Co. New York	1988
2	Leslie l. Doelle; Environmental Acoustics; MC graw-Hill book company, New York	
3	Norbert Lachner; Heating, Cooling, Lighting - Design methods for Architects; Johnwiley & Sons New York	2001
4	BIS; Handbook on Functional requirement of Buildings, (Part 1-4) ; BIS	
5	Christina Augustesen; Lighting Design Principles, implementation case studies; Birkhauser, Boston	2006

ARCHITECTURE DESIGN -VI **B.ARCH Semester: VII**
B7AR04-CP33

UNIT	CONTENT
1	**Theme:** Understanding the co-relation between the sight and the building / buildings through the integration of various site and landscape elements.
2	**Expected Sills:** To develop ability to locate a building / buildings on site as per local building regulations, climate and site conditions in order to achieve mutually beneficial relation between built and open spaces using various available natural & man made elements such as land form, plant material, water bodies, pavements, buildings and site structures. To develop ability to plan and design access, circulation and parking at site level
3	**Building Byelaws:** Brief history of Town planning Act 1954 with reference to Building Projects. Various factors for formalization of Bye Laws & its implications. Comprehensive study of Jaipur Building Bye-laws relating to Ground coverage, FSI Calculation, Building Height & Building use regulation. Study of special provisions in bye-laws in respect of Special category of Buildings Role of Approving authorities, special rules governing hill area development & coastal area management.
4	**Design Outline:** Integration of built & open spaces in the design of multi-functional complex programmatic building project at District level in Urban or Rural context ideally on a building site required for a built up area of 2500 – 5000 Sqm. Course to be integrated with building mechanical services, acoustics & illumination, settlement planning & universal design.
5	**Projects:** A minimum of two design projects to be given in the semester from the list of suggested projects in various categories of building types : Residential: Group, Spatial Housing, etc. Educational: Diploma, Degree, Professional colleges, Science centre, etc. Public: Law courts, Art & Cultural Centre, etc. Health: Naturopathy & Yoga Centre, Hospice, Drug De-addiction centre, etc. Hospitality: Holiday, Beach, Hill, Dessert Resort, etc. Entertainment: Sports / Social Club, Water Park, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	John Ormsbee Simonds,; “Landscape Architecture”; McGraw Hill	2008
2	Charles W. Harris, Nicholas T. Dines; “Time-Saver Standards for Landscape Architecture”; McGraw Hill	2008
3	Joseph De Chiara, Micheal J. Crosbie; Time-Saver Standards for Building Types; McGraw Hill	2005
4	Ernest & Peter Neufert; “Architect’s Data Part-I & II”; Black Well Science	2016
5	Achyut P. Kanvinde & H. James Miller; “Campus Design in India”; United States Agency for International Development	2016

WORKING DRAWING **B.ARCH Semester: VII**
Code: B7AR05-CP34

UNIT	CONTENT
1	**Introduction:** Understating of working drawing, their co-relation in various technical projections like plans, elevations, sections, detailing etc. Estimation & Specifications, Standards, guidelines for execution of works, Units of measurements, various graphic, numeric, text components and their precise function in a set of working drawing. Method of representing various contents & specific information in working drawings. Study of a set of working Drawings and its understanding
2	**Building Plans:** Demarcation of building envelop using diagonal and coordinate method; Locating vertical structural member; Detailing of sub Structure-Excavations and layouts; External and partition wall and scheduling of fenestration. Building Location Plan, Centre line Plan, Column location plan, Excavation drawing, Foundation Layout, Plinth Beam Layout, Site Plan, Brick work of all floor plan, Roof plan with parapet and Mumty brick work, Stair room plan, Door Window Detail with schedule, Suspended floor and roof framing.
3	**Building Sections and Elevations** Sectional representation of different material in different building components; Wall Sections; Detailing of building façade; vertical circulation-planning and detailing. Building Sections: Whole and part, Building elevations, External Finishing schedule, Staircase and ramp Details.
4	**Building Services** Building plumbing network – Water supply lines & sewer lines, their gradation, drains & traps, Details for rain water harvesting & septic tanks. Building electrical network – Space allocation for various components (panels, vertical stacks, etc.) and provisions for their connections. Plumbing Drawings: Site Level - Water supply, Sewer, Storm water Layouts and Invert Level schedules. Building Level - Kitchen and toilet Detail-Water supply, Sewer, Rain water; Roof Drain plan. Electrical Drawings: Site Level – Electrical layout, Building Level - Reflected ceiling Plan, Power layout, Low voltage layout, lighting and circuit layout.
5	**Building Component Detail** Building internal finishing schedule – color schemes, flooring patterns, wall elevations, dado, fixtures & fittings. Sectional details for various building components as per standard specification & site conditions. Toilet and kitchen wall elevations, Flooring detail, under floor treatment, Terracing detail, water proofing detail, Lintel Detail, Coping & Parapet Detail etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Ralph W. Liebing, Mimi Ford, Raul; Architectural Working Drawings; Wiley	1990
2	Director General of Works; CPWD Specifications; CPWD Nirman Bhawan, Delhi	2014
3	M.G.Shah, CM Kale, S.Y. Paoul; Building Drawing; Tata McGraw Hills	2011
4	Director General of works; Delhi Schedule of Rates; CPWD, Delhi	2016
5	Barry R; Construction of Building; Affiliated East West Press Pvt. Ltd.	1999

SETTLEMENT PLANNING **B.ARCH Semester: VII**

Code:B7AR06-CP35

UNIT	CONTENT
1	**Introduction and History of Human Settlement** Definition and vocabulary of urban and regional planning. Definitions of town planning. Early human settlements — Causal factors and pattern of development. Human settlements of River valleys civilization (e.g. Indus-valley civilization, Egyptian civilization, etc. Early Vedic civilization patterns, Canonical patterns as per various Indian contexts. Human settlements during ancient Greek period, ancient Roman period, Medieval period (Western and Indian), Renaissance period, India during Islamic period, India during colonial period. Effects of Industrial Revolution on planning of cities (history and present scenario). Ancient System of Town Planning In India -Extracts from Chanakya's Arthasastra, Manasara's Vastushastra, planning thought behind Fatehpur Sikri, Shahjahanabad, Jaipur and Delhi. Basic Skill Development exercise: Introduction to graphic representation reading of drawing.
2	**Forms of Human Settlements** Structure and form of Human settlements: Linear, non-linear and circular, Combinations. Reasons for development, advantages and disadvantages, case studies, factors influencing the growth and decay of human settlements. Documentation of case study/ Literature reference study of suitable scale for understanding of the urban context.
3	**Planning Theories and Techniques:** Planning concepts related to garden city, geddesian triad, neighbourhood planning, radburn layout, ekistics, satellite towns and ribbon development. Various theories of planning like landuse theory, exploratory theories, speculative theories etc. Principles of Planning, Zoning, zoning regulations, Site planning. Types of plans-development plans, action plans, structure plans. Planning process of Master plan/Development plan preparation and its components, Approaches to physical and social planning, stake holders in planning process. Planning laws, legislation and amendments i.e. ULCAR, LAA,73rd and 74th constitutional amendments, etc. Special Economic Zones (SEZs), UDRPFI recommendations. Levels of planning and steps for preparation of a town plan, survey techniques in planning, concepts, functions, components and preparation of a development plan. Defining characteristics of identified area. Planning project implementation techniques i.e. BOOT, BOT, BOLT, etc
4	**Urban Planning and Urban Renewal** Post-independence Planned cities in India i.e. Chandigarh, Gandhinagar, Vidhyadhar Nagar, etc. Globalization and its impact on cities, Urbanisation, emergence of new forms of developments, self-sustained communities, SEZ, transit oriented development, integrated townships, case studies. Urban Renewal: Meaning, Redevelopment, Rehabilitation and Conservation. Urban renewal schemes i.e. JNNURM, etc. Case study and literature review of planning concepts and norms for selected area.
5	**Transport Planning** Introduction to transport planning: Network characteristics, Analysis and interpretations Intersections, Hierarchy and their design of roads, survey methods i.e. Trip generation, trip distribution, Modal Split Origin Destination survey, etc. Traffic signs. Level of services. Transport modes, technology and selection Planning Studio: Selection of site, data collection, data analysis and presentation.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	C.A.Doxiadis, Ekistics; "An Introduction to the Science of Human Settlements"; Hutchinson, London.	1968
2	Arthur B. Gallion & Simon Eisner; "Urban Pattern"; D. Van Nostrand Co., New York	1963
3	Ministry of Urban Development; "Urban Development Plans: Formulation & Implementation Guidelines"	1996
4	A.K.Jain; "Urban Transport Planning and Management"; APH New Delhi	2009
5	Sandhu. R. S.; "Sustainable Human Settlements"; Asian Experience, Rawat publications.	2001

ELECTIVE-III UNIVERSAL DESIGN **B.ARCH Semester: VII**
Code: B7AR07-CP36

UNIT	CONTENT
1	**Introduction:** Universal design and its significance, need and role in various design fields in current context for people with different abilities. Universal Design awareness and education at national and international level. Seven International principles: Equitable Use, Flexibility in Use, Simple & Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort, and Size & Space for Approach & Use. Five Indian Principles of Universal Design: Equitable, Usable, Cultural, Economic and Aesthetic.
2	**Understanding Disability:** Types of disabilities based on mental, physical, function, age and extreme physical proportions. Study of groups comprising of people with disabilities and the necessary design requirements with respect to aspects of anthropometrics i.e. visibility, access and usage.
3	**Universal Design: Guidelines & Legal Provisions:** United Nations Convention on the Rights of Persons with Disabilities; UNCPRD, 2008. Acts, Bills, Policies, and Building guidelines in India: Disability Act 1995, Rights of Persons with Disabilities Bill 2012, CPWD Guidelines for Barrier Free Built Environment for Disabled and Elderly andStandard Emergency Evacuation Guidelines for Disabled by National Building Code.
4	**Universal Design:** Building Level: Design Standards for accessibility and usage in various building typologies both constructed as well as existing buildings: Residential, Institutional, Commercial, Hospitals & Health facilities, Public Transit Buildings, Recreational Buildings and Hospitality Buildings. Design and Construction Strategies with respect to all kinds of disability at Building Interior: floor, walls, doors, windows, counters, railings, sanitary fixtures and signage. Building Exterior: pathways, parking, signage, levels and grooves, main entrance/ exit and approach to plinth. Building Circulation: vertical and horizontal elements such as corridors, staircases, lifts, elevators, ramps. Materials and surface finishes available, their types and construction techniques.
5	**Universal Design:** Urban Level; For Streets, Pathways, Pedestrian Crossings, Foot over Bridges, Curb Ramps, Parking, Public Toilets, Parks, Bus Stops, Street Furniture, Signage. Materials available and their types and construction techniques.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Preiser Wolfgang, Universal Design Handbook	2001
2	Adrian B. Robbins, Margaret A. Wylde, Building for a life time, The design for fully accessible homes	1994
3	Steven Winner, Accessible Home Design,	
4	Accessibility for the Disabled: A Design Manual for a Barrier Free Environment, UNCPRD	2008
5	CPWD, Guidelines and space standards for barrier free built environment for Disabled and Elderly Persons	1998

ELECTIVE-III RESEARCH METHODOLOGY **B.ARCH Semester: VII**
Code: B7AR07-CP36

UNIT	CONTENT
1	**Research – Introduction & Design:** Research meaning and its significance in Architecture, Relationship between Design & Research, Areas of Research in Architecture, Qualitative and Quantitative Paradigms, Characteristics of Scientific research, Levels of Research, Components of research design, Identification of area of research, Defining the problem, formulation of hypothesis, collection of data through different primary and secondary sources. Analyzing the data and inferring from the data, concepts of dependent and independent variables. Defining the scope and limitations of a Research plan, Significance of the research outcome.
2	**Research – Types & Techniques:** Historical research, comparative Research, Qualitative Research, Co-relational research, Experimental Research, Normative Research, Case study Research, Simulation & Modeling Research Pilot studies, Educational Research. Descriptive technique, pictorial technique, analytical technique, statistical technique semantic technique etc.
3	**Research Tools:** Interview techniques – Questionnaires, face to face interviews, internet survey, Designing a questionnaire, interview schedule. Visual Techniques – Observation (Participant / non-participant), Activity mapping, accretion & erosion trace observation, cognitive maps etc. Sampling techniques such as systematic, stratified, random etc.
4	**Research Analysis** Understanding the relative advantage, disadvantages and application of various methods and choosing a method appropriate for a research to achieve its objectives, understanding the nature of data collected and methods of analysis suitable for that data i.e. graphical, numerical, descriptive. Introduction to the simple statistical methods of analyzing numerical data – frequencies / percentages, mean, median, mode, correlation, chi square test etc.
5	**Research writing** Different sections of a Research report, Technical writing and language. Abstract, synopsis, Executive summary. Writing Bibliography & References.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Groat L, Wang D.; Architectural Research Methods; John Wiley & Sons, Inc.	2002
2	Kaplan A.; The Conduct of Inquiry; Chandler, San Francisco	1964
3	Zumthor P.; Thinking Architecture; Birkhauser, Basel, Switzerland	2010
4	Shinde S.P. (Dr.); Methodology of Research and issues in Education; Surabhi Educational Society, Hyderabad	2008
5	Creswell J.W.; “Research Design : Qualitative & Quantitative Approaches”; Thousand Oaks : Sage	1994

ELECTIVE-III ARCHITECTURAL JOURNALISM **B.ARCH Semester: VII**
Code: B7AR07-CP36

UNIT	CONTENT
1	Introduction: Architectural Journalism as a career and as an occupation of documenting, reporting, validating, writing, editing, photographing and forming opinion and criticism of a project or an architect's work. Role of Architectural Journalism in promoting architectural design theory and developing critical thinking.
2	Architectural Journalism: Emergence & Evolution Global as well as Indian scenario. Emergence of Printed material such as Architectural Magazines and Journals such as Domus, Mimar, Indian Architect & Builder and Research Papers, Monographs, Biographies, Conference Proceedings, Articles and Coverage in national newspapers, as well as online Media.
3	Tools of Architectural Journalism: Resource finding, Writing content and verifying it through various sources like books, articles, papers, surveys, videos. Use of graphics like sketches, drawings, graphs, pie charts and photographs etc.
4	Critical Discourse: appreciating or criticizing through project Documentations, Essays and Critical Writings with respect to architecture by Ada Louise Huxtable, Paul Goldberger, Robert Campbell, Reyner Banham, Peter Blundell Jones, Robert A. M. Stern, Lewis Mumford, Kenneth Frampton, Gautam Bhatia, Kaiwan Mehta, Rahul Mehrotra etc.
5	Design & Writing: The student will use tools specific to architecture and construction to access, manage, integrate, and create information. The student is expected to create info-graphics, articles which document a project and critically analyze the pros and cons of one's work.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Kenneth Frampton; World Architecture 1900-2000: A Critical Mosaic; Vol.8 South Asia, China Architecture & Building Press	2000
2	Rahul Mehrotra; Architecture in India since 1990; Pictor	2011
3	Stern Robert A.M.; Architecture on the edge of Postmodernism, Collected Essays 1964-1988; Yale University Press, New Haven & London	2009
4	Mohammad Al-Asad with Majid Musa; "Architectural Criticism & Journalism : Global Perspectives"; Umberto Allemandi & Co.	2005
5	Groat L, Wang D.; Architectural Research Methods; John Wiley & Sons, Inc.	2002

PROFESSIONAL PRACTICE & MGMT. **B.ARCH Semester: IX**
Code: B9AR01-CT22

UNIT	CONTENT
1	**Architect's Office & Its administration:** Nature of profession, difference between trade, business and profession, Office setup and administration. Office organization, proprietorship, partnership, company etc.; Registration as Firm / Company etc.
2	**Architectural Professional Association & Architect Act 1972:** Practice Procedure and conduct, Introduction to the importance of professional organisations like IIA, COA & their Membership & their role in future developments. Architectural Competition – Types, procedures, as per guidelines of the Council of Architecture
3	**Architectural Services:** Conditions of agreement – scope of work, comprehensive architectural services and conditions of engagement, remuneration, professional fees and charges as per norms. Responsibilities and Liabilities of an architect towards the client. Professional charges of various jobs. Stages of Architectural design and the specific task in each of such stage
4	**Project Management:** Role of an architect in construction management, Scientific methods of construction management, Objectives and functions of project management, stages of project management (planning, scheduling and organizing). Introduction of PERT (Project Evaluation & Review Technique), Fundamentals of CPM (Critical Path Method) activity, event, float, network construction, time computation, project completion period, resource allocation. Relationship of work, Time & Cost, Cost Analysis in network planning, construction site practices, Inspection and Quality Control.
5	**Business Management & Ethics:** Architect's role in society & Human Values. Use of Ethical theories – Kohlberg's theory, Gilligan theory Consensus and controversy, Environment ethics. Business management, sales promotion, human relations and personnel management. Efficiency studies and performance appraisal, billing, accounting, correspondence, information storage and retrieval. Manpower management, safety and labor laws.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	V.S.Apte ; Architectural Practice & Procedure	2008
2	Roshan Namavati; Professional Practice	2008
3	Council of Architecture; Handbook of Professional Documents	
4	Dr. P.N.Modi, Sanjeev Modi; PERT and CPM	2009
5	Dr. B.C.Punmia; Project planning and control with PERT and CPM; Laxmi Publications, New Delhi	

SUSTAINABLE ARCHITECTURE **B.ARCH Semester: IX**
Code: B9AR02-CT23

UNIT	CONTENT
1	**Introduction:** Introduction to Sustainability and its various dimensions (economic, social and ecological); Sustainable development of built environment; Global Warming and Climate Change; Concepts in sustainable architecture; sustainable buildings, green buildings, climate responsive buildings, ecological responsive buildings, Energy efficient buildings; Energy policy of India and world.
2	**Strategies and Technologies:** Solar Passive Design; Recycling/Reuse strategies, optimization techniques, advances in HVAC, Electrical, Lighting and Plumbing technologies; integration of Active energy efficient systems with buildings – PV cells, wind towers, geothermal heat pump, bio-mass energy etc. Study of non conventional energy sources.
3	**Rating systems:** Benchmark: Study of rating systems across globe in general introduction – BREEAM, CASBEE, LEED, detail study of IGBC, GRIHA. Study of energy conservation building codes. Study of LEED/GRIHA rated buildings
4	**Materials and Technology:** Emphasis on traditional building systems, methodologies and on the use of alternate/substitute and environment friendly materials, to make the students aware of local and / or low cost building materials which are cost effective, environment friendly and appropriate to the context of the site, climate and culture.
5	**Energy Assessment:** Energy calculations through whole building performance method. General introduction about Building information modeling, Introduction to concept and basic software. REVIT at advance level, ArchiCAD, energy plus, green building studio, IEs.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Sustainable Building Design Manual; Tata Energy Research Institute	2012
2	Green Building Materials; Ross Spiengle & Dru Meadows	2004
3	Understanding Green Building Guidelines; Traci Rose Rider	2009
4	Milli Majumdar; Energy Efficient Buildings in India; TERI	2001
5	Francis D.K.Ching; Green Building Illustrated; John Wille & Sons.	2014

DISASTER RESISTANT ARCHITECTURE **B.ARCH Semester: IX**
Code: B9AR03-CT24

UNIT	CONTENT
1	**Introduction to Disasters** Hazard, Risk, Disaster, Vulnerability, Classification of disaster, Man Made & Natural Disasters, High, Medium & Low Impact. Disasters and Factor Causing Disasters, Earthquakes, Tsunami, Landslides, Cyclone, Floods, Fire etc.
2	**Impact of Disasters** Effects of natural and Man-made Disaster, Behaviour of structural and nonstructural members during and after disaster, Standards and Norms for risk reduction for various disasters i.e. Earthquakes, Tsunami, Landslides, Cyclone, Floods & Fire.
3	**Pre-Disaster and Mitigation Measures in Disasters** Disaster Management Plan, Natural Crisis Management Committee, NDMA (national disaster management authority) Management Guideline, Emergency Support Function, Role of Building information systems in Disaster Management.
4	**Design & Planning Solution** Design Guideline and Construction Techniques for disaster resistant structure in RCC, Steel, Stone, Brick & wood; Engineering, Architectural, Landscape and site planning solutions for various disasters, Details for foundation, soil stabilization, retaining wall, plinth, plinth fill, flooring, walls, opening, fenestration and other building components. Study of non engineered Building practices.
5	**Case Studies- Disasters in India** Damaged Caused, Disaster management, Mitigation, post disaster structural up gradation in Earthquakes, cyclones, landslides, floods, droughts and tsunami in India.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Sharma V.K.; Disaster Management; Indian Institute of Public Administration, United Press, New Delhi	1995
2	Dutta Shekhar Chandra, Mukhopadhyay Parthsarathi ; Improving Earthquake And Cyclone Resistant Structures ; The Energy Resource Institute, New Delhi	2012
3	Tarnath B.S. ; Wind and Earthquake Resistant Buildings Structural Analysis and Design; Marcel Dekkar	2005
4	National Disaster Management Authority; National Disaster Management Guidelines; National Disaster Management Authority Government of India	2009
5	IAEE; Guidelines for Earthquake Resistant non-engineered construction; NPEEE 2004.	2005

ARCHITECTURAL DESIGN-VII **B.ARCH Semester: IX**
Code: B9AR04-CP38

UNIT	CONTENT
1	Theme: Understanding design to integrate complexities of urban dimensions, Architectural language & expression.
2	Parameters: Urban Networks such as Urban greens, Pedestrian connections, Traffic & Transportation, Local and regional architectural language & expression. Socio- Economic, Cultural and Physical context. Congregation of large number of diverse and unknown people.
3	Expected Skills: To develop ability and skill to design building as a urban insert by understanding the influence of the building on and of the immediate & distant surrounding. Handle circulation of large member of people and various modes of Transport.
4	Design Outline: Design of a multi-functional complex programmatic building as an insert at a settlement level ideally on a building site required for a built up area of 5000 – 7500 sqm., Course to be integrated with concurrent courses such as Housing, Urban Design, Conservation, Sustainable Architecture & Disaster Resistance Architecture.
5	Projects: At least one sufficiently large project to be given in a semester from the list of suggested projects in various categories of building types. Housing: Mix Group Housing, Townships, etc. Educational: Large scale educational campus, University, etc. Commercial: District Centre, Technology Parks, etc. Transportation: Bus Terminal, Railway Station, Metro Rail Station, Airport Terminal. Recreation: Multipurpose Indoor / Outdoor Sports complex. Hospitality: Hotel with convention / Exposition facilities, etc.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	T.S.S. for Urban Design; Mc Graw Hill	2003
2	Darek Thomas; Architecture and the Urban Environment; Architectural Press	2002
3	The Phaidon Atlas of 21st Century; World Architecture; Phaidon Publication	2008
4	The 20th Century World Architecture; Phaidon	2012
5	Kevin Lynch; Site planning 3rd Edication	2012

DISSERTATION & THESIS SEMINAR **B.ARCH Semester: IX**
Code: B9AR05-CP39

UNIT	CONTENT
1	Research Formulation: The students of the final year are required to undertake research on a topic related to the field of spatial planning on issues emerging out of the present trends and future prospects of the Thesis Project selected. The Thesis Project should be sufficiently large and complex so that student can demonstrate the Skills and Knowledge acquired during the course. The site selected for the Thesis project should be large enough for a built up area more than 7500 Sqm. The project program can be hypothetical however the site selected should be real. Students may select live projects that have real program and objective.
2	Research Design: Once the problem is formulated the student has to undertake extensive literature survey and state in clear terms the working hypothesis. Students are required to state the conceptual structure within which research would be conducted by defining the aim, objectives, scope & limitations of work.
3	Research Data: Data shall be collected keeping in mind the cost, time and other resources. Primary data can be collected either through experiment, through survey or by observation such as personal interviews, telephonic interview, mailing of questionnaire or through schedules. Secondary data such as census data, literature studies, unpublished or published thesis or dissertation can be collected.
4	Research Analysis & Report: The analysis of data requires a number of closely related operations such as establishment of categories. The application of these categories to see data through coding, tabulation and then drawing statistical inference. Draw conclusions and identify architectural issues involved in the project design and construction. Define strategy to address these issues in the design proposal. Prepare a report of what has been done. The layout of the report should be as follows: the preliminary pages, the main text and end matter. The preliminary pages carry title, declaration, certificate, acknowledgement, list of illustration & tables. The main text of the report should have introduction, review of literature & methodology. The end matter will include glossary and annexure.
5	Thesis Seminar: Criteria of selection of the site for the thesis project and justification for how the proposed site will support the conceptual idea for the project. Bylaws, zoning regulators & standards applicable to the project. Analytical studies of building prototypes as a whole or in part comparable to the selected project. Formulation of programme of requirements. Conceptual Site analysis and zoning of activities on site.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Groat L, Wang D.; Architectural Research Methods; John Wiley & Sons, Inc.	2002
2	Kaplan A.; The Conduct of Inquiry; Chandler, San Francisco	1964
3	Zumthor P.; Thinking Architecture; Birkhauser, Basel, Switzerland	2010
4	Shinde S.P. (Dr.); Methodology of Research and issues in Education; Surabhi Educational Society, Hyderabad	2008
5	Creswell J.W.; “Research Design : Qualitative & Quantitative Approaches”; Thousand Oaks : Sage	1994

TRAINING PRESENTATION **B.ARCH Semester: IX**

Code: B9AR06-CP40

UNIT	CONTENT
1	Office Administration: Understanding the basic working system of an Architect's office. Duties & Responsibilities of an Architect. Hierarchy of office staff in various types of Architectural practices. Log-Book with recordings of daily activities of the trainee involved in the office. Preparation of project / presentation reports, Bill of quantities and minutes of meetings with clients / consultants / contractors for the ongoing projects undertaken by the office.
2	Presentation & Submission Drawings: At least one set of presentation drawings of a project prepared for the approval of the client and one set of sanction drawings of a project prepared for approval of the Local authority by the student in Architect's office.
3	Site Visits and Studies: Visits to construction sites of the on-going projects in the Architect's office for the purpose of checking the accuracy of work or to record progress of work on site and related studies undertaken as per the directions of the supervising architect.
4	Critical Appraisal: Critical appraisal of a completed building project designed by the Architect / Firm or on-going project on which the student has worked in the office. The appraisal may be done on the design issues such as functional efficiency, visual appeal, climatic response, Green rating, etc. either one of the parameter or combination there off.
5	Working drawings & details: Preparation of good for construction building drawings such as plans, sections, elevation etc., space details such as stair case, toilets, lifts, etc., fixing details such as wall cladding, balcony railing, structural glazing, etc., construction details such as plinth, sill, lintel, parapet, etc., and Fabrication details such as door, windows, grills, etc. under the guidance of supervising architect.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Osamu A. Wakita, Nagy R. Bakhoum, Richard Mlinde; The Professional Practice of Architectural Working Drawings 4th Edition; John Wiley & Sons	2012
2	Dr. Roshan H. Namavati; Professional Practice 9th Edition; Lakhani Book Depot 2009	2009
3	CPWD; CPWD Spcifications Vol. 1 & 2; CPWD	

ELECTIVE-IV- HOUSING **B.ARCH Semester: IX**
Code: B9AR07-CP41

UNIT	CONTENT
1	**Introduction:** Introduction to House, Home, Household, Apartments, Condominium, Multistoried Buildings, Special Buildings. Neighborhoods- Plotted land development programs, Open Development Plots, Apartments, Gated communities, Townships, Rental Housing, Co-operative Housing.
2	**Housing Policies & Programs:** National Housing Policies including Housing for all, housing for Urban poor, Housing institutions at National, State and Local levels. Sites and Services. Slum Housing Program – Slum improvement – Slum redevelopment and Relocation.
3	**Housing Planning and Design:** Criteria for site selection : Design principles, norms and standards for infrastructure, land subdivision, housing layout and buildings: Built form, socio-economic and physical implications of various types of housing Building Byelaws, Rules and Development Control Regulations – Site Analysis, Layout Design, Design of Housing Units (Design Problems) – Housing Project Formulation; Concept , criteria and determinants of affordable, low income and informal housing; Design, planning and strategy issues for affordable housing; characteristics and type of low income and informal housing.
4	**Construction Materials & Technologies:** Energy efficient, Cost effective Materials and construction technology; innovative and emerging new materials; Prefabricated housing; Materials and techniques for rural housing.
5	**Housing Finance**: Housing Finance at various levels, NHB, HDFC, Subsidy and Cross Subsidy- Various models of Public Private Partnership Projects – Viability Gap Funding – Pricing of Housing Units (Problems).

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Charles Corea / Housing and Urbanization / Urban Research Insitute	1999
2	Appropriate Roofing Material for Low Cost Housing / NBO	1985
3	A.K.Jain / Building System for Low Cost Housing / Management Publishing Co.	1992
4	Sorgi Costa / High Density Housing in Architecture / Duran Loft Publication	2009
5	John F.C. Turner / Housing by people / Marison Boyars, London	1976

ELECTIVE-IV- URBAN DESIGN **B.ARCH Semester: IX**

Code: B9AR07-CP41

UNIT	CONTENT
1	**Introduction** Introduction to Urban Design, its principles and techniques; History of Urban Design; Inter-relationship between Architecture, Urban Design and Urban Planning in terms of scale, time and scope; Introduction to urban legislation and policies.
2	**Terminologies and Theories** Urban Design Vocabulary; Elements of Urban Design; Theories introduced by various urbanists - Kevin Lynch, Jane Jacobs, Gordon Cullen, Aldo Rossi; Concept of Urban Redevelopment, Renewal and Regeneration
3	**Methods and Techniques** Importance of context in Urban Design-Context analysis, Regional study and Project understanding; Impact of factors such as economy, politics, religion and region on urban design; Mapping and analytical tool- Figure-ground mapping, Activity mapping and Cognitive mapping.
4	**Urban Issues and Theories of New Urbanism** Urban sprawl , Gentrification, Social exclusion in terms of age, gender, class caste etc.; Concepts of New Urbanism – Sustainable Urbanism, Inclusive City, Neighbourhood Planning, Futuristic City, Walkable Neighbourhood, Smart city etc.
5	**Urban Design Responses** Study of urban projects by eminent urban designers; Urban design exercise.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Lynch K. /Image of the city/ The MIT Press	1960
2	Jacob J./Death and Life of Great American Cities/ Random House, New York	1961
3	Rossi A./Architecture of the city/ The MIT Press	1966
4	Cullen G./The Concise Townscape/Architectural Press	1961
5	Moughtin C./ Urban Design- Method and Techniques/ Architectural Press	1999

ELECTIVE-IV- URBAN CONSERVATION **B.ARCH Semester: IX**
Code: B9AR07-CP41

UNIT	CONTENT
1	**Urban Conservation understanding** Definition, types, need; principles, ethics & value; tangible & intangible components, Degree of Intervention;Concepts & prevailing practices in conservation, restoration, retrofitting, rehabilitation, consolidation, protection, adaptive reuse.
2	**Philosophies of Urban Conservation** Preservation & conservation philosophies; Pioneers & societies in field of conservation; International Charters; International approaches from UNESCO, ICCROM, GETTY foundation, etc.; National approaches: A.S.I., State Archeology, INTACH, Urban Art Commission, Heritage Commissions, local bodies, etc.; Techno legal provisions, codes & byelaws for interventions.
3	**Assessment & analysing** Understanding of original building conditions; Documentation and assessment of current conditions-Physical, contextual, political, social, cultural, economic, ecological; non-destructive survey methods, environmental monitoring, simple & sophisticated analytical methods; Types& causes of damages; Damage-building components & structural systems - superstructure & substructure
4	**Preservation & Prevention** Preservation strategies in Urban Conservation: Analysis of problem; types, degree & limitations for intervention; Levels of intervention- Structure, building complex, precinct; Heritage zones; Conservation strategies- documentation, analysis, techniques, interventions & outcomes; models of preservation, reconstruction & adaptive reuse; Influences & benefits of urban conservation; Sequence & phasing; Materials & methods; Detailing & finishing; Preventive maintenance of historical buildings
5	**Adaptation and Application** **Case Studies in Urban Conservation:** Examples of iconic urban conservation projects like Jaipur walled city bazaars, Sambhar Conservation initiative, Gambhiri riverfront etc; **Conservation strategies** for heritage areas along with revitalisation techniques – projects undertaken as group work will have to ultimately contribute ideas for the improvement of the quality of the urban environment.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Philip Jodido; The Aga Khan Historic Cities Programme – Strategies for Urban Regeneration; Prestel	2011
2	Dr. Alok Tripathi; The Ancient Monuments and Archaeological sites and Remains Act, 1958; Sundeep Prakashan Delhi	2007
3	Rama P. B. Singh; Heritagescapes & cultural landscapes; Shubhi Publication Gurgaon	2010
4	Sachindra Sekhar Biswas; Protecting the Cultural Heritage – National Legislations and International Conventions; Aryan Book International	1999
5	Gautam Sen Gupta, Kaushik G.; Archaeology in India Individuals, ideas & institutions; M M Publishers Pvt. Ltd.	2007

THESIS PROJECT **B.ARCH Semester: X**
Code: B10AR01-CP43

UNIT	CONTENT
1	**Analysis and Concept:** In this stage students shall analyze their site to arrive at a zoning of Activities on site. Student is required to Analyze the characteristic features and context of the site including Climatic analysis at both micro and macro level. Drawings, sketches, and physical models necessary to explain circulation, Organization of spaces and form composition shown in Preliminary drawings and study models.
2	**Philosophies of Urban Conservation** Preservation & conservation philosophies; Pioneers & societies in field of conservation; International Charters; International approaches from UNESCO, ICCROM, GETTY foundation, etc.; National approaches: A.S.I., State Archeology, INTACH, Urban Art Commission, Heritage Commissions, local bodies, etc.; Techno legal provisions, codes & bye-laws for interventions.
3	**Assessment & analyzing** Understanding of original building conditions; Documentation and assessment of current conditions-Physical, contextual, political, social, cultural, economic, ecological; non-destructive survey methods, environmental monitoring, simple & sophisticated analytical methods; Types& causes of damages; Damagebuilding components & structural systems - superstructure & substructure
4	**Preservation & Prevention** Preservation strategies in Urban Conservation: Analysis of problem; types, degree & limitations for intervention; Levels of intervention- Structure, building complex, precinct; Heritage zones; Conservation strategies- documentation, analysis, techniques, interventions & outcomes; models of preservation, reconstruction & adaptive reuse; Influences & benefits of urban conservation; Sequence & phasing; Materials & methods; Detailing & finishing; Preventive maintenance of historical buildings
5	**Adaptation and Application** **Case Studies in Urban Conservation:** Examples of iconic urban conservation projects like Jaipur walled city bazaars, Sambhar Conservation initiative, Gambhiri riverfront etc; **Conservation strategies** for heritage areas along with revitalization techniques – projects undertaken as group work will have to ultimately contribute ideas for the improvement of the quality of the urban environment.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	BIS; National Building Code of India, SP7:2016; BIS	2016
2	NIASA; Archiving Architectural Thesis; Council of Architecture	
3	Naresh Shah with Pramod Anaokar; An Introduction to Predesign; Council of Architecture	2015
4	The Phaidon Atlas of 21st Century World Architecture; Phaidon	2008
5	T.S.S. for Building Types; Mc Graw Hill	2001

ELECTIVE-V : Design Elective Related to Thesis_ INTERIOR DESIGN
B.ARCH Semester: X
Code: B10AR02-CP44

UNIT	CONTENT
1	**Identification:** Identify most important interior space / group of spaces from Thesis Project having carpet area greater than 1000 Sqm. Find type, size, organization and activity in space. Define scope of work and methodology
2	**Data Collection:** Find out various theories and concept for designing space / area selected. Find out role of interior elements, their function and aesthetically criteria. Study of similar cases, conduct physical surveys, stakeholders' interviews, study standards and bye laws applicable.
3	**Concept & Analysis**: Analysis of thermal, visual, auditory and sanitary conditions necessary for comfort and convenience of occupants through case studies. Drawings showing conceptual layout of the interior space with all elements of interior design and their effect on the perception of the space.
4	**Design Synthesis:** Coordination of proposed interior space layout with heating and air conditioning system, water supply, sanitary drainage, electrical layout, lighting system, acoustics and structural system.
5	**Design Presentation:** Final set of drawings showing significance of space selected and Interior design concept. Sectional elevations showing walls, wall elevations and other elements of interior design in section. Furniture details in plan and section to an appropriate scale. Recommended material color and finishes for furniture and all surfaces. Flooring and inverted ceiling plan showing coordination with other systems.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	T.S.S. for Interior Design and Space Planning; McGraw Hill	2001
2	Elizabeth Wilhide; The Interior Design Directory; Quadrille	2009
3	Drew Plunkett; Drawing for Interior Design; Laurence King Publishing	2009
4	Maureen Mitton; Interior Design Visual Presentation; John Willey & Sons	1999
5	Henry Wilson; India-Contemporary; Thames & Hudson	2007

ELECTIVE-V : Design Elective Related to Thesis_LANDSCAPE DESIGN
B.ARCH Semester: X
Code: B10AR03-CP44

UNIT	CONTENT
1	**Identification:** Identify outdoor activity spaces for design requiring landscape and site planning intervention in area not less than 1 hectare or the entire site area whichever is lesser. Find out type, size, organization and activity in space. Define scope of work & methodology.
2	**Data Collection:** Study theories and concepts of the space, area selected. Study topography, geology & soil, hydrology at site level. Study climate, existing vegetation, views & context of site. Study of similar cases for the issues selected for landscape intervention. Effect of standards and bye laws.
3	**Concept & Analysis:** Analysis of identified issues and challenges by comparing various cases. Drawing showing conceptual layout with landscape elements such as land form, plant material, water, pavement, site structures & buildings with their significance & characteristics.
4	**Design Synthesis:** Coordination of various services such as water supply, water collection, sewage, electrical, lighting with the landscape proposal.
5	**Design Presentation:** Final set of drawings showing Research & Analysis. Design & Construction drawings such as comprehensive landscape development plan, Grading plan, planting plan, material plan, Drawing & irrigation system layout plan & outdoor lighting system layout plan

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	T.S.S. for Landscape Architecture; McGraw Hills	1998
2	Sabrina Wilk; Construction and Design Manual Drawing for Landscape Architects; DOM Publishers	2014
3	Mohd. Shaheen et.al.; Landscape Architecture in India; LA, Journal of Landscape Architecture	2013
4	Leonard J. Hopper; Landscape Architectural Graphic Standards; John Wiley & Sons	2007
5	Grant W. Reid; Landscape Graphics; Whitney Library of Design	1987

ELECTIVE-V : Design Elective Related to Thesis_URBAN DESIGN
B.ARCH Semester: X
Code: B10AR03-CP44

UNIT	CONTENT
1	**Identification:** Identify the area for urban design intervention either a linear stretch approx. 1 Km. in length or area approx. 10 Hectare or a campus whichever is applicable to the thesis project. Find out scope of work and methodology
2	**Data Collection:** Study of context of the site location, accessibility, networks, surrounding land use, surrounding activities, views & vistas to and from site. Study of human responses by conducting interviews, survey, cognitive mapping etc. standards & byelaws.
3	**Concept & Analysis:** Find out various theories & concepts, study of similar cases of urban design intervention. Analysis of contextual issues.
4	**Design Synthesis:** Study of Green & Communication networks, built fabric and architectural language. Determine issues thereof and suggest strategies or remedial measures.
5	**Design Responses:** Drawing showing site context, urban form, urban character, urban networks, urban activities, built fabric, architectural language and its constituents and propose urban design measures & interventions.
	TOTAL

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	T.S.S. for Urban Design; McGraw Hill	2003
2	Cliff Moughtin; Urban Design Green Dimensions; Architectural Press	1996
3	Francese Z. Mola; The Sourcebook of Contemporary Urban Design; Harper Design	2012
4	Cliff Moughtin; Urban Design Streets & Squares; Routledge	2016
5	Gordon Cullen; The Concise Townscape; Architectural Press	1977

ELECTIVE-V : Design Elective Related to Thesis_PLUMBING DESIGN
B.ARCH Semester: X
Code: B10AR03-CP45

UNIT	CONTENT
1	**Identification:** Identify plumbing services for different spaces and activities. Identify sources of supply & quality of water in an area selected for project. Find out existing physical infrastructure.
2	**Design Calculation:** Identify water demand & quality for various spaces & uses. Find out water required for Fire-fighting system for type of building by studying standards & codes.
3	**Concept & Analysis:** Conceptual layout showing water supply system to and from OHT / UGT to individual spaces. Conceptual layout of drainage and disposal system conceptual layout of fire fighting system.
4	**Design Synthesis:** Plumbing services design in coordination of various services such as water supply, sewage, electrical, lighting, heating & cooling along with landscape planting plan.
5	**Design Presentation:** Final drawing showing distribution of water from OHT / UGT to individual spaces along with specifications. Drawing showing storage of water, water tanks then type, numbers location & capacity. Drawings showing water harvesting / recycling system as per need of individual project. Drawing showing water supply systems, pressure system. Drawings showing drainage system from single toilet, vertical and horizontal drainage line system with their number, location, size, slopes, interval etc. Drawings showing disposal system to municipal drain, or septic tank or soak pit, their details

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	Fred Hall & Rager Greeno; Building Services Handbook; Butterworth-Heinmann	2011
2	S.J. Arceivala, “Waste Water Treatment for Pollution Control”, Tata McGraw Hills Publication.	2008
3	K.N. Duggal,”Elements of Environmental Engineering”, Chand & Co.	2010
4	“Uniform Illustrated Plumbing Code – India (UIPC-I)”, Indian Plumbing Association	2014
5	Charanjeet S. Shah; Water Supply and Sanitation; Galgotia Publication	2015

ELECTIVE-V : Design Elective Related to Thesis_ELECTRICAL DESIGN
B.ARCH Semester: X
Code: B10AR03-CP45

UNIT	CONTENT
1	**Identification:** Identify electrical services for outdoor and indoor spaces. Identify the type of building & electrical supply sources & components and mandatory provisions.
2	**Design Calculation:** Evaluate power requirements for all services like lighting, HVAC, Fire, Lifts, Escalators and other building equipments.
3	**Concept & Analysis:** Identify Electrical system requirement on the basis of load calculations by studying similar cases. Study of National Electrical Code and ECBC. Identification and provision of alternative energy sources for specific requirement. Determine requirement of lighting as per National lighting code for various activities. Drawings showing light zoning diagrams, single line diagram showing distribution system and its components at site and building level.
4	**Design Synthesis:** Electrical services design in coordination with various services such as water supply, sewage, lighting, heating & cooling along with landscape planting plan.
5	**Design Presentation:** Drawing showing electrical layout – Power and LV layouts, Wall electrical layouts, Electrical reflected ceiling layout, IBMS provisions. Drawing showing light fixtures, layout & connections in plan and section with specifications such as Type and Number of lamp / luminaries, their lux level and lighting system.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	S.L. Uppal- G.C. Garg; Electrical Wiring Estimation and Costing; Khanna Publication	2010
2	Fred Hall & Rager Greeno; Building Services Handbook; Butterworth-Heinmann	2011
3	Raina K.B. & Bhattacharya S.K.; Electrical Design, Estimation and Costing; New Age International Publishers, New Delhi	2007
4	Steve Doty & Wayne C. Turner; Energy Management Handbook; The Fourmount Press, USA	2009
5	B. Mazumdaar; Textbook of Energy Technology; APH Publishing Corporation	2005

ELECTIVE-V : Design Elective Related to Thesis_MECHANICAL DESIGN
B.ARCH Semester: X
Code: B10AR03-CP45

UNIT	CONTENT
1	**Identification:** Identify Mechanical Services for different spaces and activities. Find out area of conditioned spaces and non conditioned spaces.
2	**Design Calculation:** Identify system requirements for various mechanical services (HVAC, Fire, Vertical Circulation) and evaluate the requirement through heat load calculation, waiting time calculation etc.
3	**Concept & Analysis:** Identify mechanical system through analysis of similar cases and manuals such as ECBC, NBC and ASHRAE.
4	**Design Synthesis:** Preparing Mechanical System Design in Coordination with interior furniture, water supply, sewage, electrical, lighting & sound reinforcement system.
5	**Design Presentation:** Drawing showing concept of minimizing various loads. Design showing HVAC, Fire, Vertical Circulation showing all its components, their capacity, number, location, size, etc in plans & sections with specifications at site & building level.

REFERENCE BOOKS

S.NO	NAME OF AUTHORS / BOOKS/ PUBLISHER	YEAR OF PUBLICATION
1	John W. Mitchell, James E. Braun; Heating, Ventilation, and Air Conditioning in Buildings ; John Wiley &Sons Inc.	2012
2	Norbert Lencher; Heating Cooling Lighting; John Wiley & sons, London	2014
3	M.Y.H. Bangash, T. Bangash; Lifts, Elevators, Escalators and Moving Walkways; Travelators/Taylor & Francis/Balkema	2007
4	Fred Hall & Rager Greeno; Building Services Handbook; Butterworth-Heinmann	2011
5	William H.Severns and Julian R Fellows; Air conditioning and Refrigeration; John Wiley & sons, London	1987

Faculty of Science

Department of Biotechnology

Courses offered-

- B. Sc.
- M. Sc.

M.Sc. BIOTECHNOLOGY: Programme Outcome

Upon completion of the M. Sc Biotechnology programme, the candidate should be able to:

- Demonstrate knowledge for in-depth analytical and critical thinking to identify, formulate and solve the issues related to Biotechnology Industry, Pharma industry, Medical or hospital related organizations, Regulatory Agencies, & Academia.
- Apply written and oral communication skills to communicate effectively in healthcare, industry, academia and research.
- Demonstrate skills to use modern analytical tools/ software/ equipments and analyze and solve problems in various courses of biotechnology.
- Develop an ability to solve, analyze and interpret data generated from experiments done in project work or practical courses.
- Appreciate and execute their professional roles in society as biotechnology professionals, employers and employees in various industries, regulators, researchers, educators and managers.
- Apply responsibilities to promote societal health and safety, upholding the trust given to the profession by the society.
- Develop skills, attitude and values required for self-directed, lifelong learning and professional development.
- Adopt code of ethics in professional and social context and demonstrate exemplary professional, ethical and legal behaviors in decision making.

M.Sc. BIOTECHNOLOGY I SEM: Course Outcome

Paper I: Instrumentation and Analytical Techniques (M1BIT01-CT01)

- This course will teach the various instrumentations that are used in the analytical laboratories.
- The students has the basic knowledge on the theory, operation and function of analytical instruments

Paper II:-Cell Biology and Genetics (M1BIT02-CT02)

- Gives a strong foundation on the basic unit of life and functions of cell
- The course outcome is to train the students in understanding genetics and relate modern DNA technology for disease diagnostics and therapy

Paper III:-Fundamentals of Microbiology (M1BIT03-CT03)

- Throws light on types of microorganisms in and around humans
- Understanding on the concept of culturing microbes, sterilization techniques and estimating number of microbes in given sample

Paper IV:-Biomolecules and Metabolism (B1BIT04-CT04)

- Trains students about the salient features of biomolecules in the organization of life
- Helps the students in appreciating the integrated approach of interrelated pathways of catabolism and anabolism.

M.Sc. BIOTECHNOLOGY II SEM: Course Outcome

Paper I: **(M2BT01-CT05) Molecular Biology (Theory)**

Upon completion of this course, the students will able to:

- Learn fundamental molecular principles of genetics.
- Understand relationship between phenotype and genotype in human genetic traits.
- Describe the basics of genetic mapping and understand how gene expression is regulated.

Paper II: **(M2BT02-CT06) Immunology and Enzymology (Theory)**

Upon completion of this course, the students will able to:

- Understand the role of the immune system, its organization and function.

- Develop immunological concepts and methods to diagnose immune disorders.
- Learn the mechanism of action and kinetics of enzyme.

Paper III: **(M2BT03-CT07) Bioinformatics and Biostatistics (Theory)**

Upon completion of this course, the students will able to:

- Understand the basic concepts of biostatistics.
- Learn the formula and principles used in biology.
- Explore methods and software tools for understanding biological data.

Paper IV: **(M2BT04-CT08) Genetic Engineering (Theory)**

Upon completion of this course, the students will able to:

- Know about implementation of genetic engineering for different purposes.
- Understand the principles of genetic engineering and the vectors used in cloning, methods of introduction of gene and expression.
- Investigate the different strategies of recombinant DNA technology and resolve the problems encountered.

MSc .BIOTECHNOLOGY SEMESTER - III

Paper I: ***CC9 (M3BTO1CT09)***

ENVIRONMENTAL BIOTECHNOLOGY (THEORY)

Upon completion of this course, the students will able to:

- Evaluate the potential for biodegradation of organic pollutants, taking microbial and physical/chemical environments, as well as the chemical structure of the compound itself, into consideration.
- Describe the most commonly applied disinfection methods, and the steps typically involved in drinking water treatment process.

Paper II:***CC10 (M3BT02CT10)***
ANIMAL BIOTECHNOLOGY (THEORY)

Upon completion of this course, the students will be able to:

- Illustrate the techniques, procedure and growth patterns of animal cell culture and understand the structure of animal genes and genomes.
- Understand basic principles and techniques in genetic manipulation and genetic engineering. Understand gene transfer technologies for animals and animal cell lines.
- Understand the techniques and problems both technical and ethical in animal cloning.

Paper III:*CC11 (M3BT03CT11)PLANT BIOTECHNOLOGY (THEORY)*

Upon completion of this course, the students will be able to:

- Learn the principals and technical advances behind the in vitro culture of plant cells and rDNA techniques.
- Students will learn the applications of plant transformation for improving the productivity and performance of plants under biotic and abiotic stresses.
- Students will understand the use of antisense technologies for improvement of crop plants.

Paper IV:*CC12 (M3BT04CT12)*
FERMENTATION TECHNOLOGY (THEORY)

Upon completion of this course, students will able to:

- Apply biological and engineering principles for cultivating microorganisms in Fermenters.
- Comprehend the principles of fermentor design, sterile engineering, process development, and production economics.
- Assess parameters critical to fermentation such as aeration, agitation, and K_L estimation.

MSc BIOTECHNOLOGY SEMESTER - IV

Industrial Training:*Major research Project at research laboratory or institute of repute (5 months)*

Upon completion of this course, students will able to:

- Carry out a substantial research-based project
- Demonstrate capacity to improve student achievement, engagement and retention
- Demonstrate capacity to lead and manage change through collaboration with others
- Demonstrate an understanding of the ethical issues associated with practitioner research
- Analyse data and synthesize research findings
- Report research findings in written and verbal forms
- Use research findings to advance education theory and practice.

B.Sc. BIOTECHNOLOGY: Programme Outcome

After completion of Biotechnology program students will able

- To get exposed to strong theoretical and practical background in fundamental concepts.
- To get insights of multiple important technical areas of Biotechnology.
- To apply contextual knowledge and modern tools of biotechnological research for solving problems.
- To make them able to express ideas persuasively in written and oral form to develop their leadership qualities.
- To demonstrate professional and ethical attitude with enormous responsibility to serve the society.

B.Sc. BIOTECHNOLOGY: SEMESTER I

Botany I:- CCI Biodiversity (Microbes, Algae, Fungi and Archegoniate) (B1BIOT01-CT01)

To acquaint the students with morphology, anatomy, reproduction and developmental changes therein through typological study should create a knowledge base in understanding plant diversity, economic values, taxonomy of lower group of plants. Through field study they will be able to see these plants grow in nature and become familiar with the biodiversity.

Biotechnology I: -CC2 Introduction to Microbiology (B1BIOT02-CT02)

Deals with the study of microorganisms and their interactions with biotic and abiotic components of the environment. Apply the knowledge to understand the microbial physiology and to identify the microorganisms. To acquaint the students with mutagenesis, Mutation and mutants and their significance in microbial evolution. Application of bacterial and eukaryotic plasmids in research.

Chemistry I:- CC3 Atomic Structure, Bonding, General Organic Chemistry and Aliphatic Hydrocarbons (B1BIOT03-CT03)

Students will solve the conceptual questions using the knowledge gained by studying the quantum mechanical model of the atom, quantum numbers, electronic configuration, radial and angular distribution curves, shapes of s, p, and d orbitals etc. Students will understand the importance and application of chemical bonds and the different nature and behaviour of organic compounds based on fundamental concepts learnt.

AECC I- English Communication (B1AECCOIEC)

Students will heighten their awareness of correct usage of English grammar in writing and speaking. Students will improve their speaking ability in English both in terms of fluency and comprehensibility. Students will increase their reading speed and comprehension of academic articles. Students will improve their reading fluency skills through extensive reading. Students will enlarge their vocabulary by keeping a vocabulary journal

B.Sc. BIOTECHNOLOGY: SEMESTER II

Botany II:-CC4 Plant Ecology and Taxonomy (B2CT04-BOT02)

After successful completion of the course the student shall have adequate knowledge about the basic principals of environment and taxonomy. After successful completion of this course, students will be able to identify genus and species of locally available wild plants and will gain knowledge of secondary metabolites and its use in taxonomy. The link between theory and practical syllabus is established, and the employability of youth would be enhanced.

Biotechnology II:- CC5 Animal Biotechnology (B2CT05-BT02)

This course presents the application of animal Biotechnology Goals: To make the student to understood usage of Animal products and exploitation of them in Biotechnology. On successful completion of the subject, students will learn the principles, practices and application of animal biotechnology in tissue culture, Tissue Engineering, Vaccines and biopharmaceuticals, Animal products, production & improvement of them.

Chemistry II:-CC6 Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I (B2CT06-CHE02)

Knowledge regarding the laws of thermodynamics, thermochemistry and equilibria. It will also equip the students with the concept of pH and its effect on the various physical and chemical properties of the compounds. Use the concepts learnt to predict feasibility of chemical reactions and to study the behaviour of reactions in equilibrium and understand the fundamentals of functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism. Use concepts learnt to understand stereochemistry of a reaction and predict the reaction outcome.

AECC II:-Environmental Science (B2AECC-02ES)

After successful completion of the course the student shall have adequate knowledge about the ecosystem diversity, its values and also about the importance of the endemic species and different techniques involved in its conservation. Deals with the different types of pollutions and their control technologies. Get the information about ecosystem and also about its functions, different types of resources and also about the effects of environment by the usage of these resources. Students will get complete information about EIA- Environmental Impact Assessment, Sustainable developmental activities, environmental policies and regulations, awareness among people about protection of wild life, forest and other natural resources.

B.Sc. BIOTECHNOLOGY: SEMESTER III

Botany III:-CC7 Plant Anatomy and Embryology (B3BIT01-CT07)

Knowledge regarding anatomy equipped the students to identify different types of tissues and make them able to correlate their physiology in a better away. This will also help them to understand how different plant tissue evolve and modify their structure and functions with respect to their environment. Knowledge regarding embryology make them understand how reproduction play significant role in defining population structure, natural diversity and sustainability of ecosystem in a better way

Biotechnology III:-CC8 Plant Biotechnology (B3BIT02-CT08)

This course presents the application of Plants in Biotechnology Goals. To make the student to understood usage of Plant products and exploitation of them in Biotechnology. On successful completion of the subject, the student should have understood: Crop development, Callus culture, Biotechnological applications of plants, the principles, practices and applications of plant biotechnology, plant tissue culture, plant genomics, genetic transformation and molecular breeding of plants.

Chemistry III:-CC9 Conductance, Electrochemistry and Functional Group Organic Chemistry-II (B3BIT03-CT09)

Students will heighten their awareness of the chemistry of conductance and its variation with dilution, migration of ions in solutions. Learn the applications of conductance measurements, will understand different types of galvanic cells, their Nernst equations, measurement of emf, calculations of thermodynamic properties and other parameters from the emf measurements.

SEC I:- Techniques in Biotechnology (B3SEC01)

This course presents the genetics at molecular level Goals: On successful completion of the subject the student should have understood the molecular aspects of basic techniques in Biotechnology. Commemorating the molecular techniques involved in characterization of genomes and proteomes

BSc. BIOTECHNOLOGY IV SEM

Botany IV-CC10 (B4CT10-BOT04) Plant Physiology and Metabolism (Theory)

Upon completion of this course, the students will able to:

- Understand the basic physiological processes in plants like transpiration and importance of various minerals in plant growth.
- Learn about the pigments and various pathways involved in photosynthesis and the mechanism of energy production.
- Learn about the role of plant hormones, light and temperature on the growth of plants.

Biotechnology IV-CC11 (B4CT11-BT04) Recombinant DNA Technology (Theory)

Upon completion of this course, the students will able to:

- Outline the concept and techniques used in genetic engineering and gene cloning.
- Understand about the different enzymes and vectors used in recombinant DNA technology.
- Learn the techniques used to isolate bio molecules and the principles behind various hybridisation and screening techniques.

Chemistry IV:-CC12 (B4CT12-CHE04) Chemistry of s- and p-block elements, States of matter and Chemical Kinetics (Theory)

Upon completion of this course, the students will able to:

- Learn the chemistry and applications of s- and p-block elements.
- Derive ideal gas law from kinetic theory of gases and explain why the real gases deviate from ideal behaviour.
- Explain the properties of liquids especially surface tension and viscosity.
- Understand the concept of rate laws e.g., order, molecularity, half-life and their determination
- Learn about various theories of reaction rates and how these account for experimental observations

SECII: Biofertilizers (B4SEC01)

Upon completion of this course, the students will able to:

- Differentiate the types of biofertilizers and methods of application in farmers field.
- Understand the screening, isolation, scaling up and the application of biofertilizers.
- Evaluate the integrated management for best results using nitrogenous and phosphate biofertilizers.
- Learn the low cost media preparation and ecofriendly agricultural inputs in biofertilizer production.

BSc. BIOTECHNOLOGY V SEM

Botany V: COs of the course DSE1 Cell and Molecular Biology (B5BOT01-ET01)

CO1 Describe fundamental structural units define the function of all living things and general structure of cell

CO2 Describe internal organelles of the cells and their functioning

CO3 Illustrate the growth, development, and behavior of organisms through the expression of genetic information

CO4 Describe the process of central dogma

CO5 Explain major biological processes such as transcription, translation, replication etc

CO6 Identify the relationship between cell and molecular biology

Biotech V COs of the course DSE2 Immunology and Enzymology (B5BOT01-ET02)

CO1 Describe fundamental definition of immunity, immune system and immune responses

CO2 Explain different types of immunity and the cellular

components involved in the process of immune response

CO3 Describe the process of cell-mediated, humeral immunity and other immunity types

CO4 Illustrate major principles of antigen-antibody interactions and their role in diagnostic and therapeutic applications

CO5 Describe enzymes, enzyme actions and mode of enzyme actions

CO6 Illustrate about different types enzymes' classification

CO7 Describe principles of major enzymatic reaction occurring in the cells

CO8 Identify the relationship between enzyme actions and different cellular processes of metabolism and others

Chemistry V: COs of the course DSE3 Molecules of Life (B5BOT01-ET03)

CO1 Describe major macromolecules and other molecules that perform or trigger important biochemical reactions in living systems.

CO2 Describe fundamental process of anabolism and catabolism of molecules

CO3 Describe chemical structures of biomolecules and their functioning

CO4 Explain the physiological and biochemical function that governs the proper growth and development of a human body

CO5 Explain major metabolic processes such as glycolysis, Kreb's cycle etc

CO6 Identify the relationship between molecules of life and their impact on cell physiology and behaviour

CO7 Illustrate importance of chemical foundation in living

organisms or systems

SEC III: Sample COs of the course Probiotic Technology (B5SEC03)

CO1 Explain about to the taxonomy and physiology of probiotic microorganisms

CO2 Describe about probiotic technology, in general

CO3 Explain basic mechanistic through which probiotic microorganisms interact with the physiology of the host cells and systems

CO4 Illustrate various production technologies in relation to probiotics

CO5 Provide knowledge in relation to various government rules and regulation in force

CO6 Explain the importance of probiotics in human health

B.Sc. BIOTECHNOLOGY VI SEM

Botany VI: COs of the course DSE4 Economic Botany and Biotechnology (B6ET04-BOT02)

CO7 Describe diversity of economically important plants, their classification, structure and growth.

CO8 Explain origin, diversification, utility and conservation strategies of natural plant resourses.

CO9 Identify members of the major plant families by identifying their diagnostic features and economic importance.

CO10 Introduce the concepts and principles of ecology,

biological diversity, conservation, sustainable development in relation to economic botany

Biotech VI COs of the course "DSE5 Environmental Biotechnology (B6ET05-BT02)"

CO9 Describe factors leading to Environmental degradation

CO10 Describe different types of biotechnological applications or means through which environmental problems can be solved

CO11 Explain principles and major processes of bioremediation and phytoremediation

CO12 Identify and formulate stratagies for the conservation of environment through biotechnological means to achieve goals of sustainable management under the given legislative measures

Chemistry VI COs of the course Industrial Chemicals and Environment (B6ET06-CHE02)

CO8 Explain construction & working of various equipments used in distillation, extraction, leaching, drying, absorption and filtration.

CO9 Describe principles of diffusion & mass transfer to basic engineering systems

CO10 Introduce various commercial manufacturing technology for production of chemicals and solvents

CO11 Outline the relationship industrial chemicals and their impact on environment and human health

SEC IV Sample COs of the course SECIV Pharmaceutical Chemistry (B6SEC04)

CO1 Explain working and principle of various equipments used in pharma industries such as bioreactors, extraction and filtration units.

CO2 Illustrate various qualitative and quantitative methods for estimation of the pharmaceuticals.

CO3 Explain pharmaceutical dosage forms viz. solid, semi-solid, liquid and advanced drug delivery systems

CO4 Introduce concepts and importance of various regulations viz. GMP, GLP

CO5 Explain the importance of metabolism of pharmaceutical drugs in human systems

Faculty of Science

Department of Botany

Courses offered-

- M. Sc.

PROGRAM OUTCOMES FOR M.Sc. BOTANY (CBCS)

Plant sciences is now an amalgamation of basic and applied science. Plants besides being the unique capability of plants to trap solar energy and provide food to all cannot be replicated by any system. Conventional studies like plant identification is now being supplemented with molecular techniques like DNA Barcoding. The courses have been designed to benefit all Botany students to study various aspects of plant science including its practical applications. Keeping in mind that these students can take up teaching at different levels, research work in research institutes and or industry, doctoral work, environment impact assessment, biodiversity studies, entrepreneurship, scientific writing relevant topics have been included in the curriculum. Students would be benefited with knowledge of core subjects like plant diversity, physiology and biochemistry, molecular cytogenetics and application of statistics etc. which are offered in these subjects modules on analytical techniques, plant tissue culture and phytochemistry would make them obtain skills in doing research. All the courses in the programme are carefully designed to equip the students for competitive exams like CSIR NET, SET etc. and to write research proposals for grants.

PO1	Understanding the classification of plants from cryptogams to Spermatophyte. Identification of the flora in field. Study of biodiversity in relation to habitat correlate with climate change, land and forest degradation. Application of Botany in agriculture through study of plant pathology. Palaeobotany to trace the evolution of plants.
PO2	Understand the ultrastructure and function of cell membranes, cell communications, signaling, genetics, anatomy, taxonomy, ecology and plant physiology and biochemistry.
PO3	Molecular and Physiological adaptations in plants in response to biotic and abiotic stress. Genes responsible for stress tolerance genetic engineering of plants
PO4	To understand the multi functionality of plant cells in production of fine chemicals. There wide spread industrial applications.

Overall development

After completion of this course, it will educate students about plant science and inculcate strong fundamentals on modern and classical aspects of Botany, build life skills in Edible mushroom cultivation, Biofertilizer production, Greenhouse maintenance and Seed technology through value-added courses and create platform for higher studies in Botany and facilitate students to take-up successful career in Botany.Maintain a high level of scientific excellence in botanical research with specific emphasis on the role of plants. Create, select and apply appropriate techniques, resources and modern technology in multidisciplinary way. Practice of subject with knowledge to design experiments, analyse and interpret data to reach to an effective conclusion.

They would identify, formulate and analyse the complex problems with reaching a substantiated conclusion. Logical thinking with application of biological, physical and chemical sciences. Learning that develops analytical and integrative problem-solving approaches. Best problem-solving skills in students would encourage them to carry out innovative research projects thereby making them to use knowledge creation in depth.

M1BOT01-CT01	BIOLOGY AND DIVERSITY OF ALGAE AND BRYOPHYTES

Course Outcomes

After completion of this course, students will be able to

CO1: Learn criteria of classification, diversity, life form, reproduction, phylogeny, nutritional and economic importance of the plants.

CO2: Develop critical understanding on morphology, anatomy and reproduction.

CO3: Develop proficiency in the experimental technique and methods of appropriate analysis of plant of these groups.

CO4: Explore many unexplored plants for the economic benefits of human like medicine, biofertilizers and other uses because Rajasthan have diversified climatic condition.

CO5: Understand plant origin, evolution and their transition to land habitat because algae and bryophytes are one of the basics of botany.

M1BOT02-CT02	MICROBIOLOGY, MYCOLOGY AND PLANT PATHOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Understand the general characteristic of archaebacteria and eubacteria

CO2: Develop a good knowledge of characteristics of different microorganisms and their significance.

CO3: Understand common characteristics of different classes of fungi with their economic and ecological importance.

CO4: Identify plant diseases ant their control measures.

CO5: Develop skill to perform basic experiments to grow and study vegetative and reproductive structure of microorganism in laboratory.

M1BOT03-CT03	CYTOGENETICS, GENETICS AND PLANT BREEDING

Course Outcomes

After completion of this course, students will be able to

CO1: To develop conceptual understanding of chromosomes, law of inheritance, genetic basis of loci, alleles and their linkage.

CO2: Comprehend the effect of chromosomal abnormalities in numerical as well as structural changes leading to genetic disorders and study of chromosomal basis of inheritance.

CO3: Develop critical understanding of chemical basis of genes and their interactions at population and evolutionary level.

CO4: Develop conceptual understanding of plant genetic resources, plant breeding, gene bank and gene pool.

CO5: Learning the methods of crop improvement along with development of mapping population in plants, QTL mapping, and molecular marker assisted breeding.

M1BOT04-CT04	PLANT ECOLOGY, CONSERVATION AND EVOLUTION

Course Outcomes

After completion of this course, students will be able to

CO1: Understand the concept of population ecology and population genetics.

CO2: Learn about community structure and interaction**.**

CO3: Have knowledge of ecosystem functioning and global pollution phenomenon.

CO4: Understand concept of biodiversity and conservation strategies.

CO5: Conceptualize the phenomenon of evolution and speciation.

M2BOT01-CT05	PTERIDOPHYTES, GYMNOSPERMS AND PALAEOBOTANY

Course Outcomes

After completion of this course, students will be able to

CO1: Understand about the evolution of stellar system and heterospory.

CO2: Gain knowledge about the general character and classification of pteridophytes.

CO3: Understand about the general character of gymnosperms.

CO4: Learn about evolutionary relationship of Cycadopsida, Coniferopsida, Gnetopsida, Coniferales

CO5: Understand about the basic principle of paleobotany and know about prominent scientist.

M2BOT02-CT06	PLANT DEVELOPMENTAL BIOLOGY AND RESOURCE UTILIZATION

Course Outcomes

After completion of this course, students will be able to

CO1: Learn about the organization of meristem and vascular tissue differentiation

CO2: Understand about the anatomical structure of stem and roots and learn the genetic and molecular aspects of flower development.

CO3: Understand the structure of anther and pollen wall because ultrastructure of pollen grain plays an important role in taxonomy.Evaluate the special structures and types of male and female gametophyte and learn the reproductive process in angiospermic plants.

CO4: Understand the mechanism of pollination and fertilization and can relate between embryo, endosperm and seed.Comprehend the causes of polyembryony and apomixis with its classification.

CO5: Learn about the ethnobotanical practices and economic importance of plants. Increase an awareness and appreciation of plants and plant products encountered in everyday life of human use

M2BOT03-CT07	CELL AND MOLECULAR BIOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Understand the structure and function of cell organelle at ultrastructure level

CO2: Explore molecular level regulation of cell cycle and cancer.

CO3: Understand the nucleic acid structure, replication and transcription mechanism

CO4: Develop the knowledge of functioning of protein synthesis machinery

CO5: Learn the gene regulation mechanism and basic techniques of genomics and proteomics

M2BOT04-CT08	PLANT GROWTH AND DEVELOPMENT

Course Outcomes

CO1: Students will be able to understand the plant-water relationship and various mechanisms of active and passive transportation of molecules across the living membranes.

CO2: Students will be able to understand the importance of micro and macro-nutrients on plant growth and development. They will also understand the various factors controlling seed development and germination.

CO3: Students will be skilled theoretically about the biosynthesis and physiological effects of various plant growth regulators.

CO4: Students will learn about the importance of photoperiods and role of various photoreceptprs in flowering.

CO5: Students will learn various mechanisms of signal transduction in plants.

M3BOT01-CT09	PLANT BIOCHEMISTRY AND PHYSIOLOGY

Course Outcomes

CO1: Students will be able to understand the principles of the thermodynamics. They will also learn about the classification, structure and functions of various biomolecules.

CO2: Students will understand the mode of action of enzymes in detail. They will also understand the mechanism of nitrogen fixation in detail.

CO3: Students will be skilled theoretically about the mechanism of photosynthesis in C3, C4 and CAM plants.

CO4: Students will understand the various pathways of respiration and the mechanism of ATP biosynthesis in mitochondria.

CO5: Students will study the plant responses to various biotic and abiotic stresses.

M3BOT02-CT10	PLANT SYSTEMATICS

Course Outcomes

After completion of this course, students will be able to

CO1: Understand the theory and practices of describing, naming, classifying and preparing herbarium of plants because such work is essential for understanding of biodiversity and its conservation including nomenclature, principles and evolutionary trends in taxonomy.

CO2: Assess terms and concepts related to taxonomy of plants and systems of classification and generalize the characters of the families according to various proposed systems of classification.

CO3: Learn about the various terminology used for description of flower characteristics and plant species

CO4: Understand the diagnostic features of various angiosperm families

CO5: Gain knowledge about role of various discipline in serving as evidence for taxonomic purpose.

M4BOT01-CT11	PLANT TISSUE CULTURE AND GENETIC ENGINEERING

Course Outcomes
CO1: Students will be able to understand the hormonal regulation of morphogenesis *in vitro* in plants..
CO2: Students will understand the various techniques of protoplast isolation and somatic hybridization. They will also understand the development of variations in somatic cells during *in vitro* conditions.
CO3: Students will learn modern tools and techniques of plant genetic engineering.
CO4: Students will able to understand the various methods of plant transformation. They will also study the importance of genetic modified plants in detail.
CO5: Students will learn various applications of plant genetic engineering. They will also learn various issues and processes of patenting in plant biotechnology.

M4BOT02-CT12	TOOLS AND TECHNIQUES IN PLANT SCIENCES

Course Outcomes
After completion of this course, students will be able to
CO1: Understand the basic principle of microscopy, centrifugation and electrophoresis
CO2: Explore chromatography and spectrophotometry techniques.
CO3: Understand the basic principle of bioinformatics
CO4: Develop the knowledge of central tendency and dispersion
CO5: Learn the application of correlation, regression and analysis of variance

M3BOT03-ET01-A	BIOSYSTEMATICS–I

Course Outcomes
After completion of this course, students will be able to
CO1: Understand the basic principle of taxonomic classification.
CO2: Develop the knowledge of rules related with nomenclature.
CO3: Understand the basic principles of botanical nomenclature.
CO4: Gain the knowledge related with pioneer classification of plants.
CO5: Learn about the evolutionary history of angiosperms.

M4BOT03-ET03-A	BIOSYSTEMATICS–II

Course Outcomes
After completion of this course, students will be able to
CO1: Understand the method of plant collection and preservation of samples.
CO2: Learn about the documentation of taxonomic literature.
CO3: Assess the concept of evolution of characters and their application in taxonomy
CO4: Gain the knowledge of current advancement in plant taxonomy
CO5: Explore evolutionary history of angiosperm

M3BOT03-ET01-B	PRINCIPLES OF PATHOLOGY AND PLANT DISEASES

Course Outcomes
After completion of this course, students will be able to
CO1: Apply the conceptual and the practical training to differentiate between a healthy and disease plant in field.
CO2: Isolation and Identification of plant pathogen.
CO3: To ascertain the cause of the disease by Koch's Postulates.
CO4: To Know the source, symptoms and etiology of diseases of major concern.
CO5: To know about Disease forecasting

M4BOT03-ET03-B	MOLECULAR PLANT PATHOLOGY AND DISEASE MANAGEMENT

Course Outcomes
After completion of this course, students will be able to
CO1: Plant disease diagnosis by serological and molecular methods.
CO2: To learn the application of information technology and bioinformatics in plant pathology.
CO3: To have a brief idea about GIS and Remote sensing techniques in plant pathology.
CO4: To know about institute of repute of plant pathology in India and Abroad.
CO5: Learn about integrated pest management to reduce the risk of use of chemical agents for control

M3BOT03-ET01-C	BIOLOGY AND EVOLUTION IN BRYOPHYTES-I

Course Outcomes
After completion of this course, students will be able to
CO1: Develop critical understanding on characterization, reproduction, evolution of gametophytes and sporophytes of bryophytes.
CO2: Understand the comparative knowledge of Hepaticopsida, Anthocerotopsida, Bryopsida.
CO3: Recall and recognize the contributions of legends of bryology such as S.R. Kashyap, P.N. Mehra, S.K. Pande and Ram Udar along with the understanding of morphology and germination of spores.
CO4: Understand the mechanism of protonemal differentiation and bud formation and can relate the factors affecting physiology of reproduction.
CO5: Explore micro techniques used in bryological study and understand the economic importance of this ignored group of plants.

M4BOT03-ET03-C	BIOLOGY AND EVOLUTION IN BRYOPHYTES-II

Course Outcomes
After completion of this course, students will be able to
CO1: Learn about the various life cycle pathway of bryophytes.
CO2: Gain knowledge about photomorphogenesis of liverworts and mosses.
CO3: Understandrole of bryophytes as indicator species.
CO4: Explore the conduction mechanism in the bryophytes.
CO5: Study the importance of model bryophytes for scientific research.

M3BOT03-ET01-D	RESTORATION ECOLOGY

Course Outcomes
After completion of this course, students will be able to
CO1: Understand about role of habitat in species conservation.
CO2: Gain knowledge about the ecosystem functioning in disturbed ecosystem.
CO3: Develop basic understanding of restoration ecology
CO4: Learn about the case studies of restoration of degraded ecosystem.
CO5: Understand about role of biotechnology in solving the environmental problems.

M4BOT03-ET03-D	CONSERVATION BIOLOGY

Course Outcomes
After completion of this course, students will be able to
CO1: Understand the population dynamics for conservation purpose
CO2: Learn about the life history pattern
CO3: Basic principles of conservation genetics
CO4: Gain knowledge about genetic differentiation, geneflow and molecular variance
CO5: Skilled about conservation genetics using study of some case studies

M3BOT04-ET02-A	PLANT BIOENERGETICS AND APPLIED BIOCHEMISTRY

Course Outcomes
After completion of this course, students will be able to
CO1: Learn about the bioenergetics of photosynthesis
CO2: Gain knowledge about various fluorescence parameters
CO3: Understand metabolism related with carbohydrate and fatty acid
CO4: Understand biosynthetic pathway of amino acids
CO5: Learn about concept of stress physiology

M4BOT04-ET04-A	SECONDARY METABOLITES AND BIOPROCESS ENGINEERING

Course Outcomes

After completion of this course, students will be able to

CO1: Understand different types of secondary metabolites and Knowledge generation of medicinal plants and various bioactive molecules

CO2: Study basic pathway for production of secondary metabolites and Standardization of isolation and extraction protocols of Secondary metabolites

CO3: Learn about different types of bioreactors and concept of bioprocess engineering and Scale up production of Secondary metabolites

CO4: Understand role of culture system in production of important drugs. Drug discoveries from medicinal plants.

CO5: Learning of genetic engineering tools for heterologous expression of genes to enhance secondary metabolite production, concept generation of functional foods and Nutraceuticals

M3BOT04-ET02-B	PRINCIPLES OF MICROBIAL TECHNOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Learn about principles of fermentation technology, types of bioreactors and bioprocess parameters

CO2: Understand the overall fermentation process

CO3: Learn about strain selection and their improvement from the point of industry

CO4: Gain knowledge about the downstream processing

CO5: Develop the understanding of aerobic and anaerobic fermentation technology

M4BOT04-ET04-B	APPLICATIONS OF MICROBIAL TECHNOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Understand role of microorganism in agriculture.

CO2: Gain knowledge about the application of microbes in environmental studies

CO3: Learn about microbial degradation of pesticides and toxic chemicals

CO4: Understand the role of micro-organisms in food industry

CO5: Assess the role of microbes in preservation technology

M3BOT04-ET02-C	ADVANCED PHYCOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Learn about the different types of culture media used for algal culture

CO2: Gain knowledge about the molecular systematics of algae

CO3: Understand molecular mechanisms of photodamage and photoprotection

CO4: Learn about pigments of algae for photosynthesis

CO5: Understand the role of toxins in algal blooms and their ecological implications

M4BOT04-ET04-C	APPLIED PHYCOLOGY

Course Outcomes

After completion of this course, students will be able to

CO1: Understand application of algae for biodiesel production

CO2: Learn about the high value by-products of bioprocess engineering

CO3: Understand the role of algae in nanoparticle synthesis and nanoecotoxicology

CO4: Gain knowledge about role of algae in bioremediation

CO5: Understand the genetic engineering of algae

M3BOT04-ET02-D	APPLIED PLANT SCIENCES

Course Outcomes

Overall, the paper has been designed to inculcate the basic and applied knowledge and skill enhancement with a view of entrepreneurship, self- employment and livelihood security among PG students of plant sciences.After completion of this course, students will be able to

CO1: To make the students aware about organic farming, biofertilizers and sustainable agriculture package and practices for productivity enhancement.

CO2: To learn different nursery and gardening techniques.

CO3: To get the knowledge and scope of landscape gardening and cultivation of flowers of commerce.

CO4: To make them aware about the pest and pathogens of plants of ornamental and floriculture value.

CO5: To get them aware about the Intellectual Property Rights, Copyrights and how to draw a patent for biological specimens/ processes, etc.

M4BOT04-ET04-D	COMMERCIALIZATION OF MICROPROPAGATION TECHNOLOGIES

Course Outcomes

After completion of this course, students will be able to

CO1: Learn about the micropropagation technology

CO2: Commercialization of micropropagation technique

CO3: Understand about greenhouse technology

CO4: Understand application of micropropagation technology for commercialization of important groups of plants

CO5: Understand the industrial scale setup based on micropropagation

Faculty of Commerce

Department of Business Administration

Courses offered-

- M. Com.
- MHRM
- BBA (ED)

2.6.1 Program Outcome, Program Specific Outcomes and Course Outcomes for all courses in a word file/ PDF

It is considered necessary to provide some exemplars for the different levels of learning outcomes at the higher education level. While no agency has

Program	M.COM (Business Admn.)
Credits	
ISO Certification	NA
Programme Outcomes	M.Com is two year full time post-graduate degree programme. To keep conformity with the requirements of Choice Based PSO-1 - Students develop the ability to comprehend and imbibe core and functional management concepts, business PSO-2 - Equip the students with requisite knowledge, skills and right attitude necessary to provide effective leadership in a PSO-3 - Develop competent management professionals with strong ethical values, capable of assuming a pivotal role in PSO-4 - Develop skills for analysing of the business data, application of relevant analysis, and problem solving in other PSO-5 - Develop attributes for research in academics and applied research for industry .

Program	MHRM
Credits	
ISO	NA
Program Outcomes	PO1 :- To understand human resource issues and management trends in a competitive global economy as well as a broad PO2:- To equip students with the tools necessary to effectively meet the challenges of an ever-changing business climate. PO3:- To inculcate specialized knowledge and skills required by managers who are responsible primarily of managing human PO4 :- To develop a sound theoretical base in the domain of Human Resource Management. PO5:- To develop communication, interpersonal skills and leadership qualities to work in and with teams in organizations.
Program Specific Outcomes	PSO1:- Understand the basic concepts of Human resources management and its applications in the individual, team and PSO2 :- Theoretical Knowledge in Enterprise Resource Planning, Innovation and Change Management, Organisational PSO3:- Practical knowledge and training in various areas of HR such a recruitment, selection, induction, communication, PSO4 :- Practical exposure to the real life organizational situations and opportunities of Human resources management

Mohanlal Sukhadia University, Udaipur
Bachelor of Business Administration (ED)
(Three years Six Semesters Degree Course Scheme)
Effective from 2021-2024

1. **Eligibility for Admission:**

Passed/Passing Senior Secondary Examination (10+2) or equivalent in any discipline with 48% marks and for all other categories as per university rules.

2. Course Structure:

Subject-Code	Nomenclature of Paper	Credit	Mode of Instruction	Mode of Examination and Maximum Marks
BBA(ED) I SEMESTER				
BBAED-101	Environmental Science		Classsroom Lectures	Internal 20 External 80
BBAED-102	Principles of Management		Classsroom Lectures	Internal 20 External 80
BBAED 103	Statistics for Business Decisions		Classsroom Lectures	Internal 20 External 80
BBAED 104	Micro Economics		Classsroom Lectures	Internal 20 External 80
BBAED 105	Business Accounting for Small Business		Classsroom Lectures	Internal 20 External 80
BBAED 106	General Hindi		Classsroom Lectures	External 100
BBA(ED) II SEMESTER				
BBAED-201	Macroeconomics		Classsroom Lectures	Internal 20 External 80
BBAED-202	Management Accounting		Classsroom Lectures	Internal 20 External 80
BBAED 203	Entrepreneurship Development		Classsroom Lectures	Internal 20 External 80
BBAED 204	Business Communication		Classsroom Lectures	Internal 20 External 80

BBAED 205	Organizational Behavior		Classsroom Lectures	Internal 20 External 80
BBAED 206	Finance for Small Businesses-I		Classsroom Lectures	Internal 20 External 80

BBA(ED) III SEMESTER

BBAED-301	Quantitative Techniques for Management		Classsroom Lectures	Internal 20 External 80
BBAED-302	Principles of Marketing		Classsroom Lectures	Internal 20 External 80
BBAED-303	Human Resource Management in Small Business		Classsroom Lectures	Internal 20 External 80
BBAED-304	Finance for Small Business-II		Classsroom Lectures	Internal 20 External 80
BBAED-305	IT Tools In Busines		Classsroom Lectures and Computer Lab Practicals	Internal 20 Practical 20 External 60
BBAED-306	Direct Tax		Classsroom Lectures	Internal 20 External 80

BBA(ED) IV SEMESTER

BBAED-401	Business Research		Classsroom Lectures	Internal 20 External 80
BBAED-402	Indirect Tax		Classsroom Lectures	Internal 20 External 80
BBAED-403	New Enterprise Management		Classsroom Lectures	Internal 20 External 80
BBAED-404	Talent & Knowledge Management in Small Business		Classsroom Lectures	Internal 20 External 80
BBAED-405	E-Commerce		Classsroom Lectures	Internal 20 External 80
BBAED-406	General English		Classsroom Lectures	External 100

BBA(ED) V SEMESTER

BBAED-501	Production & Operation Management		Classsroom Lectures	Internal 20 External 80
BBAED-502	Regulatory Framework for Small Businesses		Classsroom Lectures	Internal 20 External 80
BBAED-503	Performance & Compensation Management		Classsroom Lectures	Internal 20 External 80
BBAED-504	Business Policy & Strategy		Classsroom Lectures	Internal 20 External 80

BBAED-505	Digital Marketing		Classsroom Lectures	Internal 20 External 80
BBAED-506	Ethics and Corporate Governance		Classsroom Lectures	Internal 20 External 80
	BBA(ED) VI SEMESTER			
BBAED-604	Start-up Incubation /Training in Small Scale Industries (4 Months)		Training in a Company	Internal and Viva 100

4. **Attendance**

4.1 A candidate shall be required to attend minimum 75% of the classes held in each paper including the tutorials and practical, if any. A candidate failing to satisfy the requirement of attendance in one or more papers shall be detained from appearing at the semester end examination.

4.2 For students participating in Sports/Cultural event/NCC camps during a particular semester, the maximum number of days of absence shall not exceed 8 days. Any waiver in this context shall be on the recommendation of the Dean – Students Welfare and the student will be required to apply in advance for the leave to the Head/Course Director. No Relaxation shall be given on medical ground.

5. Medium

Medium of instruction and examination shall be English.

6. Scheme of Examination

6.1 Each Paper shall have maximum marks as 100, to be evaluated both internally and externally. Paper-wise Distribution of marks is given in Para no.2.

External Examination Scheme- For a question paper carrying maximum 80 marks, the structure shall be as follows:
The first section, SECTION- A, carrying maximum 20 marks will have 10 short answer type (answer not exceeding 50 words each) questions. Each question will carry 2 marks. The second section, SECTION-B, carrying maximum 40 mark will have 10 medium answer type questions (answers not to exceed 250 words), selecting two from each unit, out of which one from each unit is to be attempted. Each question will carry 8 marks. The third section, SECTION- C, carrying maximum 20 marks will have 5 questions (which requires answers not to exceed 300 words), one from each unit out of which 2 questions are to be attempted. Each question will carry 10 marks. The duration of examination shall be of three hours.

Internal Examination Scheme-: -

50% of the total internal assessment marks (i.e. 10 out of 20 marks) for each theory paper will be awarded on the basis of the performance in the descriptive type written examination of one and a half hour duration conducted by BBA programme. There will be three sections in question paper: Section A will have five questions of 0.5 marks each, Section – B will have five questions out of which three has to be attempted of 1.5 marks each and Section- C will have two questions out of which one question has to be attempted of 3 marks.. If a candidate fails to appear in the written examination of the internal assessment due to valid reasons (major accident or death of first relative etc.), BBA programme may conduct defaulters examination after collecting fee of Rs. 150/- per subject.

50% of the internal assessment (i.e. 10 out of 20) for each theory paper shall be awarded on the basis of the performance in the assignments/ seminars/presentations/ oral examination/ group discussion etc.

7. **Minimum passing marks:**
A candidate shall be declared to have passed the each semester, if he obtains minimum of thirty six percent marks (36%) in each subject and a minimum of forty percent (40%) marks in the aggregate of all the subjects.

8. **Use of Calculators-:**

Candidates shall be permitted to use simple battery operated 12 digit 2 memory 6 functions noiseless and cordless calculators during examination.

BBA(ED) I SEMESTER

101 Environmental Science

Objective: To familiarize the students with the basic concepts of environmental science.

UNIT-I
Environmental Management: Definition of environment and environmental management. Fundamentals-Sustainable Development, Implications of human population growth, Limits to growth, Energy Management: Fundamentals -Fossil Fuels use, Energy production and trade, Energy Balance.

UNIT-II
Ecosystem Concepts: Basic Concepts and their application in Business, Industrial Ecology and Recycling Industry; Environmental Management System: EMS Standards, ISO 14000.

UNIT-III
Environmental Management & valuation: Environmental Auditing, Clearance/ Permission for establishing industry, Environmental Accounting, Economics - Environmental Taxes Shifts, Green Funding.

UNIT-IV
Environmental Management Trade, Importance of Environmental Management for corporates, Debt and Environment, GATT / WTO Provisions; Environmental Laws: Acts, Patents, IPRS, Role of NGO'S, PIL.

UNIT-V
Pollution & Waste Management - Air, Water, Land Pollution, Trade in Wastes; Water, Forest & Biodiversity Management: Water Resources, Dams and their role; Forest products and Trade. Role of Biodiversity in International Trade; Approaches to Corporate Ethics; Bio-ethics, Environmental Ethics.

Suggested Readings:

1. Dasgupta, N. (1997). Environmental Accounting. New Delhi: Wheeler Publishing.
2. K.Uberoi, N. (2000). Environmental Management. New Delhi: Excel Books.
3. Kolstad, C. (2000). Environmental Economics. New York: Oxford University Press.
4. Mohanty, S. (1996). Environment and Pollution Law Manual. New Delhi: Universal Law Publishing.
5. Pandey, G. (1997). Environmental Management. New Delhi: Vikas Publishing.

102: Principles of Management

Objective:

To gain knowledge about the four management functions of planning, organizing, leading, and controlling and introduce to the historical evolution of management theories. To learn the basics of management functions. To describe the control process including: the importance of control, tools for measuring organizational performance, and managerial actions**.**

UNIT I
Introduction: Concept, nature, process and significance of management; Managerial Levels, Roles and Skills; Development of management thought; Classical and Neo–Classical systems; Emphasis on contributions of Taylor, Fayol, and Elton Mayo.

UNIT II
Planning – Nature, Importance, Forms, Types and Steps in Planning. Objectives–Policies–Procedures and Methods, Nature and Types of Policies. Decision Making: Process, Types and Problems involved in Decision making.

UNIT III
Organizing – Types of Organizational Structure: Line and Staff, Committees, Projects and Matrix. Span of Control, Formal and Informal Organizations: characteristics and advantages

UNIT IV
Delegation: Importance and process. Authority, Responsibility & Accountability relationship. Difference between authority and power, Distinction between Centralization and Decentralization Directing: Nature, Purpose and Scope. Controlling – Meaning, importance, types and process.

UNIT V
Co-ordination – Need, Types and Techniques. Requisites for excellent Co-ordination. Co-operation: meaning, Distinction between co-ordination and co-operation.

Suggested Readings:

1. CB Gupta, S. M. (2016). Management: Principles and Applications. New Delhi: MKM Publishers .

2. PC Tripathi, P. R. (2015). Principles of Management. New Delhi: Tata McGraw-Hill Education.

3. Prasad, L. (2019). Principles and Practices in Management. New Delhi: Engineer's BookShop.

103. Statistics for Business Decisions

Objective: To familiarize the students with various Statistical Data Analysis tools that can be used for effective decision making. Emphasis will be on the application of the concepts learnt.

Unit – I

Statistics: Meaning, Definition, Use of Statistics in Business and Management, Distrust and Limitations of Statistics. Collections of Data, Classification, Frequency Distribution and Tabulation.

Unit – II

Measures of Central Tendency: Arithmetic Mean, Geometric Mean, Harmonic Mean, Weighted Mean, Median, Mode and Partition Values. Use of Weighted Arithmetic Mean, Empirical Relationship among AM, GM & HM.

Unit – III

Measures of Dispersion: Ranges, Quartile Deviation, Mean Deviation, Standard Deviation, Measures based on Standard derivation and Lorenz Curve. **Skewness**: Karl Pearson's and Bowley's Measures.

Unit – IV

Correlation: Meaning, Types and Correlation and Causation, Scatter Diagrams Pearson's Coefficient of Correlation and Properties (Proof not required), Rank Correlation deviation method, Probable error, Relationship between r and r^2.

Regression: Meaning, Function & Types, Regression lines: Graphic and Algebraic methods, Relationship between Correlation and Regression, standard error of estimate.

Unit – V

Index Number: Meaning, Use, Limitation and Types of Index Number, Problems of Constructing of Index Number, Methods of Construction of Index Number. Test of Adequacy of Index Number Formula, Base Shifting, Splicing & Deflating.

Suggested Readings

1. Bhanawat Shurveer S.(, Business Statistics, R.B.D. Publication, Jaipur – New Delhi
2. Gupta S. P. (2014). , Statistical Methods, Sultan Chand & Sons, N. Delhi.
3. Gupta S. C. and Gupta. (2012), Indira: Business Statistics, Himalaya Publishing House, Mumbai.
4. Hoel & Jessen.(1973), Basic Statistics for Business and Economics; John Wiley and Sons, New York.
5. Hooda, R.P. (2013). , Statistics for Business and Economics; Macmillan, New Delhi.
6. Lewin and Rubin. (2017). , Statistics for Management; Prentice-Hall, New Hall.

104. Micro Economics

Objective: The purpose of this course is to apply micro economic concepts and techniques in evaluating business decisions taken by firms. The emphasis is on explaining how tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action and finally choose among alternatives. Simple geometry and basic concepts of mathematics will be used in the course of teaching.

Course content

Unit 1: Micro Economics: Meaning, Nature, Scope & Significance, Fundamental Economic Concepts (Incremental Concept); Concept of Time Perspective, Opportunity Cost Concept, Equi-Marginal Concept, Discount Concept, Risk and Uncertainty), Demand Forecasting: Meaning and Significance.

Unit 2: Demand, supply and market equilibrium: Law of Demand, individual demand and market demand, concept of supply Exception to Law of Demand, Elasticity of Demand- Price, Income and Cross Elasticity Uses of Elasticity of Demand for Managerial Decision Making, Advertising and Promotional Elasticity of Demand. Theory of consumer behavior: cardinal utility theory, ordinal utility theory.

Unit 3: Production Analysis: Concept, Production Function- Total, Average, & Marginal Product – Law of Variable Proportions & ISO-Quants & ISO Costs - Least cost factor combination- Returns to Scale- Economies and Diseconomies of Scale - Technological progress and production function

Unit 4: Cost and Revenue Profit Functions: Cost Concepts, Fixed and variable costs- Total Cost, Average Cost, Marginal Cost, Opportunity Cost. - Short-run and Long-run Cost Curves Profits: Determinants of Short-Term & Long Term Profits, Measurement of Profit. Break Even Analysis-Meaning, Assumptions, , Limitations and Uses.

Unit 5: Market Structure: Perfect Competition: Features, Determination of Price under Perfect Competition - Monopoly: Features, Pricing under Monopoly, Price Discrimination - Oligopoly: Features, Kinked Demand Curve, Cartel, Price Leadership - Monopolistic Competition: Features, Pricing under Monopolistic Competition.

Readings:

1. Dominick Salvatore (2009). Principles of Microeconomics (5^{th}ed.) Oxford University Press.
2. Lipsey and Chrystal. (2008). Economics. (11^{th} ed.) Oxford University Press.
3. Koutosyannis (1979). Modern Micro Economics. Palgrave Macmillan.
4. Pindyck, Rubinfeld and Mehta. (2009). Micro Economics. (7^{th} ed.). Pearson.

105 Business Accounting for Small Business

Objective: To familiarize students with the mechanics of preparation of financial statements, understanding corporate financial statements, their analysis and interpretation.

Unit – I

Introduction of Accounting: Meaning, Definition, Objective, Scope, and Need of Accounting, Users of Accounting information; Branches of Accounting, Accounting Principles, Elementary knowledge of IFRS, IND-AS and AS.

Unit – II

Accounting process: Recording transactions including subsidiary books, ledger, trail balance and Final Accounts of sole proprietors including adjustments. Consignment Accounts.

Unit – III

Joint Venture and Insurance Claim including loss of stock and loss of profit due to fire.

Unit – IV

Branch Accounting: Accounting for Dependent and Independent Branch including foreign branch.

Unit – V

Departmental accounts: allocation and apportionment of expenses, inter-departmental transfers.

Hire purchase system and Instalment payment system: Meaning, Accounting Records, and Legal Provision.

Suggested Readings:

1. Anthony, R. N. and Reece, J. S.(1989). , Accounting Principles: Richard lrwin Inc.New Delhi.
2. Compendium of Statement and Standards of Accounting: The Institute of Chartered Accountants of India.
3. Gupta, R.L.and Radhaswamy. (2008). , Financial Accounting; Sultan Chand & Sons, Delhi.
4. Seghal Deepak. (2006). , Fundamental of Financial Accounting, Taxmann.
5. Shukla, M. C., Grewal T.S., and Gupta, S.C.(2019). , Advanced Accounts; S. Chand & Co. New Delhi.
6. Tulsian, P.C.(2002). , Financial Accounting; Pearson.

106 General Hindi

इकाई – I

– 'गद्य–वीथी' पुस्तक से संक्षेपण एवं 'कथादषक' पुस्तक से पल्लवन सम्बन्धी ज्ञान ।

1

– दोनों पुस्तकों से सामान्य तथ्यात्मक प्रश्नों का ज्ञान

इकाई – II

– शब्द ज्ञान

– शब्द पर्याय और विलोम शब्दों का ज्ञान

– अनेकार्थी एवं समश्रुत शब्दों का ज्ञान

इकाई – III

– पत्र लेखन और पत्रों के प्रकार सम्बन्धी ज्ञान

– अंग्रेजी से हिन्दी अनुवाद का ज्ञान

– हिन्दी में पदनाम सम्बन्धी ज्ञान (अंग्रेजी से हिन्दी पदनाम)

इकाई – IV

– मुहावरे – लोकोक्तियाँ

– शब्द–षुद्धि और वाक्य–षुद्धि

– पारिभाषिक शब्दावली

– अनेक शब्दों के लिए एक शब्द

इकाई – V

– देवनागरी लिपि की विषेषताएँ

2

– देवनागरी लिपि एवं वर्तनी का मानक रूप

– कम्प्यूटर में हिन्दी का अनुप्रयोग : प्रारंभिक परिचय

अंक योजना : यह प्रष्न पत्र 100 अंक का होगा, जो तीन खण्ड– 'अ', 'ब', 'स' में विभक्त होगा, जिसका अंक विभाजन इस प्रकार रहेगा –

खण्ड 'अ' – **10 अंक**

इस खण्ड में एक–एक अंक के विकल्प रहित दस वस्तुनिष्ठ लघु उत्तरात्मक प्रष्न होंगे । प्रत्येक इकाई से दो प्रष्न होंगे ।

खण्ड 'ब'– **50 अंक**

इस खण्ड में दस–दस अंक के दस प्रष्न होंगे, जिनमें से पाँच प्रष्न करने होंगे । प्रत्येक इकाई से एक–एक प्रष्न अवष्य पूछा जाएगा। 'गद्यवीथी' और 'कथादषक' पर आधारित संक्षेपण और पल्लवन सम्बन्धी प्रष्न संख्या एक और दो करना अनिवार्य होगा । इस खण्ड के प्रष्नों के उत्तर लगभग 250 शब्दों तक दिये जा सकते हैं ।

खण्ड 'स'– **40 अंक**

इस खण्ड में बीस–बीस अंक के चार प्रष्न होंगे, जिनमें से दो प्रष्न करने होंगे। इनका उत्तर लगभग 500 शब्दों में देना होगा । इन प्रष्नों में एक प्रष्न के दो भाग भी हो सकते हैं ।

3

BBA(ED) II SEMESTER

201. Macroeconomics

Objective: This course deals with the principles of Macroeconomics. The coverage includes determination of and linkages between major economic variables; level of output and prices, inflation, interest rates and exchange rates. The course is designed to study the impact of monetary and fiscal policy on the aggregate behavior of individuals.

Course Content

Unit I

Indian Economic Environment: Overview of Indian Economy, changes in Indian Economy, Recent developments in Indian economy, Measurement of National Income: Basic components of GDP, measuring GDP and GNP, Difficulties in measuring National Income; Classical theory of income and employment, Aggregate demand curve.

Unit II

Keynesian theory of Income and employment: Classical theory, full employment, Keynesian theory(assumptions and criticism), Keynesian theory v/s Classical theory, components of aggregate demand, aggregate supply and related concepts, equilibrium income, changes in equilibrium, income determination and investment multiplier

Unit III

Industrial policies and Structure: A critical look at industrial policies of India, New industrial policy 1991: disinvestment in PSU's – Private sector – growth, problems and prospects, SME's- significance in Indian economy – problems and prospects. Introduction to BoP account, Inflation: meaning, demand and supply side factors.

Unit IV

Economic Policies: Fiscal policy: Definition and objectives, instruments, union budget, Monetary policy: Meaning and scope, Instruments of Monetary policy, Measures of money supply, monetary policy in India- objectives, tools for credit control, Role and functions. Limitation of Monetary policy.

Unit V:

Globalization and Indian Business Environment: meaning and implications phases, Impact of globalization on Indian economy across sectors. Business cycle - Features, phases, Economic Indicators, Primary, secondary and tertiary sectors and their contribution to the economy, SWOT analysis of Indian economy.

Suggested Readings:

1. Froyen, R.P. (2011): Macroeconomics-theories and policies (8^{th} ed.). Pearson:
2. Dornbusch and Fischer (2010). Macroeconomics (9^{th}ed.). Tata McGraw Hill
3. N Gregory Mankiw (2010). Macroeconomics (7^{th}ed.). Worth Publishers
4. Olivier Blanchard, Macroeconomics (2009). (5^{th}ed.) Pearson

202 Management Accounting

Objective: To acquaint students with role of Management Accounting in planning, control and decision-making.

Course Content

Unit I

Nature, Scope of Management Accounting: Meaning, definition, nature and scope of Management Accounting; Comparison of Management Accounting with Cost Accounting and Financial Accounting. Analyzing Financial Statements: Objectives of Financial Statement Analysis; Sources of Information, Techniques of Financial Statement Analysis – Comparative analysis, Common Size Analysis and trend analysis.

Unit – II

Ratio Analysis: Meaning and Usefulness of Financial Ratios; Analysis of Financial Ratios from the perspective of different Stakeholders like Investors, Lenders, and Short-term Creditors; Profitability Ratios, Solvency Ratios, Liquidity Ratios, and Turnover Ratios; Limitations of Ratio Analysis, Understanding the contents of a Corporate Annual Report.Interpretation of Financial Ratios

Unit – III

Cash Flow Statement: Preparation of cash Flow statement as per AS-3 (revised), Activity Based Costing.

Unit – IV

Standard Costing: Meaning of Standard Cost and Standard Costing, Advantages, Limitations and Applications; Material, Labor, Overhead Calculation of Material, Variances. Introduction to Target Costing, Life Cycle Costing,

Unit – V

Marginal Costing: Cost-Volume-Profit Analysis: Contribution, Profit -Volume Ratio, Margin of safety, Break-even Analysis including Cost Break-even Point, Composite Break-even Point, Cash Break-even Point, Key Factor and make or buy based decision

Budgetary Control: Meaning, objective, steps and preparation of sales budget, production budget, flexible budget and cash budget, Zero based Budgeting.

Suggested Readings:

1. Bhanawat Shurveer S., "Cost Accounting", R.B.D. Publication, Jaipur-New Delhi
2. Gupta R.L. Radhaswarny M: Company Accounts; Sultan Chand and Sons, New Delhi.
3. Horngran, C.., Gary L. Sundem, and William O. Stratton: Introduction to Management Accounting, Prentice Hall, Delhi.
4. Jain Narang: Advance Accounting, Kalyani Publishers
5. Khan, M. Y. and Jain, P. K.: Management Accounting Tata McGraw Hill, New Delhi.
6. Maheshwari S.N: Corporate Accounting; Vikas Publishing House, New Delhi.
7. Shukla M.C. &Grewal T.S. Advance Accounts: Sultan Chand & Sons, New Delhi. Anthony, Robert: Management Accounting, Tarapore -Wala, Mumbai.
8. Pandey, I. M: Essentials of Management Accounting, Vikas publishing House Pvt. Ltd.

203 Entrepreneurship Development

Objective: This course provides students with a solid introduction to the entrepreneurial process of creating new businesses , role of Creativity and innovation in Entrepreneurial start-ups, manage family-owned companies ,context of social innovation and social entrepreneurship and issues and practices of financing entrepreneurial businesses.

Unit-1 Entrepreneurial Management

The evolution of the concept of entrepreneurship, The Entrepreneur; Role and personality; John Kao's Model on Entrepreneurship, Idea Generation, Identifying opportunities and Evaluation; Building the Team / Leadership; Forms of ownership – Sole proprietorship; partnership; limited liability partnership and corporation form of ownership; advantages/disadvantages, Franchising; advantages/disadvantages of franchising; types of franchise arrangements; franchise contracts; franchise evaluation checklist, Managing growth; Harvesting and Exit Strategies.

Unit-2 Entrepreneurship, Creativity And Innovation

Stimulating Creativity; Organisational actions that enhance/hinder creativity, Managerial responsibilities, Creative Teams; Sources of Innovation in Business.

Unit-3 Social Entrepreneurship

Corporate Entrepreneurship: Definition and Importance, Introduction to Social Entrepreneurship; Characteristics and Role of Social Entrepreneurs; Innovation and Entrepreneurship in a Social Context; Start-Up and Early Stage Venture Issues in creating and Sustaining a Non-profits Organization; Financing and Risks; Business Strategies and Scaling up.

Unit-4 Family Business And Entrepreneurship

Family Business: Concept, structure and kinds of family firms ; Culture and evolution of family firm; Managing Business, family and shareholder relationships ; Conflict and conflict resolution in family firms ; Managing Leadership ,succession and continuity ; women's issues in the family business ;Encouraging change in the family business system.

Unit-5 Financing the Entrepreneurial Business

Valuation of a new company ,Financing entrepreneurial ventures; Arrangement of funds; Traditional sources of financing, Loan syndication, Consortium finance, role played by commercial banks, appraisal of loan applications by financial institutions, Venture capital.

Readings

1. Burns, P. (2001). Entrepreneurship and small business. New Jersey: Palgrave.
2. Drucker, P. F. (2006). Innovation and entrepreneurship: Practice and principles. USA: Elsevier.
3. Gersick, K. E., Davis, J. A., Hampton, M. M., &Lansberg, I. (1997). Generation to generation: Life cycles of the family business. Boston: Harvard Business School Press.
4. Hisrich, R., & Peters, M. (2002). Entrepreneurship. New Delhi: Tata McGraw Hill.
5. Holt, D. H. (2004). Entrepreneurship new venture creation. New Delhi: Prentice Hall of India.

204 Business Communication

Objective: To acquaint students with the basic communication skills and make them efficient communicators: spoken and written both.

Unit I

Introduction: Basics of Communication, Types and modes of Communication, Models of communication.

Unit II

Language of Communication: Verbal and Non-verbal (Spoken and Written); Body language and its components; Communication Barriers, Listening Skills, Strategies for Intra-personal, Inter-personal and Group communication.

Unit III

Speaking Skills: Monologue; Dialogue; Group Discussion; Interview; Public Speech, Personal Interview skills; Presentation skills.

Unit IV

Reading and Understanding; Close Reading, Comprehension, Summary, Paraphrasing Analysis and Interpretation.

Unit V

Writing Skills: Documenting; Report Writing; Making notes; Letter writing, notice, email writing and application writing.

Suggested Readings

1 Bowman, Joel P and Branchaw, Bernadine P. "Business Communication: From Process to Product". 1987. Dryden Press, Chicago.

2.Hatch, Richard. "Communicating in Business".1977 Science Research Associates, Chicago.

3.Murphy, Herta A and Peck, Charrles E. "Effective Business Communications". 2nd ed. 1976.Tata McGraw Hill, New Delhi.

4.Pearce, C Glenn etc. "Business Communications: Principles and Applications". 2nd ed. 1988. John Wiley, New York.

5.Treece, Maira. "Successful Business Communications".3rd ed. 1987.Allyn

205 Organizational Behavior

This course aims is to provide students with an in-depth understanding of fundamental theories of organizational behavior.

Unit I

Organizational Behaviour: Concept, Importance and Determinants. Perception: Concept, Nature and Process. Personality: Nature, Importance, Determinants, Type and Trait Theory. Motivation: Concepts, Importance and Elements, Content theories, Contemporary Leadership issues: Charismatic, Transformational Leadership & Emotional Intelligence.

Unit II

Groups and Teams: Definition, Difference between Groups and teams; Stages of Group Development, Group Cohesiveness, Types of teams.

Unit III

Conflict: Concept, Sources, Types, conflict resolution styles, Organisational Change: Concept, Resistance to change, Managing resistance to change, Implementing Change, Kurt Lewin Theory of Change.

Unit IV

Introduction to Organizational Communication: Meaning and Importance of Communication, Functions , process, types, Interpersonal Communication, Tips for Effective Communication.

Unit V

Introduction to Organization Culture: Meaning and Nature of Organization Culture - Origin of Organization Culture, Functions of Organization Culture, Types of Culture, Creating and Maintaining Organization Culture, Managing Cultural Diversity.

Suggested Readings:

1. Understanding Organizational Behavior by Udai Pareek.
2. Organizational Behavior: Text and Cases by Kavita Singh.

206 Finance for Small Businesses-I

Objective: To acquaint students with the techniques of financial management and their applications for business decision making.

Course Contents:

Unit I
Nature of Financial Management: Finance and related disciplines; Scope of Financial Management; Profit Maximization, Wealth Maximization - Traditional and Modern Approach; Functions of finance – Finance Decision, Investment Decision, Dividend Decision; Objectives of Financial Management; Organization of finance function; Concept of Time Value of Money, present value, future value, and annuity.

Unit II
Risk & Return: Historical return, expected return, absolute return, holding period return, annualized return, arithmetic & geometric return; Risk - Systematic & unsystematic risk – their sources and measures. Long term sources of Finance, Leverage Analysis: Operating and Financial Leverage; EBIT -EPS analysis; Combined leverage.

Unit III
Long -term investment decisions: Capital Budgeting - Principles and Techniques; Nature and meaning of capital budgeting; Estimation of relevant cash flows and terminal value; Evaluation techniques - Accounting Rate of Return, Net Present Value, Internal Rate of Return & MIRR, Net Terminal Value, Profitably Index Method.
Concept and Measurement of Cost of Capital: Explicit and Implicit costs; Measurement of cost of capital; Cost of debt; Cost of perpetual debt; Cost of Equity Share; Cost of Preference Share; Cost of Retained Earning; Computation of over-all cost of capital based on Historical and Market weights.

Unit IV
Sources of short term Finance, Working Capital Management: Factors affecting Working Capital, Determination of Working Capital, Management of Cash - Preparation of Cash Budgets (Receipts and Payment Method only); Cash management technique.

Unit V
Receivables Management – Objectives; Credit Policy, Cash Discount, Debtors Outstanding and Ageing Analysis; Costs - Collection Cost, Capital Cost, Default Cost, Delinquency Cost
Inventory Management (Very Briefly) - ABC Analysis; Minimum Level; Maximum Level; Reorder Level; Safety Stock; EOQ, JIT.

Readings

1. M.Y. Khan & P.K. Jain: Financial Management Text Problem and Cases, Tata McGraw Hill Pubilshlng Co. Ltd.
2. R. P. Rustogi: Financial Management: Theory Concepts and Practices, Taxmann Publication.
3. I.M. Pandey: Financial Management: Theory and Practices, Vikas Publishing House
4. R.A. Brealey, S.C. Myers, F. Allen& P. Mohanty: Principles of Corporate Finance**,** McGraw Hill Higher Education
5. J.V. Horne & J.M. Wachowicz: Fundamentals of Financial Management Prentice Hall

BBA(ED) III SEMESTER

301 Quantitative Techniques for Management

Objective: To acquaint students with the construction of mathematical models for managerial decision situations and to use computer software packages to obtain a solution wherever applicable. The emphasis is on understanding the concepts, formulation and interpretation.

Course contents:

Unit I: Linear Programming: Formulation of L.P. Problems, Graphical Solutions (Special cases: Multiple optimal solution, infeasibility, unbounded solution. Duality (conversion of Primal to dual)

Unit II: Elementary Transportation: Formulation of Transport Problem, Solution by N.W. Corner Rule, Least Cost method, Vogel's Approximation Method (VAM), Modified Distribution Method. Elementary Assignment: Hungarian Assignment Method.

Unit III: Network Analysis: Construction of the Network diagram, Critical Path- float and slack analysis (Total float, free float, independent float), PERT, Project Time Estimation.

Unit IV: Decision Theory: Pay off Table, Opportunity Loss Table, Expected Monetary Value, Expected Opportunity Loss, Expected Value of Perfect Information and Sample Information, Introduction to Game Theory: Pay off Matrix- Two-person Zero-Sum game, Pure strategy, Saddle point; Dominance Rule, Mixed strategy.

Unit V

Inventory Management,

Elementary Queuing Theory: Poisson- Exponential Single Server Model with Infinite Population. (question based on M/M/1.

Readings:

1. N. D. Vohra: Quantitative Management, Tata McGraw Hill .
2. P. K. Gupta, Man Mohan, Kant Swarup: Operations Research, Sultan Chand.
3. V. K. Kapoor: Operations Research, Sultan Chand & Sons.
4. J. K. Sharma: Operations Research Theory & Applications, Macmillan India Limited.

302 Principles of Marketing

Objective: This course aims to familiarize students with the marketing function inorganizations. It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing. The course will use and focus on Indian experiences, approaches and cases

Course Content:

Unit I: Introduction: Nature, Scope and Importance of Marketing, Evolution of Marketing; Core marketing concepts; Company orientation - Production concept, Product concept, Selling concept, Marketing concept, Holistic marketing concept. 7 P's of Marketing ; Marketing Environment: Demographic, economic, political, legal, socio cultural, technological environment (Indian context); Portfolio approach – Boston Consultative Group (BCG) matrix

Unit II: Segmentation, Targeting and Positioning: Levels of Market Segmentation , Basis for Segmenting Consumer Markets, Difference between Segmentation, Targeting and Positioning; Types of Targeting.

Unit III: Product & Pricing Decisions: Concept of Product Life Cycle (PLC), PLC marketing strategies, Product Classification, Product Line Decision, Product Mix Decision, Branding Decisions, Packaging & Labeling, New Product Development.
Pricing Decisions: Determinants of Price, Pricing Methods (Non-mathematical treatment), Adapting Price (Geographical Pricing, Promotional Pricing and Differential Pricing).

Unit IV: Promotion Mix: Factors determining promotion mix, Promotional Tools –basics of Advertisement, Sales Promotion, Public Relations & Publicity and Personal Selling; Place (Marketing Channels): Channel functions, Channel Levels, Types of
Intermediaries: Types of Retailers, Types of Wholesalers.

Unit V:
Marketing of Services - Unique Characteristics of Services, Marketing strategies for service firms – 7Ps.

Readings:

1. Kotler, P. & Keller, K. L.: Marketing Management, Pearson.
2. Kotler, P., Armstrong, G., Agnihotri, P. Y., &UlHaq, E.: Principles of Marketing: A South Asian Perspective, Pearson.
3. Ramaswamy, V.S. &Namakumari, S.: Marketing Management: Global Perspective-Indian Context, Macmillan Publishers India Limited.
4. Zikmund, W.G. & D' Amico, M.: Marketing, Ohio: South-Western College Publishing.

303 Human Resource Management in Small Business

Objective: The objective of this course is to help the students to develop an understanding of the concept & techniques of essential functions of human resource management. The course will use and focus on Indian experiences, approaches and cases

Course Contents

Unit I
Human Resource Management: Concept, Functions, roles, skills & competencies, HRD-definition, goals and challenges. The changing environment of HRM – globalization, cultural environment, technological advances, workforce diversity, corporate downsizing, changing skill requirement, HR role in strategy formulation & gaining competitive advantage. HRM issues in Indian Organisations

Unit II
Human Resource Planning: Process, Forecasting demand & supply, Skill inventories; Human Resource Information System (HRIS) succession planning, Job analysis – Uses, methods, Job description & Job specifications. HR accounting and Human Resource Development (HRD); Recruitment, Selection & Orientation: internal & external sources, e- recruitment, selection process, orientation process.

Unit III
Training: Concept, Needs, Systematic approach to training, Methods of training. Management development: Concept & Methods. Performance management system: concept, uses of performance appraisal, performance management methods, factors that distort appraisal, appraisal interview .Career planning: career anchors, career life stages.

Unit IV
Compensation: Steps of determining compensation, job evaluation, components of pay structure, factors influencing compensation levels, wage differentials & incentives, profit sharing, employees' stock option plans. Brief introduction of social security, health, retirement & other benefits.

Unit V
Industrial Relations: Introduction to Industrial Relations, Trade unions: role, types, functions, problems, industrial dispute- concept, causes & machinery for settlement of disputes- grievance, concepts, causes & grievance redressal machinery, Strike Management; discipline-concept, aspect of discipline & disciplinary procedure, Collective bargaining- concept, types, process, problems, essentials of effective collective bargaining .

Readings:

1. De Cenzo, D.A. & Robbins: Fundamentals of Human Resource Management, New York: John Wiley & Sons.
2. Dessler, G: Human Resource Management, Pearson.
3. Monappa & Saiyaddin: Personnel Management, Tata McGraw Hill.
4. Rao, V.S.P.: Human Resource Management- Text and Cases, Excel Books.

304 Finance for Small Business-II

Objective: To acquaint students with the techniques of financial management and their applications for business decision making.

Unit I

Capital Structures: Approaches to Capital Structure Theories - Net Income approach, Net Operating Income approach, Modigliani-Miller (MM) approach, and Traditional approach, Capital Structure and Financial Distress, Trade-Off Theory.

Unit -II

Dividend: Basics and types, Dividend Policy Decision - Dividend and Capital; The irrelevance of dividends: General, MM hypothesis; Relevance of dividends: Walter's model, Gordon's model.

Unit III

Introduction to Financial Services; Leasing and Hire Purchase: Types and Working; Insurance: types: General and Life: Nature, types and features; Credit cards; Debit cards; E-payments: UPI, Payment wallets; Venture Capital.

Unit IV

Introduction to Indian Financial System: Basics and Classification; Banking: types of Banks: Small, Commercial, Payment and Universal Banking, Long term and Short term credit facilities from Banks; NBFC's.

Unit V

Stock markets: Introduction to BSE, NSE and SME Platforms; ADR, GDR, ECCB, Functions of EXIM Banks; Recent developments in Financial Services.

Readings

6. M.Y. Khan & P.K. Jain: Financial Management Text Problem and Cases, Tata McGraw Hill Pubilshlng Co. Ltd.
7. R. P. Rustogi: Financial Management: Theory Concepts and Practices, Taxmann Publication.
8. I.M. Pandey: Financial Management: Theory and Practices, Vikas Publishing House
9. R.A. Brealey, S.C. Myers, F. Allen& P. Mohanty: Principles of Corporate Finance**,** McGraw Hill Higher Education
10. J.V. Horne & J.M. Wachowicz: Fundamentals of Financial Management Prentice Hall.

305 IT Tools In Business (40 marks practical)

Unit I

Ms.Word: Introduction: Creating and saving your document, displaying different views, working with styles and character formatting, working with paragraph formatting techniques using indents, tabs, alignment, spacing, bullets and numbering and creating borders.

Page setup and sections: Setting page margins, orientation, headers and footers, end notes and foot notes, creating section breaks and page borders.

Working with tables: Creating tables, modifying table layout and design, sorting, inserting graphics in a table, table math, converting text to table and vice versa.

Create newspaper columns, indexes and table of contents.

Spellcheck your document using inbuilt and custom dictionaries, checking grammar and style using thesaurus and finding and replacing text.

Mail merge: Creating and editing your main document and data source.

Unit II

Ms. Excel: Introduction: Concept of worksheets and workbooks, creating, opening, closing and saving workbooks, moving, copying, inserting, deleting and renaming worksheets, working with multiple worksheets and multiple workbooks, controlling worksheet views, naming cells using name box, name create and name define.

Using formulae and functions: Understanding absolute, relative and mixed referencing in formulas, referencing cells in other worksheets and workbooks, correcting common formula errors, working with inbuilt function categories like mathematical, statistical, text, lookup, information, logical, database, date and time and basic financial functions. Consolidating worksheets and workbooks using formulae and data consolidate command Printing.

Unit III

Protecting worksheets: Adjusting margins, creating headers and footers, setting page breaks, changing orientation, creating portable documents and printing data and formulae. Implementing file level security and protecting data within the worksheet Creating charts and graphics: Choosing a chart type, understanding data points and data series, editing and formatting chart elements.

Analyzing data using pivot tables: Creating, formatting and modifying a pivot table, sorting, filtering and grouping items, creating calculated field and calculated item, creating pivot table charts, producing a report with pivot tables.

Performing what-if analysis: Types of what if analysis (manual, data tables, scenario manager), what-if analysis in reverse (goal-seek, solver)

Unit IV

Ms. PowerPoint :Introduction: Creating a blank presentation using a design template, basing a new presentation on an existing one, creating and managing slides, using content place holders, creating graphs, tables, diagrams, organization charts, inserting clip art and
images.

Viewing and navigating a presentation: Organizing ideas in outline view, using slide sorter to rearrange a presentation, previewing presentation in slide show, understanding master views, using title master, slide master, handout master and notes master, working with headers and footers, using hyperlinks, advanced navigation with action settings, navigation short hand with action buttons

Animation and multimedia: Using and applying animation schemes, adding music, sound and video clips. Final presentation: Applying transition to slides, controlling transition speed, using hidden slides, using custom shows, using on screen pen and adding and accessing notes during a presentation.

Unit V

Databases: Introduction to Database Development: Database Terminology, Objects, Creating Tables,

working with fields, understanding Data types , Changing table design, Assigning Field Properties, Setting Primary Keys, using field validation and record validation rules, Indexing, working with multiple tables, Relationships & Integrity Rules, Join Properties, Record manipulation, Sorting & Filtering.

Select data with queries: Creating Query by design & by wizard (Select, Make Table, Append, Delete, Cross Tab, Update, Parameterized Query, Find Duplicate and Find Unmatched), Creating multi table queries, creating & working with table joins. Using operators & expressions: Creating simple & advance criteria.

Working with forms: Creating Basic forms, working with bound, unbound and calculated controls, understanding property sheet, Working with Data on Forms: Changing Layout, creating Sub Forms, creating list box, combo box and option groups.

Working with Reports: Creating Basic Reports, Creating Header & Footer, Placing Controls on reports, sorting & grouping, Creating Sub reports.

306: Income Tax

Objective: The objective of this course is to acquaint the students with the computation of tax liability for individuals and also aware about different provisions of income tax act, 1962 relating to individuals only.

Unit – I

Income Tax: Basic concepts: Assessment Year, Previous Year, Person, Assessee, Income, Gross Total Income and Tax liability and Agricultural Income. Residential status and Incidence of tax

Unit – II

Computation of Income Under the Head - **Salaries** (Sec. 15 to Sec. 17 and relevant Sections): Basic charge, Tax treatment of different forms of salary, allowances, perquisites, valuation of perquisites, Provident fund & Exempted Incomes (Sec.10)

Unit – III

Income from House Property (Sec. 22 to Sec. 27), Income from Business and Profession (Sec. 28 to Sec. 44)

Unit – IV

Capital Gains (Sec. 45 to Sec. 54) & Income from Other Sources (Sec. 55 to Sec. 57), Deductions from Gross Total Income related to Individuals only (80C to 80U)

Unit – V

Assessment of Individuals, Interest payable by Assesses, Penalties. Procedure for assessment: E-filing of return

Suggested Readings:

1. Agarwal, N.P., Jain, C.M. and Jain, O.P.: Income Tax (Hindi/English).
2. Ahuja, Girish and Gupta, Ravi: Systematic Approach to Income Tax, Bharat Publication
3. Mehrotra, H. C.: Income Tax Law & Accounts, Sahitay Bhawan, Agra
4. Pagare, Dinker: Income Tax Law and Practice, Sultan Chand & Sons, New Delhi
5. Patel &Chaudhary: Income Tax (Chaudhary Prakashan), (Hindi/English)
6. Singhania, Vinod K: Student Guide to Income Tax, Taxmann Publication (P) ltd, New Delhi

BBA(ED) IV SEMESTER

401 Business Research

Objective: To provide an exposure to the students pertaining to the nature and extent of research orientation, which they are expected to possess when they enter the industry as practitioners. To give them an understanding of the basic techniques and tools of business marketing research.

Course Content:

Unit I: Nature and Scope of Business Research – Role of Business Research indecision making; Applications of Business Research.

Unit II

The Research process – Steps in the research process; the research proposal; Problem Formulation: Management decision problem Vs. Business Research problem.

Unit III: Research Design: Exploratory, Descriptive, Causal. Secondary Data Research: Advantages& Disadvantages of Secondary Data.

Unit IV: Sampling: Sampling techniques, determination of sample size; Data Analysis: Parametric Tests: Z test (mean, diff. of mean, diff. of proportion) t test (mean), paired t test, Chi square test, One way ANOVA; Non Parametric Tests.

Unit V: Primary Data Collection: Survey Vs. Observations. Comparison of self-administered, telephone, mail, emails techniques. Qualitative Research Tools: Depth Interviews focus groups. Measurement & Scaling: Primary scales of Measurement -Nominal, Ordinal, Interval & Ratio. Likert Scale; Questionnaire-form & design.

Readings:

1. Zikmund, Babin& Carr: Business Research Methods, South-Western.
2. Cooper & Schindler: Business Research Methods McGraw-Hill Education,
3. Churchill: Marketing Research: Methodological Foundations, Cengage Learning.
4. Aaker, Kumar, Day - Marketing Research. Wiley.
5. NareshMalhotra – Marketing Research, Pearson
6. Deepak chawla and NeenaSondhi - Research Methodology

402 Indirect Tax

Unit I

Introduction to the concept of Goods and Services Tax (GST) and Direct Tax Code (DTC). CGST/SGST - Important terms and definitions under Central Goods and Service Tax Act, 2017 and State Goods and Service Tax Act, 2017,

Unit II

Meaning and scope of supply, Levy and collection of tax; CGST/ SGST - Time and Value of Supply of goods and / or services, Input Tax Credit, Transitional Provisions, Registration under CGST/SGSCT Act.

Unit III

Filing of Returns and Assessment, Payment of Tax including Payment of tax on reverse charge basis, Refund under the Act; IGST – Scope of IGST, Important terms and definitions under Integrated Goods and Service Tax Act, 2017, Levy and collection of IGST, Principles for determining the place of supply and Place of supply of goods and services, Zero rated Supply.

Unit IV

Customs – Role of Customs in International Trade, Important Terms & definitions under the Customs Act, 1962; Assessable Value, Baggage, Bill of entry, Dutiable Goods, Duty Exporter, Foreign going vessel, Aircraft goods, Import, Import Manifest; Importer, Prohibited Goods, Shipping Bill, Store, Bill of Lading, Export Manifest, Letter of Credit.

Unit V

Kind of Duties- Basic, auxiliary, additional or counter veiling; basics of levy- advalorem specific duties, Prohibition of Export and Import of Goods and Provisions regarding notified & specified goods, Import of Goods- Free Import and Restricted import, type of Import – Import of Cargo, Import of Personal Baggage, Import of Stores.

Suggested Readings:

1. Custom Act 1962 and Rules
2. Commercial's GST, Commercial law publisher (India) Pvt Ltd, New Delhi.
3. Datey V.S.: GST Ready Reckoner, Taxman Publication, New Delhi

403 New Enterprise Management

Objective: To acquaint students with the abilities to manage new enterprise.

Unit I
Entrepreneurship and its role in economic development; Problems of industrialization in developing countries with special reference to India; Industrial policy, regulation and control of industries in India.

Unit II
Mechanics of setting new enterprises-size and location optimum units – its meaning and determinants; size of industrial units in India; Theory of industrial location, factors determining industrial location.

Unit III
Regional distribution of industrial activity in India. Recent trends in localization of industrial activity in India. Regional planning of industrial activity in India.

Feasibility studies; technical, marketing and financial. Managerial problems of new enterprises; production &purchasing; Financing labor and marketing problems.

Unit –IV
Facilities provided by different institutions and agencies in India, financing facilities for new enterprises. Various government schemes such as Start-up India, Stand up India, MUDRA etc. Marketing & other facilities.

Unit-V
Problems & prospects of new enterprises.

Text Books:-

1. The Dynamics of Entrepreneurial Development & Management by Desai, Vasant , Himalaya Publishing House, Delhi
2. Managing Small Business by Longenecker, Moore, Petty and Palich, Cengage Learning, India Edition.
3. Cases in Entrepreneurship by Morse and Mitchell, Sage South Asia Edition.
4. Entrepreneurship – Indian Cases on Change Agents by K Ramchandran, TMGH.
5. Entrepreneurship – The engine of growth, edited by Mark Rice and Timothy Habbershon, Published by Praeger Perspectives.
6. Entrepreneurship: Theory, Process and Practice by Kuratko, D.F. &Hodgetts, R.M. Thomson Press.
7. Entrepreneurship Development: Small Business Enterprises by Charantimath, P. , Pearson.
8. A Guide to Entrepreneurship by David, Otes ,Jaico Books Publishing House, Delhi.
9. Indian Entrepreneurial Culture by A Gupta , New Age International.

404 Talent & Knowledge Management in Small Business

Objective - To prepare students for talent and knowledge management efforts in organizations .It aims at enabling students to gain insights in concepts and application of talent and knowledge management in organizations. The course aims at understanding basic elements, processes, approaches and strategies of managing talent and knowledge in organizations.

Course Contents

Unit 1
Meaning and importance of talent management, Talent management Grid, Creating talent management system, Strategies of talent management.

Unit 2
Competency model, Competency mapping, Role of leaders in talent management, Talent management and competitive advantage.

Unit 3
Elements of knowledge management, Advantages of knowledge management, Knowledge management in learning organizations. Types of Knowledge: Tacit and Explicit .Managing knowledge workers.

Unit 4
Knowledge management process, Approaches to knowledge management: Knowledge management solutions, Knowledge creation, Knowledge sharing, Knowledge dissemination, Knowledge management life cycle, Nonaka's model of knowledge. Knowledge capturing techniques: Brainstorming, Protocol analysis, Consensus decision making, Repertory grid, Concept mapping.

Unit 5
Knowledge management strategies: Aligning individual needs with organisation, Reward systems for knowledge management, Knowledge audit, Benchmarking, Balance score card, Gap analysis.

Readings
1. Lance A. Berger, Dorothy Berger: Talent management handbook, McGraw Hill New York.
2. Cappeli Peter: Talent on Demand –Managing Talent in an age of uncertainty, Harvard Business press.
3. Awad.E.M and Ghaziri.H.M: Knowledge management, Pearson education International.
4. Stuart Barnes: Knowledge management system theory and practice, Thomson learning.
5. Donald Hislop: Knowledge management in organisations, Oxford University press.
6. Sudhir Warier: Knowledge management, Vikas publishing house.
7. T. Raman: Knowledge management –a resource book, Excel books.

405 E-Commerce

Course contents:

Unit –I

Introduction to ecommerce: Meaning and concept of ecommerce, ecommerce vs e-business, advantages and disadvantages of ecommerce, value chain in ecommerce, Porter's value chain model, competitive advantage and competitive strategy, different types of ecommerce like B2B, B2C, C2C, C2B,G2C

Technology in ecommerce: An overview of the internet, basic network architecture and the layered model, internet architecture, network hardware and software considerations, intranets and extranets ,The making of world wide web, web system architecture, ISP, URL's and HTTP, cookies.

Unit – II

Building and hosting your website: choosing an ISP, registering a domain name, web promotion, internet marketing techniques, e-cycle of internet marketing, personalization, mobile agents, tracking customers, customer service, CRM and e-value

Web page design using HTML and CSS: Overview of HTML, basic structure of an HTML document, basic text formatting, links, images, tables, frames, form and introduction to CSS.

Security threats: Security in cyberspace, kinds of threats and crimes: client threat, communication channel threat, server threat, other programming threats, frauds and scams

Unit- III

Basic cryptography for enabling security in ecommerce: encryption: public and private key encryption, authentication and trust using digital signature and digital certificates, internet security using VPN, firewalls, SSL

Unit- IV

Internet payment systems: Features of payment methods, 4C payment methods, electronic money, ACID and ICES test, payment gateway, SET protocol for credit card payment, electronic payment media: e-cash and e-wallet, e-check, credit card, debit card, smart card, EFT and ACH

Business to Business e-commerce: Meaning, benefits and opportunities in B2B, B2B building blocks and their relationship to supply chain management, key B2B models and their main functions, EDI as a B2B tool.

Unit-V

Consumer oriented e-commerce: traditional retailing and e-retailing, benefits and key success factors for e-retailing, models for e-retailing like specialized and generalized e-stores, e-mall, direct selling by manufacturer, supplementary distribution channel, e-broker and e-services like web-enabling services, matchmaking services, information selling on the web, entertainment services and auction services.

E-core values: ethical issues, legal issues, taxation issues and international issues.

406 General English

(Common for Science, Social Sciences and Humanities & Commerce Faculties)

(1) Texts:

The Many Worlds of Literature Edited by Jasbir Jain, Macmillan; India. George Orwell : Animal Farm

Or

R.K. Narayan : A Vendor of Sweets

(2) Grammar :

(a) Tenses

(b) Modal Auxiliaries

(c) Phrasal Verbs

(d) Clause (Nominal, Adjectival, Adverbial)

(e) Use of Non-finite verbs (Gerunds, Participles, and infinitives)

(3) Comprehension and Composition:

(a) Précis writing (b) Essay on one topic out of four topics.

Books Recommended:

1. Pit Corder: An Intermediate English Grammar
2. Thompson and Martinet : A Practical English Grammar (ELBS- Oxford University Press)

BBA(ED) V SEMETER

501 Production & Operation Management

Objectives: To understand the production and operation function and familiarize students with the technique for planning and control.

Course contents:

Unit I

Introduction to Production & Operations Management: Definition, need, responsibilities, key decisions of OM, goods vs. services.

Operation Strategies-Definition, relevance, strategy formulation process, Maintenance Management: Need of maintenance management, equipment life cycle (Bathtub curve).

Introduction to Lean Management

Unit II

Forecasting-Definition, types, qualitative (grass roots, market research and delphi method) and quantitative approach (simple moving average method, weighted moving average and single exponential smoothing method), forecast error, MAD.

Scheduling: Operation scheduling, goals of short term scheduling, job sequencing (FCFS, SPT, EDD, LPT, CR) & Johnson's rule on two machines, Gantt charts.

Unit III

Process Selection: Definition, Characteristics that influence the choice of alternative processes (volume and variety), type of processes- job shop, batch, mass and continuous, product -process design Matrix and Services design matrix, technology issues in process design.

Unit IV

Layout Decision: Layout planning – Benefits of good layout, importance, different types of layouts (Process, Product and Fixed position layout). Location Decisions & Models: Facility Location – Objective, factors that influence location decision, location evaluation methods- factor rating method.

Capacity Planning: Definition, measures of capacity (input and output), types of planning over time horizon.

Unit V

Aggregate Planning: Definition, nature, strategies of aggregate planning, methods of aggregate planning (level plan, chase plan and mixed plan, keeping in mind demand, workforce and average inventory), Statistical Quality control: Variations in process (common & assignable causes).

Suggested Readings

1. Budnik, Frank S., Dennis Mcleavey, Richard Mojena Principles of Operations Research, 2nd ed., Richard Irwin, lllinois-All India Traveller Bookseller, New Delhi, l995.
2. Narag A S. Linear Programming and Decision Making. New Delhi, Sultan Chand, 1995.
3. Sharma, J K. Operations Research: Theory and Applications. New Delhi, Macmillian India Ltd., 1997.
4. Taha, H A. Operations Research - An Introduction. New York, Mc-Millan, 1989.
5. Theirouf, R J and Klekamp, R C. Decision Making Through Operations Research. New York, John Wiley, 1989.

502 Regulatory Framework for Small Businesses

Objective: To gain knowledge of the branches of law which relate to business transactions, certain corporate bodies and related matters. Also, to understand the applications of these laws to practical commercial situations.

Unit I:
The Indian Contract Act 1872: Meaning and Essentials of contract; Kinds of contract-Based on: validity, formation & performance, law relating to offer and acceptance, consideration, competency to contract, free consent, Void agreements, performance of contracts, discharge of contracts, breach of contracts and quasi contract, Special contracts: contract of indemnity and guarantee, bailment and pledge, and agency.

Unit II:
Sale of Goods Act 1930: Sale and agreement to sell, implied conditions and warranties, sale by non-owners, rights of unpaid seller.
Negotiable Instruments Act 1881:
Meaning of negotiable instruments, type of negotiable instruments, promissory note, bill of exchange, cheque.

Unit III:
The Companies Act 2013:
Meaning and types, Incorporation, Memorandum & Articles of association, Prospectus, Issue of shares and bonus shares, rights issue, sweat equity, role of directors, share qualification, company meetings.
The Limited Liability Partnership Act 2008:
Meaning and nature of limited partnership, formation, partners& their relations, extent and limitation of liability.

Unit IV:
Consumer Protection Act 1986:
Objectives and machinery for consumer protection, defects and deficiency removal, rights of consumers.

Unit V:
The Right to Information Act 2005:
Salient features and coverage of the act, definition of terms information, right, record, public authority; obligations of public authorities, requesting information and functions of PIO.

Readings:

1. M.C.Kucchal: Business Law/Mercantile Law, Vikas Publishing House (P) Ltd.
2. M.C.Kucchal,&Vivek Kucchal: Business Legislation for Management, Vikas Publishing House (P) Ltd.
3. Dr. G. K. Kapoor& Sanjay Dhamija: Company Law and Practice-A comprehensive textbook on Companies Act 2013, latest edition, Taxmann.
4. Avtar Singh: Principle of Mercantile Law, Eastern Book Company
5. Gulshan Kapoor: Business Law, New Age International Pvt Ltd Publishers.
6. Maheshwari&Maheshwari: Principle of Mercantile Law, National Publishing Trust
7. Rohini Aggarwal: Mercantile & Commercial Law, Taxmann.

503 Performance & Compensation Management

Objective: To familiarize students about concepts of performance and compensation management and how to use them to face the challenges of attracting, retaining and motivating employees to high performance.

Course Contents

Unit I
Introduction- Concept, Philosophy, History from performance appraisal to performance development. Objectives of performance management system; Performance management and performance appraisal; Performance Management process: Performance planning, Process and Documentation of Performance appraisal, Appraisal Interview, Performance Feedback and Counseling.

Unit II
Performance management and reward systems. Performance Coaching, Mentoring and Counseling, Competency development, Use of technology and e-PMS, International Aspects of PMS. Performance systems trends, Ethical Perspectives in performance appraisal.

Unit III
Introduction to Job Evaluation; Methods of Job Evaluation. Company Wage Policy: Wage Determination, Pay Grades, Wage Surveys, Wage Components. Modern trends in compensation - from wage and salary to cost to company concept, Comparable worth, broadbanding, competency based pay.

Unit IV
Incentives plans for production employees and for other professionals. Developing effective incentive plans, pay for performance,. Supplementary pay benefits, insurance benefits, retirement benefits, employee services benefits. Benefits & Incentive practices in Indian industry.

Unit V
Wages in India: Minimum wage, fair wage and living wage. Methods of state regulation of wages. Wage differentials & national wage policy Regulating payment of wages, wage boards, Pay commissions, dearness allowances, linking wages with productivity,.
Special compensation situations: International compensation-managing variations. Expatriate Pay.

Readings:

1. Milkovich&Newman , Compensation, McGraw Hill.
2. T.J.Bergman , Compensation Decision Making, Harcourt, Fort Worth, TX
3. Richard Henderson: Compensation management in a knowledge based world, Prentice Hall.
4. T.N.Chhabra & SavithaRastogi Compensation management, Sun India Publications.
5. Gary Dessler ,Human Resource Management, Prentice Hall.
6. Armstrong's Handbook of Performance Management: An Evidence-Based Guide to Delivering High Performance :Book by Michael Armstrong.
7. Herman Aguinis: Performance Management, Prentice Hill.
8. Armstrong, M. & Baron, A: Performance management and development, Jaico Publishing House
9. Armstrong, M., Performance management: Key strategies and practical guidelines, Kogan Page, London.
10. Bagchi, S. N.: Performance management, Cengage Learning India.
11. Bhattacharyya, D.K.: Performance management systems and strategies, Pearson Education.
12. Robert B.: Performance management, McGraw-Hill Education India.

504: Business Policy & Strategy

Objective: To equip students with the necessary inside into designing strategies for an organization and linking the organizations strategies with the changing environment. The course will focus on Indian cases, approaches and experiences.

Unit I: Nature & importance of business policy & strategy: Introduction to the strategic management process and related concepts; Characteristics of corporate, business & functional level strategic management decisions.

Unit II

Company's vision and mission: need for a mission statement, criteria for evaluating a mission statement- Goal, Process & Input formulation of the mission statement.

Unit III: Environmental Analysis & Diagnosis: Analysis of company's external environment Environmental impact on organizations policy and strategy, organizations dependence on the environment, analysis of remote environment, analysis of specific environment- Michael E. Porter's 5 Forces model; Internal analysis: Importance of organization's capabilities, competitive advantage and core competence.

Unit IV: Formulation of competitive strategies: Michael E. Porter's generic competitive strategies, implementing competitive strategies- offensive & defensive moves. Formulating Corporate Strategies: Introduction to strategies of growth, stability and renewal, Types of growth strategies – concentrated growth, product development, integration, diversification, international expansion (multi domestic approach, franchising, licensing and joint ventures), Types of renewal strategies – retrenchment and turnaround. Strategic fundamentals of merger & acquisitions.

Unit V: Strategic Framework: Strategic analysis & choice, Strategic gap analyses, portfolio analyses – BCG, GE, product market evolution matrix, Balanced Score Card; Introduction to Strategic control & evaluation, Strategic surveillance.

Readings:

1. J.A. Pearce & R.B. Robinson : Strategic Management formulation implementation and control, TMH
2. Arthur A. Thompson Jr. &A.J Strickland III : Crafting and executing strategy, TMH

Supplementary Readings

1. Gerry Johnson &Kevan Scholes, Exploring corporate strategies,PHI
2. UpendraKachru: Strategic Management, Excel books
3. Arthur A. Thompson Jr. and A.J.Strickland: Strategic Management –Concepts and Cases, McGraw-Hill Companies
4. Lawrence R. Jauch& William F. Glueck: Business Policy and Strategic Management (Mcgraw Hill Series in Management).

505 Digital Marketing

Objectives
The objective of this paper is to create awareness about Digital Marketing and educate the learner about use of electronics in marketing management.

Course Contents:

Unit 1
Introduction to Digital Marketing and SEO **:** The Significance of Digital Marketing, Digital Media, Digital v/s Traditional Marketing, Digital Marketing Trends and Platforms, Digital Marketing and Search Engine, Search Engine Optimization (SEO) concepts, Search Engine Architecture, Internal Measures for SEO, Do and Don't for Web Content, Link Building, Introduction to Digital Marketing Tools.

Unit 2
Networks of Digital Marketing: Introduction to Ad-Word, Display Networks, Advertising on Display Networks, Image Advertising, Mobile Advertising, Video Advertising, YouTube Advertising, Keyword Research Methodology, Analysis and Tools for Digital Marketing Networks, Link Building Methodology and Strategies

Unit 3
Search Engine Marketing: Benefits of SEM, Google Ad-Words V/S Microsoft Ad-Center, Types of Campaign, Ad-Group and keywords setup, Direct Campaign V/S Branding Campaign, Campaign Setup, Understanding Ad-Words Bidding, Ad-Formats and Guidelines, Campaigns, Ad-groups and keywords Dashboard

Unit 4
Email and Mobile Marketing: Importance of Email Marketing, Popular Email Marketing Software, Email Marketing Campaign, Newsletters in Email Marketing, Effective strategies for Email Marketing, Mobile Marketing: Mobile Ad-Campaign, Mobile Ad-Formats, Mobile Website Configuration. Video Marketing using YouTube: Optimization of Videos, Tips and Tricks for promotion, YT Analytics, Monetizing YT Channel

Unit 5
Social Media Marketing: Introduction to Social Media Marketing, Benefits of SMM, Social Media Strategy, Social Media Metrics in SEO, Face-book Marketing: setup, options, elements and applications; Twitter Marketing: #hash tags and its uses, analytics and promotions; Google+ Marketing: Benefits in SEO, Groups; LinkedIn Marketing: Strategy, Connection and Recommendations

Suggested Readings

- Damian Ryan and Calvin Jones, Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, 2nd Edition, ISBN: 9780749453893.
- Vinayak Patukale, Digital Marketing, Kindle Edition

506 Ethics and Corporate Governance

Objective: The objective of this paper is to make the students more clear about the importance of ethics in business and practices of good corporate governance. It also talks about the corporate social responsibility.

Unit I

Business ethics: Meaning of ethics, why ethical problems occur in business. Ethical principles in business: Utilitarianism: weighing social cost and benefits, Rights and duties, Justice and fairness, ethics of care, Integrating utility, rights, justice and caring, An alternative to moral principles: virtue ethics, Moral issues in business: Worker's and employee's rights and responsibilities, Profit maximization vs. social responsibility, Indian ethics and teachings from Gita and Upanishads.

Unit II

Corporate governance: concept, Need to improve corporate governance standards, Features of good governance, Role played by regulators to improve corporate governance, accounting standards and corporate governance, corporate disclosure, insider trading.

Unit III

The Board –Quality, Composition and role of Board, Outside Directors on the board (independent, nominee), Executive and Non-Executive directors, SEBI clause 49, directors and financial institutions in enhancing corporate governance, critical issues in governance of board directors, CEO Duality.

Unit IV

Role of auditors in enhancing corporate governance, duties and responsibilities of auditors, corporate governance and internal auditors, Whistle blowing: Kinds of whistle blowing, precluding the need for whistle blowing. Discrimination, affirmative action, and reverse discrimination, Equal employment opportunity.

Unit V

Corporate social responsibility: Meaning, Evolution of corporate social responsibility, common indicators for measuring business social performance, reporting social responsibility measures in annual report. Regulations for CSR.

Readings:

1. Manuel G Velasquez: Business ethics- concepts and cases Pearson.
2. LuthansHodgetts and Thompson: Social issues in business, Macmillan USA
3. A.C. Fernando: Business Ethics Pearson Education.
4. A.C. Fernando: Corporate Governance Pearson Education.
5. Adrian Davies: Strategic approach to corporate governance Gower Pub Co.
6. N. Gopalswamy: Corporate governance a new paradigm A H Wheeler Publishing Co Ltd.
7. Marianne M Jennings: Cases in Business Ethics Indian South-Western College Publishing
8. Kevin Gibson: Ethics and Business, An Introduction, Cambridge Applied Ethics Cambridge University Press
9. Bhanumurthy K V: Ethics and Social Responsibility of Business, Pearson Education India.

BBA(ED) VI SEMESTER

601 Start-up Incubation /Training in Small Scale Industries (4 Months)

The conditions of successfully completing the programme shall not be deemed to have been satisfied unless a student takes training, under the supervision of the department, in organizations as approved by the Department/Faculty from time to time. Each student will be required to submit a project report to the Department/Faculty for the work undertaken during this period within three weeks of the completion of the training, duly approved by the supervisor for the purpose of evaluation.

Faculty of Science

Department of Chemistry

Courses offered-

- M. Sc. Chemistry
- M. Sc. Polymer Chemistry
- M. Sc. Industrial Chemistry

(Programme Specific Outcomes and Course Outcomes)

Programme Specific Outcomes: (M.Sc. Chemistry)

PSO1 The knowledge gained from this programme will enhance their entrepreneurial and innovative skills.

PSO2 Students will learn basic laboratory techniques and safety measurements.

PSO3 Student will learn various spectroscopic techniques and their principles, which will enable them to determine the structure of a molecule.

PSO4 Students will be able to demonstrate the waste minimizing techniques, waste treatment and recycling of waste and they will understand the importance of the green synthesis.

M. Sc. Chemistry (Semester-I) – Course- Inorganic Chemistry

CO1 Students will understand metal ligand boding, complex equilibria and reactions of metal complex.

M. Sc. Chemistry (Semester-I) – Course- Organic Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will have better understanding of the nature of bonding in organic molecules and they will be able to justify the aromatic, anti-aromatic and none-aromatic behaviours of organic molecules.

CO2 Students will learn various methods to determine the rate of an organic reaction and the factors affecting the rate of an organic reaction, nature of transition state and intermediates.

CO3 Students will have sound knowledge about the types and mechanism of various organic reactions such as substitution reactions, additions reactions and elimination reactions.

CO4 students will receive a good knowledge about the organic reactions and their mechanism occurring on aromatic compounds.

M. Sc. Chemistry (Semester-I) – Course- Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will understand the detailed knowledge of foundational concepts of chemical kinetics, enzyme kinetics, clock reactions, macromolecules, quantum chemistry, HMO theory and application to some conjugated system.

CO2 Students are able to demonstrate experiments based on chemical kinetics.

M. Sc. Chemistry (Semester-I) – Course- Group Theory and Spectroscopy

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will have deep knowledge about the symmetry properties of a molecule, symmetry elements, symmetry operations and representation of symmetry by point group and character table. They will also be able to correlate the group theory with the molecular spectroscopy.

CO2 Basic principles of electromagnetic radiations and its interaction with matter. Students will also gain the knowledge about the rotational spectroscopy.

CO3 Students will learn the basic principles, instrumentation and applications of various spectroscopic techniques including Infra-Red spectroscopy, Raman spectroscopy, electronic spectroscopy and Mössbauer Spectroscopy.

M. Sc. Chemistry (Semester-II) – Course- Inorganic Chemistry

CO1 Students will be able to learn about chemistry of metal carbonyls, metal nitrosyls, dinitrogen complex, dioxygen complex boranes and cluster compounds.

M. Sc. Chemistry (Semester-II) – Course- Organic Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 A comprehensive knowledge on molecular chirality, optical activity, stereospecific and stereoslective synthesis, methods of resolution and asymmetric synthesis.

CO2 Mechanistic aspects of various rearrangement reactions including the nature of migration, migratory aptitude and memory effects.

CO3 students will gain the knowledge about the use of the various reagents in organic synthesis and functional group transformation.

CO4 Students will have broad knowledge about the molecular orbital symmetry and pericyclic reactions including electrocyclic reactions, cycloaddition reactions and sigmatropic reactions.

M. Sc. Chemistry (Semester-II) – Course- Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will have basic knowledge of thermodynamics of open system, statistical thermodynamics, electrochemistry, surface chemistry, theories of electrified interfaces.

CO2 Students will able to demonstrate experiments with the help of Conductivity Bridge, verify distribution law based on immiscible liquids

M. Sc. Chemistry (Semester-II) – Course- Environmental and Green Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Vast knowledge on principle and concepts of green chemistry, waste management: waste minimizing techniques, waste treatment and recycling of waste.

CO2 Students will learn to design safer chemicals, solvent free reactions, avoiding toxic reagents and energy efficiency by adopting green synthesis.

CO3 A brief idea about environmental chemistry, chemical and photochemical reactions in the atmosphere and toxicological effects of various metals and pesticides on environment.

CO4 Students will learn the analysis of pollution, sampling and monitoring of air and water, acidity, alkalinity and microorganism in water.

M. Sc. Chemistry (Semester-III) – Course- Advanced Spectroscopic Techniques

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 A broad but still detailed overview of the state-of-the-art of spectroscopic methods used in chemistry, with a particular focus on the most advanced topics addressed by these methods.

CO2 The aim of the Programme is also to provide students with specific competencies related to the use of spectroscopic techniques in chemistry and with systemic and instrumental transferable skills.

CO3 Students will be able to explain the principle and instrumentation of electronic spectroscopy and analyze the electronic spectra of different species.

CO4 To explain the principle and instrumentation of nuclear magnetic and electron spin resonance spectroscopy and apply the knowledge in characterizing the molecules and also their use in medical diagnostics.

CO5 Explain the principle, instrumentation, and application of X-Ray spectroscopy to study X-ray structural analysis of crystals.

M. Sc. Chemistry (Semester-III) – Course- Bioinorganic, Bioorganic and Biophysical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Describe the factors that govern the stability, folding, and dynamics of proteins.

CO2 Explain the kinetics, thermodynamics, and mechanism of protein folding and their implications in misfolding.

CO3 Describe the structure and biological functions of proteins and explain the role of metals in

biology.

CO4 Explain the roles of metals in medicinal chemistry and toxic effects of metals.

CO5 assess molecular structure and interactions present in proteins, nucleic acids, carbohydrates and lipids.

CO6 be familiar with organization and working principles of various components present in living cell.

M. Sc. Chemistry (Semester-III) – Course- Modern aspects of Inorganic Chemistry

CO1 Students will have sound knowledge of magnetochemistry, photochemistry of inorganic compounds and solid state chemistry.

M. Sc. Chemistry (Semester-III) – Course- Advanced Bio-Inorganic Chemistry

Students will understand fundamental of bioinorganic chemistry and role of metal in biology.

M. Sc. Chemistry (Semester-III) – Course- Modern Interfaces of Organic Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Know the use of transition metal based and other catalysts for different organic reactions.

CO2 Know the use of reagents for different reaction transformations specially used in industrial applications

CO3 Be familiar with various coupling reactions and their applications in industry.

CO4 Retrosynthetic approach to planning organic syntheses.

CO5 Application of phase transfer catalysts, polymer supported reagents, biocatalysts, microwave and ultrasound induced reactions.

M. Sc. Chemistry (Semester-III) – Course- Chemistry of Heterocyclic Compounds

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Comprehend nomenclature of different heterocyclic compounds.

CO2 Interpret synthesis and reactivity of fused, six membered and smaller heterocyclic compounds, mostly used in industry as such or its derivatives

CO3 Alternative general methods for ring synthesis and application of such methods for the preparation of specific groups of heterocyclic systems

M. Sc. Chemistry (Semester-III) – Course- Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will able to know nuclear models, nuclear reactions, radiation counting techniques, nuclear power reactor and use of nuclear chemistry.

CO2 Students will also increased in knowledge with thermodynamic parameters for a chemical reaction, structure effect, solvent effect, isotope effect on rate of reaction, solid and gas phase reactions

CO3 Students are able to demonstrate experiments based on potentiometer, kinetics of clock reactions, effect of concentration, temperature and ionic strength on the chemical reaction.

M. Sc. Chemistry (Semester-IV) – Course- Special Methods of Analysis

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Explain the theoretical principles and important applications of classical analytical methods.

CO2 Explain the theoretical principles of selected instrumental methods within electroanalytical and spectrometric/spectrophotometric methods, and main components in such analytical instruments.

CO3 Explain the theoretical principles of various separation techniques in chromatography, and typical applications of chromatographic techniques.

CO4 To learn ion exchange and gel electrophoresis technique specially used in industry.

M. Sc. Chemistry (Semester-IV) – Course- Photochemistry and Supramolecules

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 basics of photochemical laws to strengthen the concept used in organic photochemistry.

CO2 basics of photochemical reactions of alkenes, carbonyl and aromatic compounds.

CO3 Predict the course of an organic photochemical reaction and identify the product with the type of functional group present on the molecule

CO4 Apply photochemistry concepts, plan and program molecules for photochemical application of specific interest

CO5 Appreciate the photochemical phenomena by light and be able to design simple photochemical reactions

CO6 Discuss the role of supramolecular chemistry in organic chemistry, chemical biology, materials science and nanotechnology.

M. Sc. Chemistry (Semester-IV) – Course- Organometallic Chemistry

CO1 Students will have sound knowledge of organometallic compounds.

M. Sc. Chemistry (Semester-IV) – Course- Inorganic Polymers

CO1 Students will be able to learn about chemistry of phosphorous, nitrogen, silicon and metal based inorganic polymers.

M. Sc. Chemistry (Semester-IV) – Course- Medicinal Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 General structural features of agents belonging to the therapeutic class.

CO2 Relevant physicochemical properties.

CO3 Relevant chemical reactions/synthetic pathways for selected drugs.

CO4 Structural influences on mechanism of pharmacologic action (structure-activity relationship)

CO5 Structural influences on pharmacologic/toxicological/therapeutic profiles.

CO6 Determine the pharmacophore in drug molecule especially important to drug discovery.

CO6 Knowledge about antineoplastic, cardiovascular, local antiinfective, psychoactive drugs and its mechanism of action.

M. Sc. Chemistry (Semester-IV) – Course- Chemistry of Natural Products

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Identify and characterize various classes of natural products by their structure and knows biosynthesis of the various classes of natural products.

CO2 Draw structural and molecular formulas of natural products compound.

CO3 Recognize the structure of terpenes, steroids, alkaloids, flavonoids.

CO4 Analyze and discuss the Information and data related to the various classes of natural products.

CO5 Discuss the use of natural products in the biological process.

M. Sc. Chemistry (Semester-IV) – Course- Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will enhance the knowledge of molecular photochemistry, radiation less transitions, radiation chemistry and its application

CO2 Students will also increased in knowledge of chemistry of solids, crystals defects and structure, properties and uses of semiconductor and superconductors

CO3 Students are able to demonstrate experiments based on surface tension, spectrophotometer and phase equilibrium.

(Programme Specific Outcomes and Course Outcomes)

Programme Specific Outcomes: (M.Sc. Polymer Chemistry)

PSO1 The programme provide knowledge which enhance innovative skills. The course is an important and career orienting in the field of various industry which opens many jobs and prepared skill professionals. The students will be able to opt for jobs in the field of food industries, pharmaceutical companies, pesticides, cement, textile and polymer industries.

PSO2 Students will learn basic laboratory techniques and safety measurements. The knowledge gained from this programme will enhance their entrepreneurial and innovative skills.

PSO3 Students will be able to demonstrate the waste minimizing techniques, waste treatment and recycling of waste and they will understand the importance of the green synthesis.

M.Sc. Polymer Chemistry (Semester-I) – Course-Inorganic Chemistry

Course outcomes: Students will be able to learn the following aspects from this course:

CO1 Students will understand about metalloenzymes like vitamin B12 and B13 coenzymes.

CO2 Students will learn nitrogen fixation, role of metals and non metals in metabolism, metal and non metal deficiency, toxicity, ionophores etc.

CO3 Students will get knowledge about Structure and bonding in homo and heteronuclear molecules, VSEPR theory MO theory, homoneuclear and diatomic molecules etc.

CO4 Students will learn crystal field theory of coordination compounds, concepts of acids and bases etc.

M.Sc. Polymer Chemistry (Semester-I) – Course- Organic Chemistry

Course outcomes: Students will be able to learn the following aspects from this course:

CO1Students will have broad knowledge about structure and bonding of localized and delocalized chemical bond, various interaction, charge transfer complexes, various effects, types of organic reactions, neighboring group participation etc.

CO2 Students will understand about various reagents in organic synthesis.

CO3 Students will learn about addition to carbon –carbon multiple bond, addition to carbon – hetero multiple bonds

CO4 Students will get solid knowledge about various free radical reaction like allylic halogination (NBS), oxidation of aldehydes to carboxylic acids, auto-oxidtion,coupling of alkynes and arylation of aromatic compounds by diazonium salts, Sandmeyer reaction , free radical rearrangement , Hunsdiecker reaction etc.

CO5 Students will learn about green chemistry.

M.Sc. Polymer Chemistry (Semester-I) – Course- Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will understand the detailed knowledge of foundational concepts of thermodynamics, chemical kinetics, Surface Chemistry, Micelles etc.

CO2 Students will able to demonstrate Chemical equilibrium, Gibbs – Duhem equation, Equilibrium constant, phase diagram of one and two component system, phase rule.

M.Sc. Polymer Chemistry (Semester-I) – Course- Spectroscopy in Analysis-I

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will learn about the basic principles of electromagnetic radiations.

CO2 Students will learn the basic principles, instrumentation and applications of various spectroscopic techniques including ultraviolet, Atomic absorption spectroscopy, Photoelectron spectroscopy, Infra-Red spectroscopy, Raman spectroscopy etc.

M.Sc. Polymer Chemistry (Semester-II) – Course- Environmental and Green Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Vast knowledge on principle and concepts of green chemistry, waste management: waste minimizing techniques, waste treatment and recycling of waste.

CO2 Students will learn the analysis of pollution, sampling and monitoring of air and water, acidity, alkalinity and microorganism in water.

CO3 Students will learn to design safer chemicals, solvent free reactions, avoiding toxic reagents and energy efficiency by adopting green synthesis.

CO4 A brief idea about environmental chemistry, chemical and photochemical reactions in the atmosphere and toxicological effects of various metals and pesticides on environment.

M.Sc. Polymer Chemistry (Semester-II) – Course-Instrumentation Techniques for Analysis

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Explain the principles and important applications of Thermo gravimetry analysis (TGA), Differential thermal analysis (DTA) and Differential scanning calorimeter (DSC).

CO2 Explain the theoretical principles of selected instrumental methods within electroanalytical and spectrometric/spectrophotometric methods, and main components in such analytical instruments.

CO3 Explain the basic principles of D.C. Polarography.

CO4 Explain the Principle, technique and application of voltametric and cyclic voltametery, amperometry and anodic stripping voltametery.

CO5 Students will learn High Performance Liquid Chromatography (HPLC), Gas Liquid Chromatography, Gel Permeation or Size Exclusion Chromatography, Ion Exchange Solvent Extraction, Gel Electrophoresis, Radioactive Technique, Light Scattering Techniques etc.

M.Sc. Polymer Chemistry (Semester-II) – Course-Spectroscopy in Analysis-II

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 A broad but still detailed overview of the state-of-the-art of spectroscopic methods used in chemistry, with a particular focus on the most advanced topics (NMR, MASS Spectrometry, ESR, XRD, Massbaur).

CO2 The aim of the Programme is also to provide students with specific competencies related to the use of spectroscopic techniques in polymer chemistry and with systemic and instrumental transferable skills.

M.Sc. Polymer Chemistry (Semester-II) – Course- Fundamentals of Polymer Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will gain knowledge about different polymers like Addition Polymer, Coordination Polymer, Condensation polymer and their classification and kinetic aspects.

CO2 Mechanistic aspects of various polymerization techniques will be gained by the students.

M.Sc. Polymer Chemistry (Semester-II) – Skill Course- Polymer processing management

It is skill course. The course is an important and career orienting in the field of industry which opens many jobs and prepared skill professionals. The students will be able to opt for jobs in the field of food industries, pharmaceutical companies, pesticides, cement, textile and polymer industries.

M.Sc. Polymer Chemistry (Semester-III) -Course- Physical and Chemical Properties of Polymers

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will gain knowledge about various Molecular mass of polymer, Polymer Reaction, Amorphous and Crystalline state etc.

CO2 Students will understand the detailed knowledge of Diffusion in polymer, Behavior of polymers in polar and non polar solvent, Rheology and its applications etc.

M.Sc. Polymer Chemistry (Semester-III) -Course- Specialty Polymers

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 The general knowledge about the synthesis of different polymers. They deploy these activities based on an in-depth understanding of polymer processing, the structure of polymer and their properties, including the intricate relationships between them.

CO2 Students will learn about outline manufacturing and properties of various polymers.

M.Sc. Polymer Chemistry (Semester-III) -Course- Materials for compounding and reinforcement

Course outcomes: On the completion of this course students will be able to learn about latex, vulcanization, compounding ingredients, textile/reinforcing materials, adhesive and bonding, thermoplastic rubbers, physical and functional properties of different composites etc.

M.Sc. Polymer Chemistry (Semester-III) -Course- Tyre and Rubber processing Operations

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will learn about mixing, trouble shooting in mixing, extrusion, calendaring, moulding, advantages and disadvantages between different molding techniques etc.

CO2 Students will gain knowledge of fabrication techniques, various allied instrumental control systems etc. The course is an important and career orienting in the field of tyre industry which opens many jobs.

M.Sc. Polymer Chemistry (Semester-IV) -Course- Polymer and Environment

Course outcomes: On the completion of this course students will be able to learn the following:

CO1: They will learn about the industrial pollution and waste generation and treatment process.

CO2: This delivers information about the environment toxicology, UNIDO programme on polymer, 4 R's approach etc.

M.Sc. Polymer Chemistry (Semester-IV) -Course- Rubber Product Technology

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will gain knowledge about pneumatic tyre, tyre types,various tyre reinforcing materials, tyre design and performance, destructive and non-destructive tests of tyre etc. which increase the skill of students.

CO2 Students will learn about tube and valves, defects and testing of belt, hoses, handmade and circular woven hoses, sports goods: compounding and process of tennis Ball, football, basketball, volleyball and golf ball, cables etc.

M.Sc. Polymer Chemistry (Semester-IV)-Course- Testing and Characterization of Rubber Products

Course outcomes: On the completion of this course students will be able to learn different types of testing of tyres , tubes, valvs, footwears, hoses, cables, moulded and extruded rubber goods etc.

M.Sc. Polymer Chemistry (Semester-IV)-Course- Two months training programme

Course outcomes: On the completion of this course students will go to research laboratory or industry for two months training programme after that they submit their report and certificate. Students will gain knowledge how to work in industries.

(Programme Specific Outcomes and Course Outcomes)

Programme Specific Outcomes: (M.Sc. Industrial Chemistry)

PSO1 The course is an important and career orienting in the field of industry which opens many jobs and prepared skill professionals. The students will be able to opt for jobs in the field of food industries, pharmaceutical companies, pesticides, cement, textile and polymer industries.

PSO2 Students will be able to demonstrate the waste minimizing techniques, waste treatment and recycling of waste and they will understand the importance of the green synthesis.

PSO3 The knowledge gained from this programme will enhance their entrepreneurial and innovative skills.

PSO4 Students will learn basic laboratory techniques and safety measurements.

M. Sc. Industrial Chemistry (Semester-I) – Course-Inorganic Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will have better understanding of corrosion studies and testing methods.

CO2 Students will have sound knowledge about homogenous and heterogenous catalysis.

CO3 students will receive a good knowledge about metals and their extraction.

M. Sc. Industrial Chemistry (Semester-I) – Course-Organic Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will have better understanding of the nature of bonding and reaction mechanism in organic molecules and will learn various methods to determine the rate of an organic reaction and the factors affecting the rate of an organic reaction, nature of transition state and intermediates.

CO2 Students will have sound knowledge about the types and mechanism of various organic reactions such as substitution reactions, additions reactions and elimination reactions.

CO3 Students will learn about different name reactions and their mechanism and will able to get knowledge about retrosynthetic approach for synthesis of organic molecules.

CO4 Students will have broad knowledge about the molecular orbital symmetry and pericyclic reactions including electrocyclic reactions, cycloaddition reactions and sigmatropic reactions.

CO5 Students will be able to synthesize organic compounds from one step synthesis and demonstrate quantitative estimation of organic molecules.

M. Sc. Industrial Chemistry (Semester-I) – Course-Physical Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will understand the detailed knowledge of foundational concepts of chemical kinetics, thermodynamics, enzyme kinetics, clock reactions, macromolecules and surface chemistry.

CO2 Students are able to demonstrate experiments based on chemical kinetics.

M. Sc. Industrial Chemistry (Semester-I) – Course-Spectroscopy in Analysis-I

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will learn about the basic principles of electromagnetic radiations and its interaction with matter. Students will also gain the knowledge about the rotational spectroscopy.

CO2 Students will learn the basic principles, instrumentation and applications of various spectroscopic techniques including ultraviolet and Infra-Red spectroscopy, Raman spectroscopy, electronic Spectroscopy.

M. Sc. Industrial Chemistry (Semester-II) – Course-Environmental and Green Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Vast knowledge on principle and concepts of green chemistry, waste management: waste minimizing techniques, waste treatment and recycling of waste.

CO2 Students will learn to design safer chemicals, solvent free reactions, avoiding toxic reagents and energy efficiency by adopting green synthesis.

CO3 A brief idea about environmental chemistry, chemical and photochemical reactions in the atmosphere and toxicological effects of various metals and pesticides on environment.

CO4 Students will learn the analysis of pollution, sampling and monitoring of air and water, acidity, alkalinity and microorganism in water.

M. Sc. Industrial Chemistry (Semester-II) – Course-Instrumentation Techniques

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Explain the theoretical principles and important applications of classical analytical methods.

CO2 Explain the theoretical principles of selected instrumental methods within electroanalytical and spectrometric/spectrophotometric methods, and main components in such analytical instruments.

CO3 Explain the theoretical principles of various separation techniques in chromatography, and typical applications of chromatographic techniques.

CO4 To learn ion exchange and gel electrophoresis technique specially used in industry.

M. Sc. Industrial Chemistry (Semester-II) – Course-Fundamentals of Polymer Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will gain knowledge about different polymers, their classification and kinetic aspects.

CO2 Mechanistic aspects of various polymerization techniques will be gained by the students.

M. Sc. Industrial Chemistry (Semester-II) – Course-Spectroscopy in Analysis-II

Course outcomes: On the completion of this course students will be able to learn the following:

CO1 A broad but still detailed overview of the state-of-the-art of spectroscopic methods used in chemistry, with a particular focus on the most advanced topics (NMR, MASS Spectrometry, XRD).

CO2 The aim of the Programme is also to provide students with specific competencies related to the use of spectroscopic techniques in chemistry and with systemic and instrumental transferable skills.

M.Sc. Industrial Chemistry (Semester-III) -Course-Speciality Polymers

Course outcomes: On the completion of this course students will be able to learn the following:

CO1. It helps the students to invent, design, make and use materials for products, processes and services.

CO2. They deploy these activities based on an in-depth understanding of polymer processing, the structure of polymer and their properties, including the intricate relationships between them.

CO3. The general knowledge about the synthesis of different polymers viz. conducting, ionic, hydrophilic and fire resistant polymers and biopolymers will be valuable in polymer and pharmaceutical industries. The synthesis of biopolymer is ration approach for drug design.

CO4. Course helps to create skilled professionals who can operate in the design, fabrication, and testing of engineering materials.

M.Sc. Industrial Chemistry (Semester-III)-Course-Industrial Aspects of Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1. It includes synthesis and knowledge about fertilizers, glass, ceramics, and cement. It helps to develop interpretation skills.

CO2. It demonstrates the synthesis of silicates and mineral resources and explosive.

CO3. The main target of the course is to produce qualified trainees who can operate in the design, fabrication, and testing of chemicals.

M.Sc. Industrial Chemistry (Semester-III)-Course-Organic Reagents, Natural Products and Colorants

Course outcomes: On the completion of this course students will be able to learn the following:

CO1. Students will learn the role of various reagents in organic transformations and the factors affecting the rate of an organic reactions, nature of transition state and intermediates, stereochemistry of products. These reagents will be especially useful in industrial applications.

CO2. Brief information about the dyes and colorants that will be helpful for their industrial applications.

CO3. Identify and characterize various classes of natural products by their structure and know biosynthesis of the various classes of natural products. Discuss the use of natural products in the biological process.

CO4. Natural Products are pleiotropic molecules which have plethora of biological activities. The Knowledge of their structure elucidation and synthesis will be helpful in drug design and to study their impacts on human health. Analyze and discuss the information and data related to the various classes of natural products.

M.Sc. Industrial Chemistry (Semester-III)- Course-Medicinal Chemistry-I

Course outcomes: On the completion of this course students will be able to learn the following:

CO1. It gives information about the different approaches for drug design. The pharmacokinetic parameters related to it and relevant physicochemical properties.

CO2. Knowledge about the Anti-pyretic, Analgesic and Anti-viral drugs.

CO3. A comprehensive information about the sedatives, Hypnotics, CNS Stimulants.

CO4. A brief about the cardiovascular agents and anti-histaminic agents.

CO5. An overview of different anti-malarial and anti-biotic drugs is presented.

M.Sc. Industrial Chemistry (Semester-IV)-Course- Textile Chemistry

Course outcomes: On the completion of this course students will be able to learn the following:

CO1: The students will study of different types of dyes, their classification, chemical bonding and interactions behind the fastness of dyes.

CO2: Study of various methods of dyeing, various forms of dyes and their industrial applications.

CO3: General methods to synthesis of dyes and their impact on environment shall help the students to learn role of dyes in textile industries.

M.Sc. Industrial Chemistry (Semester-IV)-Course-Effluents treatment and waste management

CO1: They will learn about the industrial pollution and waste generation and treatment process.

CO2: This delivers information about the environment toxicology and poisoning of food chains.

CO3: Radioactive pollution and solid waste generation and its management to solve the problem of environmental pollution.

M.Sc. Industrial Chemistry (Semester-IV)-Course- Agro based Chemicals

CO1: The students will be enriched about the synthesis and knowledge of Paper and Pulp Industries, Fermentation industry and surfactants.

CO2. It demonstrates the synthesis pesticides, Food and diary chemistry, Oil/fats/Wax/Soaps. It helps to develop interpretation skills.

CO3. The main target of the course is to produce qualified trainees who can operate in the design, fabrication, and testing of chemicals in food, paper, pesticide industries.

M.Sc. Industrial Chemistry (Semester-IV)-Medicinal Chemistry-II

Course outcomes: On the completion of this course students will be able to learn the following:

CO1: Information about structural features of agents belonging to the therapeutic class. Structural influence on the mechanism of pharmacological action (SAR). Structurally specific and non-specific drugs.

CO2: Knowledge about Anaesthetics and Anti-inflammatory drugs.

CO3: Comprehensive information about Anti-convulsants, anti-anxiety and Tranquilizers.

CO4: Knowledge about the diuretic agents, anti-parkinson agents, antineoplastic, anti-thyroid agents and their mechanism of action.

Faculty of Science

Department of Computer Science

Courses offered-

- BCA
- B. Sc.
- MCA
- M. Sc. IT

BACHELOR OF COMPUTER APPLICATION (CBCS based BCA semester)

PROGRAMME SPECIFIC OUTCOMES:

BCA programme has been designed to prepare graduates for attaining the following specific outcomes:

PSO1: An ability to apply knowledge of mathematics, computer science and management in practice.

PSO2: An ability to enhance not only comprehensive understanding of the theory but its application too in diverse field.

PSO3: The program prepares the students for a range of computer applications, computer organization, computer networking, software engineering, Web Designing etc

PSO4: An ability to design a computing system to meet desired needs within realistic constraints with positive attitude.

PSO5: Effective communication and presentation skill.

PSO6: To engage in professional development and to pursue post graduate education in the fields of Information Technology and Computer Applications.

PSO7: Analyze and synthesis computing systems through quantitative and qualitative techniques.

PSO8: Accept cross cultural, social, professional, legal and ethical issues prevailing in local and global industry.

PSO9: Prepare the learners to get placed in reputed organizations.

BCA Semester – I

Paper-I (BCA-S101)

Introduction to Information Technology & PC Packages

COURSE OUTCOMES

1. Operating Computer using GUI Based Operating System

2. Basic understanding of computer hardware, software and computer languages

3. Understanding of Memory hierarchy

4. Understanding Word Processing, Spread Sheet, Data base package

5. Introduction to latest technologies and terms related to Internet, WWW and web browsers

6. Making small presentation for business needs

7. Financial Literacy for banking Applications

Paper-II (BCA-S102)

Business Communication

COURSE OUTCOMES

1. To provide an overview of Prerequisites to Business Communication.

2. Imparting the correct practices of the strategies of Effective Business writing.

3. To understand and demonstrate writing and speaking processes through invention, organization, drafting, revision, editing, and presentation.

4. To understand the importance of specifying audience and purpose and to select appropriate communication choices.

5. To understand and appropriately apply modes of expression.

6. To participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.

Paper-III (BCA-S103)

Problem solving through C

COURSE OUTCOMES

1. Learn a logic which helps in solving common types of computing problems.

2. Learn data types and control structures of C

3. Learn to write good portable C programs.

4. Analyze a given problem and develop an algorithm to solve the problem

5. Learn different types of programming approach like top down and bottom up.

Paper-IV (BCA-S104)

Computer Organization

COURSE OUTCOMES

1. Ability to understand theory of Digital Design and Computer Organization to provide an insight of how basic computer components are specified.

2. Understanding the functions of various hardware components and their building blocks

3. An ability to understand and appreciate Boolean algebraic expressions to digital design

4. In depth understanding of sequential! Combinational circuits, sequential circuits etc.

5. Ability to understand memory hierarchy and design of primary memory

Paper-V (BCA-S105)

Practical-I: C Programming Lab

COURSE OUTCOMES

1. Read, understand and trace the execution of programs written in C language.

2. Declaration of variables and constants.

3. Understand operators, expressions and preprocessors.

4. Understand array and it's declaration and uses.

5. Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.

6. Write programs that perform operations using derived data types.

Paper-VI (BCA-S106)

Practical-II ICT & PC Software Lab

Paper-VI (BCA-S107) Language Lab

BCA Semester – II

Paper-I (BCA-S201)

Computer Architecture

COURSE OUTCOMES

1. Explain the organization of basic computer, its design and the design of control unit.
2. Demonstrate the working of central processing unit and RISC and CISC Architecture.
3. Describe the operations and language f the register transfer, micro operations and input-output organization.
4. Understand the organization of memory and memory management hardware.
5. Elaborate advanced concepts of computer architecture, Parallel Processing, interprocessor communication and synchronization

Paper-II (BCA-S202)

Basic Physics

1. Importance of Mathematics and Physics in ICT.
2. Brief understanding of telescope, microscope and eye pieces.
3. Concept of Potential and field due to a charge, Gauss's law; energy stored in condenser, series and parallel combination of capacitances, types of capacitances used in electronic circuits,
4. Learn the concept of Electric current, Ohm's law, and types of resistances
5. Able to understand thermoelectric effect and thermocouples
6. Learn about AC Circuits, semiconductor, transistors
7. Brief idea of working and uses of Cathode ray Oscilloscope, Working principle of LCD

Paper-III (BCA-S203)

Basic Mathematics-II

1. Understand the basic principles of sets and operations in sets.
2. Prove basic set equalities.
3. Apply counting principles to determine probabilities.

4. Demonstrate an understanding of relations and functions and be able to determine their properties.

5. Use of truth tables for expressions involving the following logical connectives: negation, conjunction, disjunction, conditional

6. Define and use the terms: proposition (statement), converse, inverse, contra positive, tautology, and contradiction.

Paper-IV (BCA-S204)

Object oriented programming using C++

COURSE OUTCOMES

1. Understand the concept of objects and classes in real world.
2. Able to create program to demonstrate the implementation of constructors, destructors and operator overloading.
3. Apply fundamental algorithmic problems including type casting, inheritance, and polymorphism.
4. Understand templates, file handling etc

Paper-V (BCA-S205)

Object oriented Programming Lab

COURSE OUTCOMES

1. Apply object oriented programming concepts in designing programs

2. Analyze different dimensions of a problem and provide solutions

3. Apply the advance features of Oops language such as exception handling, file handling etc to build small window based projects

Paper-VI (BCA-S206)

Microprocessor Lab

COURSE OUTCOMES

1. Understand the taxonomy of microprocessors and knowledge of contemporary microprocessors.
2. Describe the architecture, bus structure and memory organization of 8085 as well as higher order microprocessors.
3. Explore techniques for interfacing I/O devices to the microprocessor 8085 including several specific standard I/O devices such as 8251 and 8255.
4. Demonstrate programming using the various addressing modes and instruction set of 8085 microprocessor
5. Design structured, well commented, understandable assembly language programs to provide solutions to real world control problems

Paper-VII (BCA-S207)

Communication Skill Lab

1. Understand the role of communication

2. Awareness of appropriate communication strategies

3. Prepare and present messages with a specific intent.

4. Able to enhance communication skills

BCA Semester – III

Paper-I (BCAS301)

Database Management

COURSE OUTCOMES

1. Describe DBMS architecture, physical and logical database designs, database modeling, relational, hierarchical and network models.
2. Identify basic database storage structures and access techniques such as file organizations, indexing methods including B-tree, and hashing.
3. Learn and apply structured query language (SQL) for database definition and database manipulation.
4. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
5. Understand various transaction processing, concurrency control mechanisms and database protection mechanisms.

Paper-II (BCA-S302)

Data Structure

COURSE OUTCOMES

1. Know what is data structure and basic algorithmic notations.

2. Analyze the time and space requirement of any algorithm.

3. Understand different linear data structures for conversion of mathematical expressions and polynomial representations.

4. Know the file structures

Paper-III (BCA-S303)

Computer Communication and Networks

COURSE OUTCOMES

1. Understand computer network basics, network architecture, TCP/IP and OSI reference models.
2. Identify and understand various techniques and modes of transmission
3. Describe data link protocols, multi-channel access protocols and IEEE 802 standards for LAN
4. Describe routing and congestion in network layer with routing algorithms and classify IPV4 addressing scheme
5. Discuss the elements and protocols of transport layer
6. Understand network security and define various protocols such as FTP, HTTP, Telnet, DNS

Paper-IV (BCA-S304A or BCA -S304B)

A. Business organization and Management

COURSE OUTCOMES

1. Understand the concepts related to Business.
2. Demonstrate the roles, skills and functions of management.
3. Analyze effective application of PPM knowledge to diagnose and solve organizational problems and develop optimal managerial decisions.
4. Understand the complexities associated with management of human resources in the organizations and integrate the learning in handling these complexities.

B. Numerical & Statistical Computing

COURSE OUTCOMES

1. Describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis

2. Critically evaluate the underlying assumptions of analysis tools

3. Understand and critically discuss the issues surrounding sampling and significance

4. Discuss critically the uses and limitations of statistical analysis

5. Solve a range of problems using the techniques covered

6. Conduct basic statistical analysis of data.

Paper-V (BCA-S305)

Data Structure Lab

COURSE OUTCOMES

1. Demonstrate familiarity with major algorithms and data structures.

2. Analyze performance of algorithms and choose the appropriate data structure and algorithm design method for a specified application.

3. Determine which algorithm or data structure to use in different scenarios and be familiar with writing recursive methods.

4. Demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.

5. Demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.

Paper-VI (BCA-S306)

DBMS Lab

COURSE OUTCOMES

1. Implement Basic DDL, DML and DCL commands
2. Understand Data selection and operators used in queries and restrict data retrieval and control the display order
3. Write sub queries and understand their purpose
4. Use Aggregate and group functions to summarize data
5. Join multiple tables using different types of joins
6. Understand the PL/SQL architecture and write PL/SQL code for procedures, triggers, cursors, exception handling etc.

Paper-VII (BCA -S307A or BCA -S307B)

A. Web Design

COURSE OUTCOMES

1. Discuss the insights of internet programming and implement complete application over the web.
2. Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style sheet.
3. Utilize the concepts of JavaScript and Java
4. Use web application development software tools i.e. Ajax, PHP and XML etc. and identify the environments currently available on the market to design web sites.

B. Desk Top Publishing

COURSE OUTCOMES

1. Use Adobe in Design to create personal and/or business publications following current professional and/or industry standards.
2. Use critical thinking skills to independently design and create publications.
3. Create supporting pages for multi-page documents, such as index or table of contents.
4. Use color appropriately and effectively.
5. Create and use template documents.
6. Prepare & package documents for professional printing or exporting.

BCA Semester – IV

Paper-I (BCA-S401)

System Analysis & Design

COURSE OUTCOMES

1. Describe principles, concepts and practice of System Analysis and Design process
2. Explain the processes of constructing the different types of information systems
3. Apply object oriented concepts to capture a business requirements
4. Design and Develop of Information Systems in real world business environment

Paper-II (BCA-S402)

Fundamentals of operating System

COURSE OUTCOMES

1. Know about functions and services of operating system.
2. Aware about different CPU scheduling algorithms
3. Get familiar with different memory management techniques.
4. Understand different disk and drum scheduling algorithms as well as deadlock concepts.
5. Get introductory knowledge about android operating system.

Paper-III (BCA-S403)

Java Programming

COURSE OUTCOMES

1. Explore polymorphism using Function and Operator Overloading, overriding.
2. Understand the different aspects of hierarchy of classes and their extensibility.
3. Understand the concepts of streams and files.
4. Write programs for handling runtime errors using exception.
5. Program using graphical user interface with Swing classes.
6. Handle different kinds of events generated while handling windows.
7. Create programs using menus, applets and dialog boxes.

Paper-IV (BCA- S404A / S404B)

A. Information Systems

COURSE OUTCOMES

1. Skills and competencies in information systems and operations management to contribute to an organization upon entry.
2. Command of the conceptual frameworks of information systems and operations management.
3. Knowledge of the processes of organizations and the key role that information systems play.

4. Capability and initiative to lead organizations through technological changes, Discernment of, and responsible approaches to, ethical issues in technology use by society, organizations and individuals.

B. Business Accounting

COURSE OUTCOMES

1. Enabling the students to understand the features of Shares and Debentures
2. Develop an understanding about redemption of Shares and Debenture and its types
3. To give an exposure to the company final accounts
4. To provide knowledge on Goodwill
5. Students can get an idea about internal reconstruction

Paper-V (BCA-S405)

Java programming Lab

COURSE OUTCOMES

1. Write, compile, and execute Java programs that may include basic data types and control flow constructs using J2SE or other Integrated Development Environments (IDEs) such as Eclipse, Net Beans, and JDeveloper.
2. Write, compile and execute Java programs using object oriented class structures with parameters, constructors, and utility and calculations methods, including inheritance, test classes and exception handling.
3. Write, compile, and execute Java programs using arrays and recursion.
4. Write, compile, and execute Java programs manipulating Strings and text documents.
5. Write, compile, and execute Java programs that include GUIs and event driven programming.

Paper-VI (BCA-S406)

Operating system Lab

COURSE OUTCOMES

1. Familiarize students with the architecture of Unix OS.
2. To provide necessary skills for developing and debugging programs in UNIX environment.

3. Appreciate the advantages of Unix OS.
4. Develop and debug, C programs created on UNIX platforms.
5. Use and if necessary install standard libraries.

Paper-VII (BCA-S407A / S407B) Practical Elective

A. Accounting Software Lab

1. Understand the basics of accounts and use of Tally software
2. Maintaining accounts in Tally
3. Calculation of Tax Deduction
4. Able to create Payroll Entry
5. Able to make Voucher entry

B. Networking Lab

COURSE OUTCOMES

1. Awareness about various types of cables used in guided media like coaxial cable, optical fiber cable, twisted pair cables and its categories.
2. To understand the working difference between straight cable and cross over cable.
3. To use the packet tracer to simulate various networks.
4. Understanding of IP address and sub netting
5. Understanding the working of different types of server like mail server, web server etc.

BCA Semester – V

Paper-I (BCA-S501)

Software Engineering

COURSE OUTCOMES

1. Select and implement different software development process models
2. Extract and analyze software requirements specifications for different projects
3. Develop some basic level of software architecture/design
4. Apply standard coding practices

5. Define the basic concepts and importance of Software project management concepts like cost estimation, scheduling and reviewing the progress.

6. Identify and implement of the software metrics

7. Apply different testing and debugging techniques and analyzing their effectiveness.

Paper-II (BCA-S502)

Data mining

COURSE OUTCOMES

1. Understand the data extraction and transformation techniques.

2. List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.

3. Understand operational database, warehousing and multidimensional need of data base to meet industrial needs.

4. Understand the components of warehousing, classification methods and clustering analysis.

5. Identify and understand the Business analysis, query tools and application, OLAP etc.

Paper-III BCA-S503

Web Technology

COURSE OUTCOMES

1. Understand, analyze and apply the role of languages like HTML, DHTML, CSS, XML, JavaScript, VBScript, ASP, PHP and protocols in the workings of the web and web applications

2. Analyze a web project and identify its elements and attributes in comparison to traditional projects.

3. Understand, analyze and create web pages using HTML, DHTML and Cascading Styles sheets.

4. Understand, analyze and build dynamic web pages using JavaScript and VBScript (client side programming).

5. Understand, analyze and build web applications using PHP.

6. Understand, analyze and create XML documents and XML Schema.

Paper-IV BCA- S504A/ S504B

A. Network management & Security

COURSE OUTCOMES

1. Understand applications of network, network structures and protocol hierarchy
2. Aware about details of physical, data link, network and transport layer of TCP/IP network model.
3. Understand about different aspects of network security like firewalls, IP security and VPNS
4. Aware about attacks and confidentiality used in cryptography.
5. Understand concepts and terminology associated with SNMP and FTP
6. Appreciate network management as a typical distributed application

B. Client Server Computing

COURSE OUTCOMES

1. Understand virtualization of real environment
2. Understand and discuss the use of data base management system and data hierarchy in an organization
3. Understand, and identify software and hardware development environment as client and server respectively.
4. Understand, and determine database communication in client-server environment
5. Find, learn and use client-server based software development tools
6. Understand, and determine distributed file system architecture

Paper-V (BCA-S505)

Practical-I: Data mining Lab

COURSE OUTCOMES

1. Synthesize the data mining fundamental concepts and techniques from multiple perspectives.
2. Develop skills and apply data mining tools for solving practical problems
3. Advance relevant programming skills.
4. Gain experience and develop research skills by reading the data mining literature.

5. Study of WEKA tool and applying data mining techniques on following data sets in ARFF file Format i.e customer's data, weather forecasting data, agricultural data etc.
6. Implementation / Usage of WEKA for classification of above mentioned data set.
7. Implementation of various classification algorithms like decision tree, neural networks.
8. Comparison of various databases such as Oracle, Sybase.
9. Comparison of various data mining tools.

Paper-VI (BCA-S506)

Practical-II Minor Project Based on Web technology

1. Identify the requirements for the real world problems.

2. Conduct a survey of several available literatures and prepare software requirement specification.

3. Study and enhance software/ hardware skills.

4. Demonstrate and build the project using appropriate process model, hardware requirements, coding, emulating and testing.

5. To report and present the findings of the study conducted in the preferred domain

6. Demonstrate an ability to work in teams and manage the conduct of the research study.

Paper-VII (BCA- S507A/ S507B)

A. Web Development Lab

COURSE OUTCOMES

1. Understand, analyze and apply the role of languages like HTML, DHTML, CSS, XML, JavaScript, VBScript, ASP, PHP and protocols in the workings of the web and web applications
2. Analyze a web page and identify its elements and attributes.
3. Create web pages using HTML, DHTML and Cascading Styles sheets.
4. Create dynamic web pages using JavaScript and VBScript.
5. Create interactive web applications using ASP.NET.
6. Build web applications using PHP.
7. Create XML documents and XML Schema.
8. Build and consume web services.

B. Advanced Web Tools

1. Able to develop a dynamic webpage by the use of java script and DHTML. ·

2. Able to write a well formed / valid XML document. ·

3. Able to connect a java program to a DBMS and perform insert, update and delete operations on DBMS table.

4. Able to write Servlet to catch form data sent from client, process it and stores it on database.

5. Able to JSP to catch form data sent from client and store it on database.

BCA Semester – VI

Paper-I (BCA-S601)

Project

COURSE OUTCOMES

1. Demonstrate a sound technical knowledge of their selected project topic.

2. Undertake problem identification, formulation and solution.

3. Design solutions to complex problems utilizing a systems approach.

4. Communicate with team members and the community at large in written an oral forms.

5. Demonstrate the knowledge, skills and attitudes of as a professional developer.

Programme Specific Outcomes for B.Sc. (Computer Science)

PSO1	Apply problem-solving skills and the knowledge of computer science to solve real world problems.
PSO2	Impart an understanding of the basics of our discipline.
PSO3	Prepare for continued professional development.
PSO4	Develop proficiency in the practice of computing
PSO5	Apply to use appropriate techniques, resources, and modern computing and IT tools

FIRST YEAR B.SC. COMPUTER SCIENCE

Paper-I : Introduction to Information Technology

Course Outcomes

CO1	Understand different Computer Peripherals, languages and applications.
CO2	Understand and apply different Software components and memory hierarchy
CO3	Learn about DOS and Unix Operating system and their commands
CO4	Learn working with windows and its components
CO5	Learn WWW & Browsers
CO6	Learn E-Commerce architectures and applications

Paper-II : Problem Solving Through C Programming

Course Outcomes

CO1	Learn steps of program development
CO2	Create and initialize variables, constant, arrays, pointers, structures and unions.

CO3	Manipulate values of variables, arrays, pointers, structures, unions and files.
CO4	Create the function that can receive variables, arrays, pointers and structures
CO5	Define functions that can receive variables, arrays, pointers and structures.
CO6	Create open, read, manipulate, write and close files.

Paper-III : Digital Electronics

Course Outcomes

CO1	Learn and understand about number system and different types of codes like gray code, BCD code, Excess 3 code etc
CO2	Understand Boolean logic, algebra and expressions
CO3	Able to Simplify of Boolean expression
CO4	Learn about logic gates and combinational circuits
CO5	Learn and understand different types of synchronous circuits
CO6	Learn and understand different types of counter and shift registers

PAPER - IV: PRACTICALS

CO1**:** Programs based on C operators, selective structure, repetitive structure, and break and continue statements, Arrays

CO2: Programs based on structures, union, functions, pointers, processor directives and files

CO3: Logic circuit and the function of basic logic gates and verify their truth tables.

CO4: To study the different logical expressions and their simplification

CO5: Karnaugh map simplifications related Boolean functions and Finding the Maxterm of Boolean and Minterm of Boolean function.

CO6: Logic circuit and working of Decoder circuits BCD to Decimal, Decimal to BCD

CO7: Power point presentation

SECOND YEAR B.SC. COMPUTER SCIENCE

Paper-I : Introduction to Database Management System

Course Outcomes

CO1	Describe the fundamental elements of relational database management systems
CO2	Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL
CO3	Design ER-models to represent simple database application scenarios
CO4	Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
CO5	Familiar with basic database storage structures and access techniques
CO6	Familiar with database recovery and security mechanism

Paper- II: Object Oriented Programming using C++

Course Outcomes

CO1	Learn basic programming principles of object oriented programming language
CO2	Understand the memory management, functions and scope of classes
CO3	Understand the nesting of classes, Static data members, Static member functions
CO4	Understand the constructors, destructors, default arguments
CO5	Understand the need of different types of inheritance, virtual functions etc

Paper-III: Computer Organization

Course Outcomes

CO1	Learn the concept of registers, RTL, instruction codes etc.
CO2	Understand the stages of Instruction Cycle : Fetch and Decode, Type of instructions

	, Input-Output Instructions
CO3	Understand the instruction formats and different types of addressing modes and their importance
CO4	Learn about modes of data Transfer
CO5	Understand Main memory : RAM and ROM chips, Auxiliary Memory : Magnetic Disk , Associative Memory , Cache memory , Direct mapping Scheme
CO6	Familiar with 8085 architecture and its instruction sets

PAPER - IV: PRACTICALS

CO1: SQL Queries Practical based on DDL Commands. Create, alter, drop and DML Commands. Select, update, and delete, Insert.

CO2: SQL Queries based on Boolean and comparisons operator related Commands, Arithmetic and Aggregate Functions.

CO3: SQL Queries Practical based on selective data from multiple databases

CO4: SQL Queries Practical based on Character Function, Date Function

CO5: Write C++ Program using class and objects, Scope resolution operator, different types of operators, Function Prototype, Function Overloading, Default arguments.

CO6: Write C++ Program using Friend function, Inline Function, Array of objects, Array within class, Function returning objects.

CO7: Write C++ Program using types of Constructor, virtual functions, abstract classes, inheritance

CO8: Power point presentation

THIRD YEAR B.SC. COMPUTER SCIENCE

Paper - I: MULTIMEDIA AND WEB DESIGN

Course Outcomes

CO1	Learn about Fundamental concepts in Multimedia Text and Multimedia Image
CO2	Able to understand basics of Multimedia Networks, Communications and Application, Multimedia over ATM Networks.

CO3	Able to design HTML web pages using table, image, list, hyperlink, text formatting and block tags
CO4	Able to understand different types of scripting languages and their importance in web page design
CO5	Basic knowledge of ASP and JSP

Paper- II: Computer Networks

Course Outcomes

CO1	Have a good understanding of the OSI Reference model
CO2	Have a knowledge of Physical Layer and services provided by physical layer
CO3	Have a knowledge of Data link Layer and its functions
CO4	Have a knowledge of Network Layer and services provided by it, networking protocols
CO5	Understand Transport Service and Services Provided by it to the Upper Layers
CO6	Knowledge of different types of protocols like UDP, TCP

Paper-III: Operating System

Course Outcomes

CO1	Describe the basic components of an operating system and their role in implementations for general purpose, real-time and embedded applications.
CO2	Define the concepts of processes, threads, asynchronous signals and competitive system resource allocation.
CO3	Understand what multi-tasking is and outline standard scheduling algorithms for Multi-tasking.
CO4	Discuss mutual exclusion principles and their use in concurrent programming including semaphore construction and resource allocation.
CO5	Expose the details of major operating system concepts, overview of system memory management and the implementation of file systems.

PAPER - IV: PRACTICALS

CO1: HTML page design using basic text formatting tags

CO2: HTML page Design using table tags, hyper links, list tags, image tags etc

CO3: Able to design static web sites

CO4: Able to work with java script and VB script for validations and layout designing in websites

CO5: Able to develop dynamic web pages using ASP and JSP

CO8: Power point presentation

M.C.A 2-year Degree Programme

Programme Specific Objective

PSO1 Develop an ability to apply knowledge in computing discipline

PSO2 Develop ability to demonstrate team work with the ability of leadership

PSO3 Develop ability to use current technologies, skill and models for computing practices

PSO4 Develop ability to communicate ideas effectively

PSO5 Produce entrepreneurs who can develop customized solution for small to large Enterprises

PSO6 To develop students to become globally competent

PSO7 To inculcate Entrepreneurial skill among students

M.C.A. SEMESTER – I

MCA-T101 Principle of Programming Languages

Sr. No.	Outcomes
CO1	To understand basic structure of Computer and perform computer arithmetic operations and understand various number system concepts.
CO2	To get insight into various types of software's and types of operating systems currently available for the computer systems
CO3	To learn about basic computer networking terms with a focus on signal transmission and various types of topologies of computer networks.
CO4	Able to design a document and its processing, working with spreadsheet and creating the power point presentation with graphics. Also, able to understand basics of database management system.

MCA-T102 Operating System

Sr. No.	Outcomes
CO1	Learn about various types of OS, their design issues, feature migration and computing Environments. Multithreading models. Different
CO2	Able to identify Process and Threads concept.
CO3	Able to learn CPU Scheduling, Process Synchronization, Deadlocks
CO4	Learn the concepts of Storage and Memory Management, Virtual Memory and File System.
CO5	Learn the concepts of Protection, Security

MCA-T103 Database Management system

Sr. No.	Outcomes
CO1	Understand basic database concepts, including the structure and Operation of the relational data model, logical database design Principles, including E-R diagrams
CO2	Impart the knowledge about relationship algebra and calculus Construct simple and advanced database queries using Structured Query Language
CO3	Able to understand different types of indexing, query execution and optimization and hashing techniques
CO4	Learn transaction concepts, serializability concurrency and locking and recovery mechanisms
CO5	Understand object oriented database concepts.

MCA-T104 MIS and E-Commerce

Sr. No.	Outcomes
CO1	Learn about various Need, Purpose and Objectives of Management Information Systems
CO2	Able to identify Information, Management and Decision Making & Support Systems
CO3	Able to learn about e-commerce and use of internet for it. Learn Business models for e-commerce
CO4	Identify the various Enabling technologies for e commerce and E-payment systems.
CO5	Learn about E-marketing and E-security mechanisms

MCA-T105 Python programming

Sr. No.	Objectives
CO1	Master the fundamentals of writing Python scripts.
CO2	Learn core Python scripting elements such as variables and flow control structures.
CO3	Discover how to work with lists and sequence data.
CO4	Write Python functions to facilitate code reuse.
CO5	Use Python to read and write files

MCA-P101 DBMS and OS lab

Sr. No.	Objectives
CO1	Construct the various models in DBMS
CO2	Able to develop E-R diagrams for any given problem domain.
CO3	Construct simple and advanced database queries using Structured Query Language (SQL).
CO4	Understand need for Schema Refinement and database normalization.

MCA-P102 Python programming lab

Sr. No.	Outcomes
CO1	Perform the STRING operations in python.
CO2	Implementation of CLASSES and their operations in python.
CO3	Perform the FILE handling in python.
CO4	Perform the XML, Serialization and Web Services operations.

MCA-P103 Skill Course

Sr. No.	Outcomes
CO1	Able to learn soft skills.
CO2	Able to participate in the group discussion and develop oratorical skills
CO3	Able to write letter and business communication skills
CO4	Resume writing and participate in extempore
CO5	Able to make presentation effective.

MCA-B101 Data Structure

Sr. No.	Outcomes
CO1	Understand the concepts of algorithms and their Rate of growth, analyze its time and space complexities. Understand the concepts of linear data structures like Arrays, and Linked lists.
CO2	Understand the concepts of Stack, Queues and Storage Management.
CO3	Evaluate the different forms of Trees and their Applications
CO4	Understand the concepts of non-linear data structures like graphs and Strings with their features.
CO5	Apply the concepts of different types of searching and sorting algorithms with their applications.

MCA-B102 Basic Mathematic

Sr. No.	Objectives
CO1	Be able to apply problem-solving and logical skills.
CO2	Have a deeper understanding of mathematical theory.
CO3	Have a solid knowledge of elementary statistics.
CO4	Be able to communicate mathematical/logical ideas in writing.

M.C.A. SEMESTER II

MCA-T201 DAA

Sr. No.	Objectives
CO1	Able to define algorithms complexity, order notations,
CO2	Learn different algorithm design techniques with their applications such as Divide and conquer greedy methods.
CO3	Design algorithms using dynamic programming, Backtracking, branch and bound approaches and their solution based on real time data sets and
CO4	Able to demonstrate various Matrix multiplication algorithms, Data structures for set manipulation problems
CO5	Able to classify various real time problems in different categories like P, NP, NP Complete, and NP Hard based on their execution complexity.

MCA-T202 Java Programming

Sr. No.	Outcomes
CO1	Understand the Different paradigms for problem solving and overview of OOPS principles. Describe the procedural and object oriented paradigm with concepts of memory allocation and deallocation.
CO2	Understand the concepts of Classes and data abstraction and Overloading using java language
CO3	Understand Garbage Collection, Exceptions Handling, and Templates, File handling
CO4	Apply the concept of Standard template library (STL), AWT and Swings.
CO5	Learning the JDBC Database Connectivity.

MCA-T203 Software engineering

Sr. No.	Outcomes
CO1	Understanding the Software Engineering Fundamentals, Software development Process with different types of models, Project management Concepts.
CO2	Understand the Software Quality Assurance concepts, Software Configuration Management,
CO3	Understand the Software Quality Assurance concepts, Software Configuration Management, Analysis Concepts and Principles
CO4	Get acquainted with Design Concepts and Principles, Software Testing.
CO5	Understand the purpose of Reengineering with some CASE Tools.

MCA- T204 Computer Networks

Sr. No.	Outcomes
CO1	Know network terminology and concepts, design issues , Protocol Architecture, various service primitives with understanding of Data Communications techniques
CO2	Understand various type of encoding techniques and data link control protocols
CO3	Understand various routing. Switching concepts techniques and signalling protocols
CO4	A brief study of various network topologies and devices used in in layered structure of OSI model.
CO5	Get acquainted with various application layer, transport and network layer protocols

MCA-T205 Computer Architecture

Sr. No.	Objectives
CO1	To understand the structure, function and characteristics of computer systems
CO2	understand the design of the various functional units and components of computers
CO3	To identify the elements of modern instructions sets and their impact on processor design.
CO4	Understand concepts of register transfer logic and arithmetic

MCA-P201 Design and Analysis of Algorithm Lab

Sr. No.	Outcomes
CO1	Perform the experiments for time and space complexities calculation. Plot graphs for Rate of growth,
CO2	Perform the operations to understand the concepts of Stack, Queues, link lists and Storage Management.
CO3	Perform the operations to understand the different forms of Trees and their Applications
CO4	Perform the operations to understand the concepts of non-linear data structures like graphs and Strings with their features.
CO5	Apply the concepts of different types of searching and sorting algorithms with tables and their applications.

MCA-P202 Java Programming Lab

Sr. No.	Objectives
CO1	Design program and code for understanding the OOPS principles, procedural and object oriented paradigm with concepts of memory allocation and deallocation.
CO2	Design program and code for Classes and data abstraction and Overloading
CO3	Design program and code for Garbage Collection, Exceptions Handling Templates, File handling.
CO4	Design program and code for using and designing the Standard template library (STL), AWT and Swings.
CO5	Working with different type of Database Connectivity and crud operations.

MCA-P203 Industrial Training

Sr. No.	Outcomes
CO1	To provide students the opportunity to test their interest in a particular career before permanent commitments are made.
CO2	To develop skills in the application of theory to practical work situations
CO3	To enhance the ability to improve students creativity skills and sharing ideas.
CO4	To produce post graduates who are credible, creative and proficient.
CO5	To cultivates the leadership ability of the students and gives them the responsibility to execute and perform the given task.

M.C.A. SEMESTER I I I

MCA-T301 Artificial Intelligence and Machine Learning

Sr. No.	Outcomes
CO1	Understand basics of AI, Control strategies- forward and backward chaining, Heuristic search techniques
CO2	Learn Neural Architecture and Expert System, learning rule, Back propagation
CO3	Learn Machine Learning and linear model
CO4	Learn Tree and Probabilistic Models
CO5	Understand the concept of Dimensionality Reduction and Evolutionary Models, Graphical Models

MCA-T302 Digital Marketing

Sr. No.	Outcomes
CO1	developing an overall understanding of digital marketing / online marketing platforms
CO2	Idea of web analytics, social media tools, marketing through search engines, search engine optimisation,
CO3	Idea of mobile marketing, email marketing, Pay per click, digital display marketing, content marketing and Strategizing marketing
CO4	Understand the search engine as a default entry point to the internet. Learn how to get a website listed among top search engine results.
CO5	Learn to use white paper, brochure, case studies for unique interaction.

MCA-T303 Embedded Systems

Sr. No.	Outcomes
CO1	Become aware about General Purpose Processor and IC technologies
CO2	To acquire knowledge of different types of Custom processors
CO3	Able to understand ASIP and its relevant methodologies.
CO4	Effectively understand the Memory and Interfacing performances.
CO5	Case study of embedded system (Digital Camera)

MCA-T304 Cloud Computing

Sr. No.	Outcomes
CO1	Learning the basic Concept of cloud computing, Architecture and virtualization.
CO2	Know about various major cloud Platforms in Industry and applications in cloud
CO3	Understand SLA and risk approaches and Energy efficiency in data centers
CO4	Learn about various storage concepts and the Storage Network Design in cloud environment.
CO5	Understand the advance topics in Consensus in Cloud Computing and Byzantine failure with their solutions.

MCA-T305 Compiler Design

Sr. No.	Outcomes
CO1	Provide an understanding of the fundamental principles in compiler design
CO2	Provide the skills needed for building compilers for various situations that one may encounter in a career in Computer Science.
CO3	Learn the process of translating a modern high-level language to executable code required for compiler construction.
CO4	Provide an understanding of the fundamental principles in compiler design
CO5	Analyze & implement required module, which may include front-end, back-end, and a small set of middle-end optimizations.

MCA-P301 Embedded Systems Lab

Sr. No.	Outcomes
CO1	To make students familiar with the basic concepts and terminology of the target area, the embedded systems design flow.
CO2	To give students an understanding of the embedded system architecture
CO3	To acquaint students with methods of executive device control and to give them opportunity to apply and test those methods in practice
CO4	To teach students to make measurements with the specified accuracy.
CO5	develop hardware-software complex with the use of the National Instruments products

MCA-P302 Artificial Intelligence and Machine learning lab

Sr. No.	Outcomes
CO1	To acquire knowledge on intelligent systems and agents, formalization of knowledge, reasoning with and without uncertainty, machine learning and applications at a basic level
CO2	To learn and grow after they are introduced to scenarios in the form of data.
CO3	To introduce students to the basic concepts and techniques of Machine Learning.
CO4	To develop skills of using recent machine learning software for solving practical problems.
CO5	To gain experience of doing independent study and research.

M.C.A. SEMESTER – IV

MCA-T401 Cryptography & Network Security

Sr. No.	Outcomes
CO1	To understand basics of Cryptography and Network Security.
CO2	To be able understand the key exchange mechanisms, Digital envelope and Digital signatures.
CO3	Learn about how to secure and manage Network and use of Virtual private Networks.
CO4	To understand various network security protocols to protect against the threats in the networks.
CO5	Be able to learn and configure simple firewall architectures

MCA-T402 Modeling and Simulation

Sr. No.	Outcomes
CO1	Learn different types of simulation techniques
CO2	overview of the modeling and simulation approaches with emphasis on applications
CO3	use of models (e.g., physical, mathematical, or logical representation of a system, entity, phenomenon, or process) as a basis for simulations
CO4	To develop data utilized for managerial or technical decision making.
CO5	To simulate a state-space model in a computer.

MCA-T403 Departmental Elective – I

MCA-E403-1 Software testing

Sr. No.	Outcomes
CO1	To study fundamental concepts in software testing, including software testing objectives, process.
CO2	To learn how to planning a test project, design test cases and data, conduct testing operations, manage software problems and defects, generate a testing report
CO3	define and develop a test tool to support test automation and Defects Testing
CO4	Able to do Business Intelligence Testing by white and black box testing.
CO5	Analyze performance related issues and tackle device plans

MCA-E403-2 Real Time Systems

Sr. No.	Objectives
CO1	Basic concepts of Real time systems, application and importance of RTS in real-life.

CO2	Learning scheduling real-time tasks and their Schedulability tests.
CO3	Schedulability analysis and time driven task scheduling
CO4	Event based task scheduling and priority handling in real time scheduling.
CO5	Resource Access control problems and solutions in multiprocessor system. Faults and their handling in real time systems.

MCA-E403-3 Business Intelligence in ERP System

Sr. No.	Outcomes
CO1	Purpose of business intelligence is to support better business decision making.
CO2	Provides an overview of the technology of BI and the application of BI to an organization's strategies and goals.
CO3	Objective of improving strategic decision-making and providing a competitive advantage.
CO4	An overview of Business Intelligence (BI) and analytics in the ERP

MCA-E403-4 Mobile Computing

Sr. No.	Outcomes
CO1	Basics of mobile technology wireless communication mobile device classification and wireless networks
CO2	Implementation of cellular system and power control. Understanding of concept of AMPS system, TACS system, NMT system, NTT system
CO3	Basic understanding of GSM its standardization and evolutionary directions
CO4	Transmission of data in cellular networks with various schemes of transmission as well as its evolution
CO5	Learning the basics of Android and design its applications

MCA-E403-5 Image Processing

Sr. No.	Outcomes
CO1	To study the image fundamentals and mathematical transformations necessary for image processing.
CO2	To study the image enhancement techniques
CO3	To study image restoration procedures
CO4	To study the image compression procedures.
CO5	To study the image segmentation procedures.

MCA-E403-6 Robotics

Sr. No.	Outcomes
CO1	To learn about robotics essentials.
CO2	Learn End Effectors and Robot Controls.
CO3	Understand the Robot transformations and different range of sensors
CO4	Learn Robot work cell design and control-Sequence control
CO5	Understand the concept of Micro/Nano Robotics System

MCA-E403-7 Internet of Things

Sr. No.	Outcomes
CO1	Learn about basics of IoT and understand the Deployment templates with NETCONF-YANG platform design Methodology.
CO2	Understand the IoT Architecture
CO3	Understand the IoT Protocols
CO4	Know about working on IoT with Raspberry Pi & Arduino
CO5	Undertake case Studies and Real-World Applications

MCA-T404 Departmental Elective – II

MCA-E404 -1 Information Systems & Cyber Security

Sr. No.	Outcomes
CO1	Understand the elements of information security and techniques of network security.
CO2	Define and describe the nature and scope of cybercrime
CO3	To Enable Learner To Understand, Explore, And Acquire A Critical Understanding Cyber Law
CO4	Identify the Information Technology Act, 2000. Secure records and certification authorities
CO5	Understanding Intellectual Property Rights.

MCA-E404-2 Ethical Hacking and Digital Forensics

Sr. No.	Outcomes
CO1	To provide an understanding Computer network and forensics fundamentals
CO2	Learn network security controls
CO3	Able to understand ethical hacking and its type
CO4	To understand the role of computer forensics in real world
CO5	Able to understand mobile OS architecture and legal issue

MCA-E404-3 Bio-Informatics

Sr. No.	Outcomes
CO1	Understand Bioinformatics technologies, Boolean networks, molecular modeling
CO2	Understand the Pattern Matching and Visualization
CO3	Modeling the Bioinformatics networks
CO4	Learn about Gene regulation, motif recognition, motif detection, strategies for motif detection
CO5	Familiar with the Microarray technology for genome expression study, image analysis for data extraction

MCA-E404-4 Data Mining and Data Warehousing

Sr. No.	Outcomes
CO1	Learn Database Management System Concepts and Architecture and data warehouse
CO2	Able to understand the Warehouse Implementation and OLAP Technology for Data Mining

CO3	Able to Understand Data Preprocessing
CO4	Learn Data Mining Methods
CO5	Able to understand Fuzzy Logic Clustering and Introduction to Fuzzy Logic

MCA-E404-5 Soft Computing

Sr. No.	Outcomes
CO1	Learn about Soft/hard computing
CO2	Understand Neural networks and learn about application of ANN
CO3	Learn about Neural network and recent applications of neural network
CO4	Understand the fuzzy logic, fuzzy systems, and fuzzy classification and defuzzification methods.
CO5	Learn about the genetic algorithm and various operators

MCA-E404-6 Ad Hoc Networks

Sr. No.	Outcomes
CO1	Learn about basics of Wireless Communication Technology and understand about Ad Hoc and sensor networks.
CO2	Understand the MAC Protocol and MAC-IEEE 802.11.
CO3	Learn about Routing Protocols and Transport Layer in Ad Hoc Wireless Networks.
CO4	Understand the Routing Protocol
CO5	Understand the Wireless Sensor Networks (WSNS) and Mac Protocols

MCA-E404-7 Natural Language Processing

Sr. No.	Outcomes
CO1	Understand the basics of NLP-Language and Information Retrieval concepts.
CO2	Learn about Word Level Analysis and Syntactic Analysis.
CO3	Know about Semantic Analysis and Discourse Processing
CO4	Able to do gain understanding about Natural Language Generation and Machine Translation
CO5	Learn the Information Retrieval concepts and use Lexical Resources like World Net etc.

MCA-P401 Software Project

Sr. No.	Outcomes
CO1	Identify the requirements for the real world problems.
CO2	Conduct a survey of several available literatures and prepare software requirement specification
CO3	Study and enhance software/ hardware skills.
CO4	Demonstrate and build the project using appropriate process model, hardware requirements, coding, emulating and testing.
CO5	To work in teams and prepare a report and present the findings of the study conducted in the preferred domain

Master in Information Technology CBCS based (M. Sc IT)

Program Specific Outcomes (PSO):

After successful completion of the M Sc (IT) program students will have:

PSO1: Essential technical and practical skills for solving real-world problems by applying Information Technology.

PSO2: Ability to demonstrate excellent programming, analytical, logical and problem solving skills in developments

PSO3: Ability to use IT tools and platforms necessary for practical needs in industry and R&D organizations.

PSO4: Ability to acquire social and ethical attributes that enable them in applying their skills for societal needs.

PSO5: Initiate and lead projects within the scientific field and be responsible for the work of individuals and groups

PSO6: Students will become successful professionals to gain Employment and/or to become eligible for Computer Science Ph.D. programme.

PSO7: Students will demonstrate the ability to communicate effectively and to work as a team.

Semester – I

M1MIT01-CT01 **Computer Architecture**

Course Outcomes

CO1: Understand the theory and architecture of central processing unit.

CO2: Learn the concepts of parallel processing, pipelining and interprocessor communication

CO3: Define different number systems, binary addition and subtraction, 2's complement representation and operations with this representation.

CO4: Understand concepts of register transfer logic.

CO5: Explain different types of addressing modes.

CO6: Understand concepts of Hardwired control and micro programmed control.

CO7: Discuss different types of computer arithmetic operations.

M1MIT02-CT02 **Introduction to Programming**

Course Outcomes

CO1: Makes students gain a broad perspective about the uses of computers in engineering industry.

CO2: Develops basic understanding of computers, the concept of algorithm and algorithmic thinking.

CO3: Develops the ability to analyze a problem, develop an algorithm to solve it.

CO4: Develops the use of the C programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general.

CO5: Introduces the more advanced features of the C language

M1MIT03-CT03 **Data Structure**

Course Outcomes

CO1: Be familiar with basic techniques of algorithm analysis and writing recursive methods

CO2: Master the implementation of linear and non linear data structures like Stack, Queue, linked lists and binary trees

CO3: Familiar with advanced data structures such as balanced search trees, hash tables, priority queues

CO4: Able to understand sorting algorithms including Selection, bubble, quick sort, merge sort etc

CO5: Working with graph algorithms such as traversals, shortest path and minimum spanning tree

M1MIT04-CT04 **Discrete Mathematics**

Course Outcomes

CO1: Understand the basic principles of sets and operations in sets.

CO2: Learn and prove basic set equalities.

CO3: Apply counting principles to determine probabilities.

CO4: Demonstrate an understanding of relations and functions and be able to determine their properties.

CO5: Use of truth tables for expressions involving the following logical connectives: negation, conjunction, disjunction, conditional

CO6: Define and use the terms: proposition (statement), converse, inverse, contrapositive, tautology, and contradiction.

M1MIT05-CP01 Practical-I Data Structure Programming

Course Outcomes

CO1: To design and implement various data structure algorithms.

CO2: To introduce various techniques for representation of the data in the real world.

CO3: To develop application using data structure algorithms.

CO4: Determine and analyze the complexity of various algorithms.

M1MIT06-CP02 Practical-II Web Development Using HTML & CSS

Course Outcomes

CO1: Choose, understand, and analyze any suitable real time web application.

CO2: Integrate client and server side scripting languages to develop dynamic web applications.

CO3: To develop and deploy real time web applications in web servers and in the cloud.

CO4: Extend this knowledge to new technologies and platforms.

M1MIT07-SP01 **Communication & Presentation Skill**

Course Outcomes

CO1: Understand the role of communication

CO2: Awareness of appropriate communication strategies

CO3: Prepare and present messages with a specific intent.

CO4: Analyze speaking communication skills

Semester – II

M2MIT01-CT05 **Database Systems**

Course Outcomes

CO1: Write SQL programs for effective data definition and manipulation.

CO2: Develop ER diagrams for logical design of database systems.

CO3: Perform Normalization

CO4: Able to design database, tables and relationships among them.

CO5: Implement a small scale database development using commercially available DBMS tools.

M2MIT02-CT06 **Operating System**

Course Outcomes

CO1: Interpret various OS functions

CO2: Demonstrate the knowledge of functions of Operating Systems

CO3: Formulate the Problem and develop the solution for same in terms of CPU time, disk access, virtual memory etc

CO4: Compare and analyze the different implementation approach of operating system abstractions.

CO5: Programming with shell

M2MIT03-CT07 Algorithms

Course Outcomes

CO1: Ability to analyze the performance of algorithms.

CO2: Selection of appropriate algorithm design techniques for solving problems.

CO3: Use of set of rules design methods including greedy approach, divide and conquer, dynamic programming, backtracking, branch and bound etc.

CO4: To understand tractable and intractable problems.

CO5: To introduce problem classes taxonomy.

M2MIT04-CT08 Object Oriented Programming using C++

Course Outcomes

CO1: Knowledge of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism;

CO2: Design, implement, simple programs in an object-oriented programming language.

CO3: Understanding of encapsulation and information hiding.

CO4: Implementation of "is-a" relationships among objects using a class hierarchy and inheritance.

CO5: Compare and contrast overloading and overriding methods in an object-oriented language.

CO6: Defining Real world problems in terms of abstract classes.

M2MIT05-CP03 Practical-I: Algorithm Implementations

Course Outcomes

CO1: To find an algorithm to solve the problem and prove that the algorithm solves the problem correctly.

CO2: To understand the mathematical criterion for deciding whether an algorithm is efficient or not

CO3: To understand basic techniques for designing algorithms, including the techniques of recursion, divide-and-conquer, and greedy.

CO4: To acquire knowledge in NP Hard and NP-Completeness problem

M2MIT06EP01X **Practical-II:**

Elective Lab-I: Web Application Development

A. Web Development using Dot NET

Course Outcomes

CO1: To get familiarize with Microsoft.Net, C#, VB.NET and ASP.NET technologies.

CO2: Create user interactive web pages using ASP.Net.

CO3: Create simple data binding applications using ADO.Net connectivity.

CO4: Performing Database operations for Windows Form and web applications.

B. Web Development using PHP & MYSQL

Course Outcomes

CO1: Understand the usage of PHP and MySQL in dynamic web development

CO2: Able to setup and configure MySQL, PHP, Apache web server development environment.

CO3: Become a PHP/MySQL web developer to create small applications

CO4: Create a dynamic database centric website using PHP and MySQL

Semester III

M3MIT01CT09 Computer Networks

Course Outcomes

CO1: Understand different types of networks, topologies and applications of them in real world.

CO2: Understand types of addresses, data communication used over Internet.

CO3: Understand the concept of networking models, protocols

CO4: Learn basic networking hardware and tools like Cisco router, packet tracer etc.

CO5: Recognize the trends of Computer Networking.

CO6: Evaluate the challenges in building networks and solutions to those.

M3MIT02CT10 Java Programming

Course Outcomes

CO1: Build software development skills using java programming for real world applications.

CO2: Implement frontend and backend of an application

CO3: Implement classical problems using java programming.

CO4: Use Java in a variety of technologies and on different platforms.

CO5: Use an integrated development environment like netbeans, websphere to write, compile, run, and test simple object-oriented Java programs.

CO6: Document a Java program using Javadoc.

CO7: Understand the concept of Applet, swings and JDBC.

M3MIT03ET01X Elective -1 A. Introduction to Data Science

Course Outcomes

CO1: Insight into role of Scientists

CO2: Analyzing of big Data

CO3: Learn Techniques and Tools for Transformation of Data

CO4: Understand Data Mining

CO5: Different formats of data storage and processing

B. Computer Graphics

Course Outcomes

CO1: Basic Mathematical concepts related to matrices and geometry.

CO2: Understanding of different types of projections.

CO3: 2 dimensional and 3 dimensional Transformation and their applications

CO4: Working with pixel, resolution and colors models

CO5: Knowledge of half toning and visible surface detection

M3MIT04ET02X **A. Software Engineering**

Course Outcomes

CO1: Aim to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

CO2: Apply engineering design to produce solutions that meet specified needs

CO3: Recognize professional responsibilities in engineering situations and make informed judgments

CO4: Ability to function effectively on a team whose members together provide leadership

CO5: Ability to use the techniques, skills, and modern engineering tools and processes necessary for software engineering practice.

CO6: Apply software engineering perspective through software design and construction, requirements analysis, verification, and validation, to develop solutions to modern problems

B. Image Processing

Course Outcomes

CO1: Understand the need for image transforms different types of image transforms and their properties

CO2: Analyze images in the frequency domain using various transforms.

CO3: Evaluate the techniques for image enhancement and image restoration.

CO4: Categorize various compression techniques.

CO5: Learn different techniques employed for the enhancement of images.

CO6: Learn different causes for image degradation and overview of image restoration techniques.

CO7: Develop image processing application.

M3MIT05EP03X **Practical-I: Elective Lab-II A. Android Programming**

Course Outcomes

CO1: Install and configure Android application development tools.

CO2: Design and develop user Interfaces for the Android platform.

CO3: Save state information across important operating system events.

CO4: Apply Java programming concepts to Android application development.

CO5: Design and implement Database Application and Content providers.

CO6: Use multimedia, camera and Location based services in Android App.

CO7: Able to handle security issues in Android platform

B. Microprocessor & Micro-controller Programming

Course Outcomes

CO1: Design and implement programs on 8085

CO2: Design flip flop, gates and other logic circuits.

CO3: Understand the architecture and instruction set simulator

CO4: Acquainted with different types of registers

M3MIT06EP04X **Practical-II: Elective Lab-III**

A. Big Data Analytics

Course Outcomes

CO1: Identify Big Data and its Business Implications.

CO2: Understanding the components of Hadoop and Hadoop Eco-System

CO3: Access and Process Data on Distributed File System

CO4: Develop Big Data Solutions

CO5: Learn Machine Learning Techniques

B. Cloud Computing

Course Outcomes

CO1: To learn what are Cloud Services and how to use them.

CO2: To understand the concept of Virtualization

CO3: To study Task Scheduling algorithms.

CO4: Learn to apply Map-Reduce concept to applications.

CO5: Use and Examine different cloud computing services

CO6: Analyze the components of open stack & Google Cloud platform

CO7: Understand Mobile Cloud Computing as well as key components of Amazon web Service

C. Web Application Project

Course Outcomes

CO1: Apply client/server communication techniques such as server, application, session variables, cookies and server behaviors.

CO2: Determine the needs for web database and connectivity.

CO3: Apply code reuse with templates, libraries, and snippets.

CO4: Evaluate several alternatives in the design of a web application.

CO5: Develop a functional web application.

M3MIT07EP05X **Practical-III: Minor Project**

Course Outcomes

CO1: Identify the requirements for the real world problems.

CO2: Conduct a survey of several available literatures and prepare software requirement specification.

CO3: Study and enhance software/ hardware skills.

CO4: Demonstrate and build the project using appropriate process model, hardware requirements, coding, emulating and testing.

CO5: To report and present the findings of the study conducted in the preferred domain

CO6: Demonstrate an ability to work in teams and manage the conduct of the research study.

Semester IV

M4MIT01PW01 **Project Work**

CO1: Demonstrate a sound technical knowledge of their selected project topic.

CO2: Undertake problem identification, formulation and solution.

CO3: Design solutions to complex problems utilizing a systems approach.

CO4: Communicate with team members and the community at large in written an oral forms.

CO5: Demonstrate the knowledge, skills and attitudes of as a professional developer.

Dean of Commerce

Courses offered-

- B. Com.
- B. Com. Honours
- BBA

2.6.1 Program Outcome, Program Specific Outcomes and Course Outcomes for all courses in a word file/ PDF for UG Courses

B. Com. – Programme Outcomes

PO1 - Enables learners to get theoretical and practical exposure in the commerce sector which includes Accounts, Commerce, Marketing, Management, Economics and Environment etc.

PO2 - Develops communication skills and build confidence to face the challenges of the corporate world.

PO3 - Enhances the capability of decision making at personal and professional levels.

PO4 – Makes students industry ready and develop various managerial and accounting skills for better professional opportunities.

PO5 - Develops entrepreneurial skills amongst learners.

PO6 - Strengthens their capacities in varied areas of commerce and industry aiming towards holistic development of learners.

PO7 - Thus, after completing their graduation learners develop a thorough understanding of the fundamentals in Commerce and Finance.

B. Com. – Programme Specific Outcomes

PSO1 - Learners venture into Managerial positions, Accounting areas, Banking Sectors, Auditing, Company Secretaryship, Teaching, Professor, Stock Agents, Government Employment etc.

PSO2 - Enables learners to prove themselves in different Professional examinations like CA, CS, CAT, GRE, CMA, MPSC, UPSC etc.

PSO3 -Learners further move towards research in the field of Commerce.

PSO4- Enables students to demonstrate Progressive learning of various tax issues and tax forms related to individuals and businessmen and setting up their own business start up.

PSO5 – The vast syllabi covers various fields of commerce and accountancy which helps students grasp practical and theoretical knowledge.

B. Com. – Course Outcomes B.Com.

General English

CO1 Students will heighten their awareness of correct usage of English grammar in writing and speaking

CO2 Students will improve their speaking ability in English both in terms of fluency and comprehensibolity

Environmental Studies

CO1 Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.

CO2 Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.

Financial Accounting

CO1 - The course helps aspirants to acquire knowledge in the field of accounting, taxation, auditing, risk management, financial accounting, managerial economics, business law and business communications. CO2 - Learners can pursue careers as financial experts and also develop a better understanding of the markets as this course gives an in-depth understanding of the essential qualities and areas of expertise required for such jobs.

CO2 - Learners can pursue careers as financial experts and also develop a better understanding of the markets as this course gives an in-depth understanding of the essential qualities and areas of expertise required for such jobs.

Business Statistics

CO1. Describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis.

CO2. Critically evaluate the underlying assumptions of analysis tools.

Principles of Business Management

CO1: Understand the concepts related to Business.

CO2: Demonstrate the roles, skills and functions of management.

Business Regulatory Framework

CO1 Students would recall various definitions and would be able to evaluate the provisions of Law of Contract,1872.

CO2 Students would be able to examine various provisions of Sale of Goods Act, which includes formation, conditions and warranties in sale.

Economic Environment in India

CO1 Analyse the principle and he different exchange rate regimes' impact on businesses.

CO2 Integrate the concept and opening economies of developing countries like India through RTB and multilateral route (WTO).

Business Economics

CO1 To understand the concepts of cost, nature of production and its relationship to Business operations.

CO2 To apply marginal analysis to the "firm" under different market conditions.

CO3 To analyse the causes and consequences of different market conditions.

CO4 To integrate the concept of price and output decisions of firms under various market structure.

Auditing

CO1 This course provides an intensive conceptual and applied introduction to auditing in society.

CO2 It focuses on concepts and applications related to financial-statement auditors' professional responsibilities as well as major facets of the audit process including risk assessment and audit reporting.

CO1 Evaluate the Restructuring of capital structure of public company ltd.

CO2 Develop the procedure involved in Amalgamation of companies

CO3 Develop the procedure involved in Absorption of companies

CO4 Illustrate the implication of unethical accounting practices on the society

Cost Accounting

CO1 Defines the concepts of cost, expense, loss and revenue.

CO2 Explains the relationships between cost and financial accounting.

Company Law and Secretarial Practice

CO1 Explain the procedure involved in raising capital by way of issue of Shares and Debentures.

CO2 Plan for convening the company meetings as per the compliance to manage the internal and external affairs of company.

Marketing Management

CO1 Students will be able to coordinate the various marketing environment variables and interpret them for designing marketing strategy for business firms

CO2. Students will be able to illustrate market research skills for designing innovative marketing strategies for business firms

Indian Financial System

CO1 To have competence in Oral, Written and visual Communication.

CO2 Demonstrating critical and innovative thinking.

CO3 Communicate ethically.

Banking Law and Practice

CO1 Provisions of RBI Act 1935, Banking Regulation Act 1949, Prevention of Money Laundering Act, 2002.

CO2 Government and RBI's Powers Opening of New Banks and Branch Licensing Constitution of Board of Directors and their Rights Banks Share Holders and their Rights CRR and SLR Concepts Cash Currency Management Winding up - Amalgamation and Mergers Powers to Control Advances - Selective Credit Control – Monetary and Credit Policy Audit and Inspection Supervision and Control - Board for Financial Supervision – its Scope and Role Disclosure of Accounts and Balance Sheets Submission of Returns to RBI, Corporate Governance.

Elementary Computer

Upon successful completion of the program, you should have the skills to:

CO1 Work effectively with a range of current, standard, Office Productivity software applications.

CO 2 Evaluate, select and use office productivity software appropriate to a given situation.

General Hindi

CO1 Analysing the development of Khariboli Hindi.

CO2 Understanding the concept of history of literature

Management Accounting

CO1 Students would calculate the various ratios and interpret it.

CO2 Students would calculate the estimated working capital requirement of the entity.

Income Tax

CO1 Students would compute income from salaries, house property, business/profession, capital gains and income from other sources.

CO2 Students would discuss the various benefits/ deductions under Chapter VI-A of the Income tax act, 1961.

Goods and Service Tax

CO1 Students would discuss the time, place and value of supply.

CO2 Students would discuss the contents and format for various documents like tax invoice, bill of supply, debit note, credit note etc.

Human Resource Management

CO1 To analyse the strategic issues and strategies required to select and develop manpower resources.

CO2 To integrate the knowledge of HR concepts to take correct business decisions.

Business Communication & Soft Skills

CO1. To be familiar with the complete course outline/Course Objectives/Learning Outcomes/ Evaluation Pattern & Assignments

CO2. To participate in an online learning environment successfully by developing the implication-based understanding of Paraphrasing, deciphering instructions, interpreting guidelines, discussion boards & Referencing Styles.

Fundamentals of Entrepreneurship

CO1 To explain concepts of Entrepreneurship and build an understanding about business situations in which entrepreneurs act

CO2 Learners will pick up about Foundation of Entrepreneurship Development and its theories.

Financial Management

CO3 Analyze he main ways of raising capital and their respective advantages and disadvantages in different circumstances

CO4 Integrate the concept and apply the financial concepts to calculate ratios and do the capital budgeting

International Trade & Finance

CO1 Explain the fundamental theories and concepts of international trade and finance and apply for the management decisions.

CO2 Apply functions, provisions of international trade system and functions to facilitate the global trade. Students will be able analyse impact of WTO on current global trade in detail.

B. Com. Honours – Programme Outcomes

PO1 Deep Understanding of Accounting Issues Related to Business

PO2 Understanding of General Business Functions Impacting Organization

PO3 Interpersonal and Communication Skills

PO4 Understanding Ethical, Social Sustainable Business Issues

PO5 Developing Entrepreneurship Acumen

B. Com. Honours – Programme Specific Outcomes

PSO1 Demonstrate Ability to Interpret and Analyze Financial Statements

PSO2 Understanding the Rules and Regulation Laid Down by Accounting Body

PSO3 Demonstrate Ability to Understand Compliance as per Various Enactment

PSO4 Acquiring Conceptual Clarity of Various Functions and Ability to Analyze

PSO5 Various functional issues demonstrating ability to evolve strategies for business• demonstrate effectively oral and written communication

PSO6 Demonstrate Ability to work in Groups. Exhibit skills like Empathy, EQ
PSO7 Managerial and Inter-Personnel Skills
PSO8 Demonstrate understanding of social cues and contexts in social interaction
PSO9 Develop ethical practices and imbibes values for better corporate governance, understand ethical challenges and choices in a business setting
PSO10 Demonstrate Understanding of Sustainability Related Concerns in Varied Areas

B. Com. Honours – Course Outcomes

Environmental Studies

CO1 Articulate the interconnected and interdisciplinary nature of environmental studies;
CO2 Demonstrate an integrative approach to environmental issues with a focus on sustainability;
CO3 Use critical thinking, problem-solving, and the methodological approaches of the social sciences, natural sciences, and humanities in environmental problem solving;

Financial Accounting

COl Understanding of Financial Accounting, its need, advantages and limitations
CO2 Knowledge of GAAP and accounting systems. Maintenance of subsidiary books, accounts and preparation of statements.
CO3 Identification and rectification of errors at various stages of the accounting process
CO4 Assessing the real value of business assets applying different methods of Depreciation
CO5 Practice of preparing Sole trader final accounts considering adjustment entries presenting accounts and statements in user understandable form. How to represent business transactions to accounts of valuable information to the users of such information.

Business Law

CO1- To impart basic knowledge of the important business legislation along with relevant case law.
CO2 - The ability to understand the essentials of contract including offer, acceptance and agreements leading to valid business propositions. Recognize and distinguish modes of discharge of contract with proper application in different forms of business.

Micro Economics

CO1 -To acquaint the students with the concepts of micro economics dealing with consumer behavior.

CO2 The course also makes them acquaint with fundamentals of economic theories and impact on demand, supply, production and cost concepts.

Business Communication

CO1- To acquire skills in reading, writing, comprehension and communication, as also to use electronic media for business communication.

Corporate Accounting

CO1 To acquire the conceptual knowledge of the corporate accounting and to learn the techniques of preparing the financial statements.

CO2 Practiced accounting treatment in preparation of final statements with internal reconstruction, debtors and creditors taking over along with maintenance of books of accounts.

Corporate Laws

CO1 To impart basic knowledge of the provisions of the Companies Act 2013 and the Depositories Act, 1996.

CO2 Case studies involving issues in corporate laws are required to be discussed.

Macro Economics

CO1 The course aims at providing the student with knowledge of basic concepts of the macro economics.

CO2 The modern tools of macro-economic analysis are discussed and the policy framework is elaborated, including the open economy.

Human Resource Management

CO1 To acquaint students with the techniques and principles to manage human resource of an organisation.

CO2 The complete evaluation of training and development process in the organization is put into practice organization for being productive resources to the organization.

Income Tax Law and Practice

CO1 To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961 and the relevant Rules.

CO2 Ability of computing taxable income under the heads Income from House property, Business or Profession, capital gains and Income from other sources.

Management Principles and Applications

CO1 To provide basic knowledge and equip students with application of principles of management

CO2 Students will get familiar with the basic concepts applied in contemporary management practice and many of the concepts learnt will form the foundation for subsequent courses in strategy, operations and HRM in subsequent semesters.

Business Statistics

CO1 To familiarise students with the basic statistical tools used for managerial decision-making

CO2 Ability to interpret the correlation and regression technique between two or more than two variables

CO3 Understand the concept of probability and application of permutation and combination in probability

E-Commerce

CO1 To become familiar with the mechanism for conducting business transactions through electronic means.

CO2 Analyze real business cases regarding their e-business strategies and transformation processes and choices.

Cost Accounting

CO1 To acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting bookkeeping systems.

CO2 Proficiency in divergent costing methods adopted in versatile industries is accrued.

Business Mathematics

CO1 To familiarize the students with the basic mathematical tools, with an emphasis on applications to business and economic situations.

CO2 Apply the knowledge in mathematics (algebra, matrices, calculus) in solving business problems

CO3 Analyse and demonstrate mathematical skills required in mathematically intensive areas in Economics and business.

Computer Applications in Business

CO1 To provide computer skills and knowledge for commerce students and to enhance the student understands of usefulness of information technology tools for business operations.

CO2 Gain familiarity with the concepts and terminology used in the development, implementation and operation of business application systems.

CO3 Explore various methods that Information Technology can be used to support existing businesses and strategies.

Indian Economy

CO1 To enable the student to grasp the major economic problems in India and their solution

CO2 Student gain knowledge on economy and its determinants, ability understanding of economic problems in India and their solution.

Entrepreneurship

CO1 To orient the learner toward entrepreneurship as a career option and creative thinking and behavior.

CO2 Learners will explore entrepreneurial skills and management function of a company with special reference to SME sector.

Principles of Marketing

CO1 To provide basic knowledge of concepts, principles, tools and techniques of marketing.

CO2 Effective marketing strategies through channelizing the products under retail and online are imparted.

Fundamentals of Financial Management

CO1 To familiarize the students with the principles and practices of financial management

CO2 Calculation of Long term investments through capital Budgeting techniques.

CO3 Practiced Investment Decision, Financing Decision, Dividend policies.

Management Accounting

CO1 To impart the students, knowledge about the use of financial, cost and other data for the purpose of managerial planning, control and decision making

CO2 Practiced techniques and applied ratios to determine the financial performance of the business.

Corporate Tax Planning

CO1 To provide Basic knowledge of corporate tax planning and its impact on decision making.

CO2 To gain knowledge about tax implications while taking business decisions

Advertising

CO1 To familiarize the students with the basic concepts, tools and techniques of advertising used in marketing.

Banking and Insurance

CO1 To impart knowledge about the basic principles of the banking and insurance

CO2 Enlightened with types of insurances , Operating intermediaries and risk management.

Computerised Accounting System

CO1 To enhance the skills needed for computerized accounting system and to enable the students to develop simple accounting applications.

CO2 Practical training on maintaining books of accounts, inventory management, including preparation of financial statements is given.

Financial Markets, Institutions and Financial Services

CO1 To provide the student a basic knowledge of financial markets and institutions and to familiarise them with major financial services in India

CO2 The fund based and Non fund based financial services are introduced. Knowledge on Merchant banking, venture capital, Leasing, Factoring, Forfeiting is accrued.

Auditing and Corporate Governance

CO1 To provide knowledge of auditing principles, procedures and techniques in accordance with current legal requirements and professional standards and to give an overview of the principles of Corporate Governance and Corporate Social Responsibility

CO2 Knowledge on procedure for appointment, process of auditing are acquired.

CO3 Significance and process of Internal check and internal control are accrued.

Goods and Services Tax

CO1 To provide basic knowledge and equip students with application of principles and provisions of Goods and Service Tax.

CO2 Comprehend the concept of supply under GST law, types of invoices; distiirguish between intrastate and inter-state supply, embraced with elements of supply.

CO3 Familiarized with the concepts of input tax credit, GST liability. The significance of generating E-way through accounting software.

Fundamentals of Investment

CO1 To familiarize the students with different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the

CO2 Hands on experience on concepts and techniques related to time value of money, expected risk, and returns

Consumer Affairs and Customer Care

CO1 This paper seeks to familiarize the students with of their rights as a consumer, the social framework of consumer rights and legal framework of protecting consumer rights.
CO2 It also provides an understanding of the procedure of redress of consumer complaints, and the role of different agencies in establishing product and service standards. The student should be able to comprehend the business firms' interface with consumers and the consumer related regulatory and business environment.

Business Tax Procedure and Management

CO1 To provide basic knowledge of business tax procedures and management under different provisions of the Income tax.
CO2 To gain provisional and procedural knowledge about Income Tax Law in force for relevant accounting year

International Business

CO1 To familiarise the students with the concepts, importance and dynamics of international business and India's involvement with global business. The course also seeks to provide theoretical foundations of international business to the extent these are relevant to the global business operations and developments.
CO2 International trade, import and export policies in the Indian economy, with required documentation are the learning result.

Industrial Relations and Labour Laws

CO1 To enable the students to learn the concepts of industrial relations including trade unions, collective bargaining, discipline and various labour enactments.
CO2 To understand the negotiable rights and the way by which they can negotiate, to understand workers' participation in management.

Business Research Methods and Project Work

CO1 This course aims at providing the general understanding of business research and the methods of business research. The course will impart learning about how to collect, analyze, present and interpret data
CO2 Imparted framing hypothesis and relevant statistical tools to be applied for authentication of the study.
CO3 Skills for writing project report are acquired.

BBA – Programme Outcomes

PO1 Demonstrate foundational knowledge in accounting, economics, finance, management, and marketing in application of concepts and theories.
PO2 Demonstrate effective skills in written and oral communications using appropriate technologies.
PO3 Demonstrate an ability to integrate the concepts of the core areas of business.
PO4 Demonstrate awareness of the importance of the ethical requirements of business activities.
PO5 Demonstrate an ability to conduct methodological, secondary research into business issues, which may relate to general business or to a specific business function, which requires familiarity with a range of data, research sources, and appropriate methodologies.

BBA – Programme Specific Outcomes

PSO1-Ability to define, analyse the solutions for different business problems and using logical reasoning patterns for evaluating information, materials, and data for practical implementation.
PSO2-Provides verbal, reasoning, Data Interpretation, Quantitative and communication skill to solve specific business problems and decision making.
PSO3-Apply ethical principles and commitment towards professional ethics and responsibility.
PSO4- Function effectively as a member, leader, individual or group in diverse environment.
PSO5- Ability to conceptualize a complex issue into a coherent written statement and oral presentation and to communicate effectively on complex activities with technical community.
PSO6-Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.
PSO7-Promotes entrepreneurship by providing understanding of the fundamentals of creating and managing innovation, new business development, and
PSO8-Ability to demonstrate technical competence in domestic and global arena of business through the study of major disciplines within the fields of business.

BBA – Course Outcomes

Economics Environment of Business

CO1 The term economic environment refers to all the external economic factors that influence buying habits of consumers and businesses and therefore affect the performance of a company. These factors are often beyond a company's control, and may be either large-scale (macro) or small-scale (micro).
CO2 Employment/unemployment.
CO3 Income.
CO4 Inflation.
CO5 Interest rates.

Principles of Management

CO1 Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, and have same basic knowledge on international aspect of management
CO2 Demonstrate the ability to directing, leadership and communicate effectively

Financial Accounting

CO1 Demonstrate the applicability of the concept of Accounting to understand the managerial Decisions and financial statements
CO2. Apply the Financial Statement Analysis associate with Financial Data in the organization

Business Mathematics

CO1. Explain the concepts and use equations, formulae, and mathematical expressions and relationships in a variety of contexts

CO2. Apply the knowledge in mathematics (algebra, matrices, calculus) in solving business problems

Business Statistics

CO1. Understand and critically discuss the issues surrounding sampling and significance.

CO2. Discuss critically the uses and limitations of statistical analysis.

Environmental Studies

CO1 Master core concepts and methods from ecological and physical sciences and their application in environmental problem solving.

CO2 Master core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.

Business Regulatory Framework

CO1 Students would be able to compare and contrast different types of negotiable instruments and its applicability in the money market.

CO2 Students would be able to relate and apply various provisions related to Consumer Protection Act. They would be aware of the rights of consumer and various consumer forums

Organizational Behaviour

CO1 Analyze the complexities associated with management of the group behavior in the organization. CO2 Demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization.

Managerial Economics

CO1 The purpose of this course is to apply micro economic concepts and techniques in evaluating business decisions taken by firms.

CO2 The emphasis is on explaining how tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action and finally choose among alternatives.

Marketing Management

CO1. Students will be able to identify the scope and significance of Marketing In Domain Industry

CO2. Students will be able to examine marketing concepts and phenomenon to current business events In the Industry.

Cost Accounting

CO1 Explains cost accounting systems.

CO2 Explains the purposes of cost accounting.

General Hindi

CO1 Understanding the origin of Hindi language and its literature.

CO2 Identifying the dialects of Hindi language family.

Business Communication & Soft Skills

CO1. To demonstrate his/her ability to write error free while making an optimum use of correct Business Vocabulary & Grammar.

CO2. To distinguish among various levels of organizational communication and communication barriers while developing an understanding of Communication as a process in an organization.

Entrepreneurship Development

CO1 Identify qualities of entrepreneurs

CO2 Understand various schemes supporting entrepreneurship

Indian Financial Development

CO1 To provide students with basic concepts and theories of Finance, its markets and various services provided in the Finance sector.

CO2 To provide students with the knowledge of various instruments traded in theλ financial markets.

Taxation Part 1

CO1 Students would identify the technical terms related to Income Tax.

CO2 Students would determine the residential status of an individual and scope of total income.

Global Business Environment

CO1 Explain the concept of the various constituents of environment and their impact on businesses.

CO2 Apply the trade theories, investment theories, exchange rate theories and regional trading bloc theories and their impact on economic welfare.

Financial Management

CO1 Explain the concept of fundamental financial concepts, especially time value of money.

CO2 Apply capital budgeting projects using traditional methods.

General English

CO1 Students will heighten their awareness of correct usage of English grammar in writing and speaking

CO2 Students will improve their speaking ability in English both in terms of fluency and comprehensibility

Media & Event Management

CO1 Analyze the role of events in image building

CO2 Explain all the steps of planning and organizing an event

Taxation Part 2

CO1 Students would explain the various terms related to Goods and Service tax (GST).

CO2 Students would distinguish the difference between forward change and reverse charge mechanism and also to understand the difference between composite and mixed supply.

Corporate Accounting

CO1 Construct the financial statements of company within the frame work of Ind AS.

CO2 Devise a plan for Redemption of Preference shares
CO3 Reconstruct the capital structure in the financial statement of Joint stock company ltd.

International Business

CO1 Explain business expansion abroad and key issues related to their operations in other countries.
CO2 Compare and contrast cultures and societies globally using socioeconomic and cultural frameworks.

Strategic Management

CO1 To expose students to various perspectives and concepts in the field of Strategic Management
CO2 The course would enable the students to understand the principles of strategy
CO3 Formulation, implementation and control in organizations.

Macro Economics

CO1 Explain what economics is and explain why it is important
CO2 Explain how economists use economic models

Research Methodology

CO1 Understand some basic concepts of research and its methodologies
CO2 Identify appropriate research topics

Human Resource Management

CO1 To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
CO2 To develop necessary skill set for application of various HR issues.

Spreadsheet Applications

CO1 Use spreadsheet software to manage financial data.
CO2 Work with formulas and functions.
CO3 Develop professional-looking worksheets

Supply Chain Logistics

CO1 Understand the fundamentals of elements and functions of supply chain, role of drivers and demand forecasting.
CO2 To apply various techniques of inventory management and their practical situations.

Management Accounting

CO1 To enhance the abilities of learners to develop the concept of management accounting and its significance in the business.
CO2 To enhance the abilities of learners to analyze the financial statements.

Public Finance

CO1 To have conceptual clarity of public expenditure and revenue theories.
CO2 To apply the principle of optimal taxation in analysing various governments tax policies

Company Law & Secretarial Practice

CO1 Describe the role of Company secretary as per secretarial standard 1 and 2 under the companies' act of 2013.

CO2 Explain the various stages involved in the formation of company right from promotion to commencement of business stage.

Operation Research

CO1 Methodology of Operations Research. Linear programming

CO2 solving methods, duality, and sensitivity analysis.

Business Analytics

CO1 Enable all participants to recognise, understand and apply the language, theory and models of the field of business analytics

CO2 Foster an ability to critically analyse, synthesise and solve complex unstructured business problems

Business Ethics & CSR

CO1 To understand the Business Ethics and to provide best practices of business ethics.

CO2 To learn the values and implement in their careers to become a good managers.

CO3 To develop various corporate social Responsibilities and practice in their professional life

Faculty of Social Science

Department of Economics

Courses offered-

- B.A.
- B.A. Honours
- M.A.

MOHANLAL SUKHADIA UNIVERSITY: UDAIPUR

SYLLABUS

OF

ECONOMICS

FACULTY OF SOCIAL SCIENCE

MA Economics CBCS

2019-20 onwards

DEPARTMENT OF ECONOMICS
UNIVERSITY COLLEGE OF SOCIAL SCIENCES AND HUMANITIES
MOHANLAL SUKHADIA UNIVERSITY : UDAIPUR

Programme Specific Outcomes of MA Economics (CBCS)

PSO1: This programme will develop conceptual clarity of economic phenomena among students.

PSO2: The students will be able to discuss and explain theories related to Economics.

PSO3: This programme is designed to develop critical thinking skills among students. They will be able to correlate economic theory with everyday problems in real wold.

PSO4: This programme will enable the students to apply the mathematical and statistical techniques to evaluate the validity of an economic argument.

PSO5: The students will be able to discuss the current economic issues and problems with the clear understanding of theoretical framework.

PSO6: This programme will provide the students a well structured learning framework and environment for Economics.

PSO7: Through this programme students will be well acquainted with the core branches of Economics.

PSO8: This progrmme provides an opportunity to the students to be specialized in a particular branch of Economics.

PSO9: This programme opens job avenues for students especially in economic data analysis and jobs required understanding and application of Economics

PSO10: This programme gives a thorough exposure about Indian Economy and Economy of Rajasthan as well as Global Economic Scenario. So students will be able to compare the economic aggregates in national and international perspective.

Paper Code: ***M1ECO01-CT-01***

M.A. ECONOMICS

SEMESTER I

CORE PAPER- I

MICRO ECONOMICS

Course Outcome:

CO1: This course develops the basic idea of fundamentals of Micro Economics and market mechanism.

CO2: It enhances the ability of students to discuss economic concepts in an articulate manner in a classroom.

CO3: It develops the reasoning ability of the students to understand the consumer behaviour and producers' behaviour in real market situation market.

UNIT I

Theory of Consumer Behaviour -I

Utility analysis – Cardinal Approach - Law of Demand , Elasticity of Demand, Ordinal Approach- Indifference Curve Approach, Derivation of Demand Curve, Consumer's Equilibrium, Price, Income and Substitution Effect: Normal, Inferior and Giffen Goods, Consumers' Surplus.

UNIT II

Theory of Consumer Behaviour-II

Compensated demand curve, Recent Developments in the Theory of Demand – Constatnt Elasticity of Demand Function, Linear Expenditure System, Lancaster's Theory, Revealed Preference Theory, Consumer Behaviour under Uncertainty & Risk- N-M Theorem, Individual Consumer behavior towards Risk, Asset Portfolio Selection.

UNIT III

Theory of Production

Production function – Short Run: Law of Variable Proportions and Long Run: Returns to Scale, Economies and Diseconomies of Scale, Isoquants-Least Cost Combinations of Inputs, Elasticity of Technical Substitution, Technical Progress and Production Function.

UNIT IV

Theory of Product Pricing-I

Cost Concepts, Cost Curves- Short Run & Long Run Curves, L-Shaped Long Run Cost Curves, Concept of Revenue, Revenue Curves-TR, AR, MR and their Relationship, Break-Even Analysis.

Theory of Supply- Law of Supply and Elasticity of Supply.

UNIT- V

Theory of Product Pricing II.

Price and Output Determination under Perfect Competition- Short run & long Run Analysis Price & output Determination under Monopoly- Short run & long Run Analysis, Price Discrimination under Monopoly, Regulation and Control.

Monopolistic Competition- General and Chamberlin Approach to Equilibrium, Selling Costs, Excess Capacity.

Reading List:

- Ahuja, H.L. (Latest Addition), Advanced Economic Theory, Sultan Chand and Company, New Delhi (Hindi and English Versions).
- Misra and Puri .(Latest Addition), Advanced Economic Theory, Himalaya Publishing Company, Bombay (Hindi and English Versions).
- Barla, C.S. .(Latest Addition), Advanced Micro Economics, National Publishing House, Jaipur, New Delhi (Hindi and English Versions).
- Jhingan, M.L. (Latest Addition), Advance Economic Theory, Vrinda Publication, New Delhi (Hindi and English Versions).
- Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
- Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton
- Mankiw, G. (2010), Principles of Microeconomics, 6th ed., South-Western College Publication, USA.

- Salvatore D. (2006), Microeconomics-Theory and Applications, Oxford University Press
- Salvatore D, (2002) Theory and Problems of Microeconomic Theory, Schaum's Outline Series, McGraw-Hill Book Company, Singapore.
- Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
- Varian, H. (2003), Intermediate Microeconomics, East-West Press. Additional
- Karl E. Case and Ray C. Fair, (2007), Principles of Economics, 8th Ed., Pearson Education Inc.

Paper Code: M1ECO02-CT-02

M.A. ECONOMICS

SEMESTER – I

CORE PAPER – II

MACRO ECONOMICS

Course Outcome:

CO1: This course enables the students to learn about the development of various theories and approaches of macro economics like classical, Keynesian, Monetarist, New classical theories and New Keynesian theory.

CO2: Macro economics deals with the study of economic aggregates like income, employment, interest rates and the price level. It analyses various theories of determination of National Income in greater detail.

CO3: It covers various theories related to consumption and investment.

CO4: It also introduces students to concept of inflation, its relationship with unemployment and some basic concepts related to it.

UNIT – I

National Income – Concepts, Measurement and problem in measurement of National Income. Circular flow of Income in two, three and four sector Economy, Different forms of National Income Accounting – Social Accounting, Green Accounting.

UNIT II

Classical and keynesian theory of income and employment. Introduction to AS-AD model. Derivation of AD-AS curve (with varying price level), Shift in AD and AS curve, Short run and long run AD and AS curve. Classical and Keynesian view on AS-AD model.

Macro Equilibrium with AS-AD model (short run and long run)

UNIT – III

Consumption Function- Meaning, Keynes' Psychological Law of Consumption. Theories of consumption- Absolute Income, Relative Income, Life Cycle and Permanent Income Hypothesis.

Investment – Meaning, types of investment, Marginal Efficiency of Investment, Marginal Efficiency of Capital. Theories of Investment- The Accelerator theory of

Investment, Duesenberry Financial theory of Investment, Jorgenson Neo-Classical theory of Investment.

UNIT – IV

Main features of the New Classical Macroeconomics: Efficient market hypothesis; Rational

Expectation Model- Anticipated and Unanticipated shocks, Policy irrelevance; Basic Proposition of Supply side economics. New Keynesian models of price stickiness: The Mankiw model.

UNIT – V

Inflation – Classical, Keynesian and Monetarist approaches to inflation, Structuralist theory of inflation; Philips curve analysis - Short run and long run Philips curve; Tobin's modified Philips curve. Samuelson and Solow - the natural rate of unemployment hypothesis.

Policies to control inflation.

Reading List:

- Ackley, G. (1978) – Macroeconomics: Theory and Policy, McMillan, New York.
- Branson, W.A. (1989) Macroeconomic Theory and Policy, (3rd Edition) Harper and Row, New Delhi.
- Dornbusch, Fischer, Startz-Macroeconomics, The Mcgraw Hill Company Ltd., New York.
- H.L. Ahuja –Advanced Macro Economic Theory, S Chand and Co. New Delhi
- Shapiro, E. (1996) – Macroeconomic Analysis, Galgotia Publications, New Delhi.
- Keynes, J. M. (1936) – The General Theory of Employment, Interest and Money, Macmillan, London.
- M.L. Jhingan- Macro Economic Theory, Vrinda publication, New Delhi
- Romar, D. L. (1996) – Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
- Patinkin, D. (1965) – Money, Interest and Prices. Haper and Row, New York.
- Culbertson, J. M. (1968) – Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogenkoshi, Tokyo.
- Friedman, M. (1957) – The Theory of Consumption Function, Princeton University Press, Princeton.

- Duesenberry, J. S. (1949) – Income saving and the Theory of Consumer Behaviour, Harvard University Press, Harvard.
- Hicks, J. R. (1950) – A contribution to the Theory of Trade Cycles, Clarendon Press, Oxford.
- Hicks, J. R. (1974) – The Crisis in Keynesian Economics, Oxford University Press, New Delhi.
- Frisch, H. (1983) – Theories of inflation, Cambridge University Press, Cambridge.
- Turnovsky, S. J. (1977) – Macroeconomic Analysis and Stabilization Policy, Cambridge University Press, Cambridge.
- Mithani, D.M. – Macroeconomics, Himalaya Publishing Company, New Delhi.
- Mankiew.G. – Macroeconomics, Worth publishers, Newyork.
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M1ECO03-CT-03

M A ECONOMICS

SEMESTER I

CORE PAPER-III

PUBLIC ECONOMICS

Course Outcome:

CO1: To make students understand the theories and concepts of Public Economics.

CO2: To understand the Government Economic Policy's Goals, Targets and Mechanism

CO3: To understand the Importance and Uses of Government Economic Policy Instruments and their Effects on Economy.

CO4: To understand the Interdependency between Public and Private sector.

UNIT I

Meaning and Scope-Classical, Keynesian and modern approach on Public economics,Public Finance and Private finance-Similarities and Dissimilarities, Major Fiscal Functions, Concept of Social Goods, Merit good, Club good.

UNIT II

Public Expenditure-Reasons for increase in Public Expenditure, Pattern of Public Expenditure, Pure Theories of Public Expenditure-British Classical Views, Lindahl, Pigou and Samuelson's Principles, General Theories-Wagner' Hypothesis, Peacock-wiseman's Hypothesis, Economic effects of Public Expenditure.

UNIT III

Public revenue-Tax and Non-Tax Revenue,Taxation-Objectives, Tax Ratio, Tax Elasticity, Theories of Taxation-Benefit Theory, Ability to Pay Theory, Principle of Maximum Social Advantage,Objectives of Taxation for Developing Countries, Role of Taxes in Economic Development

UNIT IV

Public Debt-Classical, Keynesian and Post-Keynesian Approaches, Importance and Problems of Public Debt, Economic Effects of Public Debt, Methods of Debt Redemption, Burden of Public Debt, Management of Public Debt, Deficit Financing

UNIT V

Fiscal Policy- Concept and Objectives, Theories-Automatic and Discretionary Fiscal Policies, Fiscal Policy and Economic Development, Budget- Classification and Principles, Types of Budgets, Budgetary Deficits.

Reading List:

- Hindrick, Jean and Gareth D Myles (2006): Intermediate Public Economics, Prentice Hall of India
- Singh, S. K (2010): Public finance-Theory and Practice, 6th ed, S Chand, New Delhi.
- Andley and Sundaram (2006): Public Economics and Public Finance, Ratan Prakash, Agra.
- Kennedy, Maria John (2012): Public Finance, Prentice Hall of India.
- Hajela, T N(2010): Public Finance, 3rd ed, Ann's Books, New Delhi
- Agarwal, R.C (2007): Public Finance Theory and Practice, Leksmi Narayan Agarwal, Agra,India.
- Mithani, D M(1998): Modern Public Finance, 1st ed, Himalaya Publishing House, New Delhi.
- Lekhi, R K (2003): Public Finance, Kalyani Publications, New Delhi.

M1ECO04-CT-04

M.A. ECONOMICS

SEMESTER I

CORE PAPER- IV

MATHEMATICAL METHODS FOR ECONOMICS

Course Outcome:

CO1: This course imparts the knowledge of various mathematical techniques used for economic analysis.

CO2: It train the students to apply these techniques to economic theory in general like, explaining the relationship among economics variables, calculating maxima and minima, explaning the time path of variables etc.

CO3: It also develops the skill of students to use matrix algebra in solution of economic models.

UNIT I

Matrix and Determinant

Matrix – Concept of Matrix and their types, Simple operations on Matrices, Inverse of Matrices.

Determinants and their Properties, Solution of Simultaneous Equations through Cramer's Rule and Inverse Matrix Method.

UNIT II

Differential Technique

Simple Differentiation – Process of Differentiation, Rules of Differentiation, Partial and Total Differential

UNIT III

Integration Technique

Integration – Simple Rules of Integration, Integration by parts, Integration by substitution, Integration by Partial Fraction and Definite Integration.

UNIT IV

Application of Differential and Integration

Problems of maxima and minima in single and multivariable functions; Unconstrained and constrained optimization

Application to Cost and Revenue Functions and Consumer's Surplus.

UNIT V

Differential and Difference Equations

Differential Equations- Introduction, non-linear and linear differential equations of the first order and first degree. Solutions of differential equations when variables are separable, homogenous equations and non-homogenous equations,

Difference equations – Solution of first order and second order difference equations.

Reading List:

- Allen, R.G.D. (1974) – Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
- Black, J. and J.F. Bradley (1973), Essential Mathematics for Economists, John Wiley and Sons.
- Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics (3rd Edition), McGraw Hill, New Delhi.
- Handry, A. T. (1999) – Operations Research, Prentice Hall of India, New Delhi.
- Madnani, G.M.K.- Arthshastra Me Ganit Ke Prayog .(Hindi Version)
- Mehta, B.C. and Madnani, G.M.K. (2008) – Mathematics for Economists, Sultan Chand and Company, New Delhi.
- Nathuramka L.N. (2016), Arthshastra Me Ganit Ke Prayog, College Book House, Jaipur.(Hindi Version)
- Simon C.P. and L. Blume (2010), Mathematics for Economists, W.W. Norton & Company, New York.
- Sydsaeter K. And P.J. Hammond (2002), Mathematics for Economic Analysis, Pearson Education India.
- Veerachamy.R (2002), Quantitative Methods for Economists, New Age International Publisher, New Delhi.
- Yamane, Taro (1975), Mathematics for Economists, Prentice Hall of India, New Delhi.

M1ECO05-CT-05

M.A. ECONOMICS

SEMESTER- I

CORE PAPER- V

GROWTH AND DEVELOPMENT ECONOMICS

Course Outcome:

CO1: The students will be able to understand the theories of growth and development, difference between the two and importance of both in current scenario.

CO2: It explains the social and institutional aspects of development and infrastructure-linkages.

CO3: It helps them to understand the importance of domestic macroeconomic policies importance of agriculture and the rationale and pattern of industrialization for development in developing countries.

UNIT 1

Introduction

Concepts of Growth and Development. Measurement and Determinants of Development, Indicators of Development – Basic Needs Approach, GDP, PCI, PQLI, HDI, Gender Empowerment Measure (GEM), Gender Inequality Index, Human Poverty Index. Rise in International inequalities.. Structural Diversity and common characteristics of Developing and Developed Nations. Sustainable Development.

UNIT II

Issues in Economic Growth and Development

Factors of Economic Growth and Development, Obstacles to Growth and Development, Vicious Circle of Poverty, Features of Modern Economic growth, Modern Growth and the rise in International Inequalities- The inverted U-hypothesis, Structural Changes under Development, Economic Growth and Social Justice.

UNIT III

Theories of Growth and Development II

Theories of Development -Malthus, Karl Marx & Schumpeter, Rostow's Stages of Economic Growth, Harvey Leibenstein's Critical Minimum Effort Thesis, Nelson's Theory of Low Level Equilibrium Trap.

UNIT IV

Theories of Growth and Development II

Growth Balanced and Unbalanced Growth- Nurkse Model, Rosenstein Rodan's Big Push Theory, Hirschman's Strategy, Lewis and Fei-Ranis Models, Theories of Dualism- Social, Technological, International and Financial. Myrdal's Theory of Circular Causation.

UNIT V

Domestic and International Measures for Economic Development

Capital formation and Economic Development, Role of Agriculture and Industry in Economic Development, Terms of Trade between Agriculture and Industry.

Role of Monetary and Fiscal Policy in Economic Development. Prices, Inflation and Economic Development. Foreign Trade and Economic Development.

Reading List:

- Behrman, S. and T.N. Srinivasan (1995). Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
- Ghatak, S. (1986). An introduction to Development Economic, Allen & Unwin, London.
- Jhingan, M.L. (2016) – Economics of Growth and Development, Vrinda Publication. (English & Hindi Version)
- Kapila, Uma, Ed. (1980). Indian Economy Since Indepndence, Vol.1,Academic Foundation, Delhi.
- Little, I. M. D. & J. E. Mirrlees (1974). Project Appraisal and Planning for Developing Countries, Basic Books, New York.
- Meier, G.M. and James E. R. (2006). Leading Issues in Economic Development, Oxford University Press, New York.
- Puri, V.K. and S.K. Misra (2016). Economics of Development and Planning, Himalaya Publishing House, New Delhi.
- Singh, S.P.(2001). Economic Growth and Planning, Himalaya Publishing House, New Delhi.
- Ray, Debraj-(2004). Development Economics, Oxford University Press, New Delhi

- Taneja, M. L. and R. M. Myer (2008). Economics of Development and Planning, Vishal Publishing Company, Jalandhar.
- Thirwall, A.P.(1999). Growth and Development with special reference to developing economics, Macmillan and ELBS, London.
- Todaro, M. P. (1996) (6^{th} edition). Economic Development, Longman, London.

M1ECO06-CT-06

M A ECONOMICS

SEMESTER I

CORE PAPER-VI

HISTORY OF ECONOMIC THOUGHT

Course Outcome:

CO1: The course develops critical analytical skills and exposes students to understanding the historical perspective on the evolution and process of transformation of economic thought.

CO2: The students learn the major ideas associated with thinker studied, and there by better comprehend the origins of contemporary theory.

CO3: This course allows students to place the theories and ideas studied within the context of the times in which they developed.

UNIT-I

History of Economic Thought-Subject Matter and Importance, Ancient Economic Thought, Medieval Economic Thought, Mercantilism and Physiocracy

UNIT-II

Classical Economic Thought-Development and Characteristics, Adam Smith, Thomas Robert Malthus, David Ricardo

UNIT-III

Socialist Economic Thought- Robert Oven, Charles Fourier, Pierre Joseph Proudhon, Johan Karl Rodbertus, Karl Marx

UNIT IV

Neo-Classical Thought- Alfred Marshall, John Maynard Keynes, Some Modern Economists-Schumpeter, Leonal Robbins, J R Hicks.

UNIT –V

Indian Economic Thought-Kautilya, Raja Rammohan Rai, Mahatma Gandhi, B R Ambedkar, Jawaharlal Nehru, J K Mehta.

Reading list:

- L.H. Haney, History of Economic Thought
- Eric Roll, A History of Economic Thought

- Gide & Rist, A History of Economic Doctrines
- J.F.Bell, A History of Economic Thought
- M.C.Vaish, Aarthik Vicharon Ka Itihas,2002,S.Chand & Co., New Delhi
- J.C.Pant & M.L.seth, Aarthik Vicharon Ka Itihas,2015,Laxmi Narain Agarwal, Agra
- Bell John Fred (1963), History of Economic Thought, the Ronald Press Company, New York
- Bhatia, H.L (1980), History of Economic Thought, Vikas publishing house Pvt. Ltd. India.
- Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York.
- Seshadri, G.B. (1997), Economic Doctrines, B.R. Publishing Corporation, Delhi.

M2ECO01-CT-07

M.A. ECONOMICS

SEMESTER II

CORE PAPER- I

ADVANCED MICRO ECONOMICS

Course Outcome:

CO1: This course will formed the theoretical foundation of the students about pricing in imperfect market conditions and enable them to apply in real market situations.

CO2: This paper enhanced the understanding of various concepts and theories of welfare economics.

CO3: The students will be able to demonstrate the theories related to factor market and its equilibrium .

Unit I

Market Behaviour I

Oligopoly-Non collusive Sollutions: Cournot Model, Bertrand Model, Paul Sweezy's Kinked Demand Curve Model and Stakelberg Model; Collusive Solutions: Cartel and Price Leadership Model.

Pricing of Public Utility Services-Marginal Cost pricing Rule, No Profit –No Loss Policy, Profit-Price Policy

Unit II

Market Behaviour II

Full Cost Pricing Theory, Baumol's Sales Maximisation Model, Williamson's Model of Managerial Discretion, Marris Model of Managerial Enterprise, Bain's Limit Pricing Theory.

Unit III

Theory of Distribution

Marginal Productivity Theory, Theory of Product Exhaustion.

Wages-Determination of Wages in Competitive Market (Modern Theory), Monopsony in Labour Market.

Rent- Ricardian Theory, Modern Theory, Quasi Rent.

Interest- Classical Theory, Keynesian Theory, Loanable Fund Theory and Modern Theory.

Profit- Dynamic Theory, Innovation Theory, Risk Theory, Uncertainty-Bearing Theory, , Shackle's Theory and Modern Theory.

Unit IV

General Equilibrium and Welfare Economics

Partial and General Equilibrium, Walrasian Approach to General Equilibrium.

Welfare Economics- Pigouvian Welfare Economics, Pareto Optimal Conditions, Kaldor Hicks Compensation Criterion. Bergson's Social Welfare function, Point of Bliss, Theory of Second Best, Arrow's Impossibility Therom, Rawl's Theory of Justice, Equity- Efficiency Trade off.

Unit-V

Theories of Insurance, Search and Assymetric Information

Insurance – Risk Aversion theories, The Insurance Market and Adverse Selection. Moral Hazard and Allocate Inefficiency, Choice between Insurance and Gambling.

Theories of Search, Information Problem and Markets with Asymmetric Information: Problems of Lemons- Asymmetric Information and the Market Failure –The adverse selection, Market Signaling. Behavioural Economics- A new branch of Economics.

Reading List:

- Ahuja, H.L. (Latest Addition), Advanced Economic Theory, Sultan Chand and Company, New Delhi (Hindi and English Versions).
- Misra and Puri .(Latest Addition), Advanced Economic Theory, Himalaya Publishing Company, Bombay (Hindi and English Versions).
- Barla, C.S. .(Latest Addition), Advanced Micro Economics, National Publishing House, Jaipur, New Delhi (Hindi and English Versions).
- Jhingan, M.L. (Latest Addition), Advance Economic Theory, Vrinda Publication, New Delhi (Hindi and English Versions).
- Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.

- Kreps, D. M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton
- Mankiw, G. (2010), Principles of Microeconomics, 6th ed., South-Western College Publication, USA.
- Salvatore D. (2006), Microeconomics-Theory and Applications, Oxford University Press
- Salvatore D, (2002) Theory and Problems of Microeconomic Theory, Schaum's Outline Series, McGraw-Hill Book Company, Singapore.
- Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
- Varian, H. (2003), Intermediate Microeconomics, East-West Press. Additional
- Karl E. Case and Ray C. Fair, (2007), Principles of Economics, 8th Ed., Pearson Education Inc.

Paper Code: M2ECO02-CT-08

M.A. ECONOMICS 2017-18

SEMESTER – II

CORE PAPER – II

ADVANCED MACRO ECONOMICS

Course Outcome:

CO1: The present course is designed to acquaint the students with the functioning of the monetary and financial sector in India.

CO2: It covers different approaches and theories related to demand for and supply of money and rate of interest.

CO3: It also deals with the Concept and various theories of business cycles..

CO4: The operation of financial markets and their regulation are to be studied to appreciate their key role in an economy, especially after the far-reaching financial sector reforms in India.

UNIT – I

Supply of Money: Measures and Determinants of money supply, High Powered Money and Money Multiplier. Monetary policy – Meaning, Objectives, Targets and Instrument. Latest Monetary policy. Measures to Control of Money Supply.

UNIT – II

Quantity Theory of Money – Fisher's equation and Cambridge approach, Keynesian Restatement Quantity Theory of Money, Its superiority over Traditional Theory and its criticism.

Post Keynesian approaches to Demand for Money – Patinkin Real Balance Effect, Approaches of Baumol and Tobin, Friedman Modern Quantity Theory,

UNIT – III

Neo-classical, Keynesian and Modern view of Interest, The IS-LM model – Derivation of LM curve and IS curve, Dynamic Disequilibrium: Explaining Fluctuations with the IS – LM

Model; Extension of IS-LM model with government sectors, Relative Effectiveness of Monetary and fiscal policies.

UNIT – IV

Business Cycle Theories – Schumpeter, Kaldor, Samuelson, Goodwin and Hick's Theories, Real Business cycle theory. Measures to Control of Business Cycles.

UNIT V

Financial System in India – Structure and functions of financial markets; Money market and its constituents-Call money market, Treasury bill market, Commercial bill market, Repo market; Capital market- Government securities market; Corporate security market; Primary and secondary market for securities; SEBI-Objectives, functions and its performance in the working of capital market in India.

Financial Sector Reforms in India.

Reading List

- Melvin : International Money and Finance
- Ackley, G. (1978) – Macroeconomics: Theory and Policy, McMillan, New York.
- Chandeller, L.V. and Goldfeld, S. H. : The Economics of Money and Banking
- G. Crowther : An Outline of Money
- Gurley and Shaw : Money in a Theory of Finance
- H.L. Ahuja –Advanced Macro Economic Theory, S Chand and Co. New Delhi.
- Sayers, R.S. : Modern Banking
- Gupta, S.B. : Monetary Economics: Institutions, Theory and Policy
- Gupta, S.B. : Monetary Planning for India
- M.L. Jhingan- Macro Economic Theory, Vrinda publication, New Delhi.
- Mitthani, D.M. – Money and Banking, Himalaya Publishing Company, New Delhi.
- Patinkin, D. (1965) – Money, Interest and Prices, Harper and Row, New York.
- Tarapore S.S. : Issues in Financial Sector Reforms
- Stoneir and Shapiro : Money and Banking
- Sethi, T.T. – Monetary Economics, Laxmi Narayan Agarwal, Agra.
- Sethi, M. L. – Money and Banking, Lakshmi Narayan Agrawal, Agra.
- Ojha, B.L. – Money Banking and Public Finance, Ramesh Book Depo., Jaipur.
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M2ECO03-CT-09

M A ECONOMICS

SEMESTER II

CORE PAPER-III

INDIAN PUBLIC FINANCE

Course Outcome:

CO1: To understand the Federal Economic System of Indian Government and its component.

CO2: To Understand the Economic Resource of Indian government institutions and Distribution's criteria.

CO3: To Understand the Taxation, Debt and Expenditure Policies and Problems of Indian Government Institutions.

CO4: To Understand the Budget, Finance Commission Report and Fiscal Policy their role in economy.

UNIT – I

Indian Federal Finance-Brief History, Constitutional Provisions ,Centre-State Financial Relations, Financial Imbalances, Finance Commissions and their functions, Detailed study of latest Finance commissions and its recommendations. Issues Between centre-State Financial Relations**.**

UNIT – II

Public Expenditure in India- Development and Non-Development, Plan and Non-Plan Expenditure,Major heads of Expenditure of Government of India. Trends and Issues of Expenditure of Centre and State, Reasons for increase in Public Expenditure,

UNIT – III

Indian Tax System-Major trends in Tax Revenue, Tax-GDP Ratio, Structural Changes in Tax Revenue, Structural Changes in Direct and Indirect Taxes,Elasticity of Tax Revenue, Burden of Indian Taxes, Problems of Taxation in India, Major Tax Reforms, GST and Its Implications**,**

UNIT-IV

Public Debt in India- Reasons and Trends for Increase in Internal and External Debt of Centre Government, Burden of Public Debt in India, Public Debt of State Governments, Public Debt and Development Finance in India, Is India in Debt Trap?

UNIT – V

Fiscal Policy In India-Objectives, Evaluation of Effectiveness of Fiscal Policy in India, Challenges of Maintaining Fiscal Deficit, Recent Tax Reform Measures, Deficit Financing In India, Detailed Study of Latest Budget of Government of India.

Reading List:

- J.R.Gupta, Public Economics in India, 3rd Edition, 2017, Atlantic Publication, New Delhi
- Bhatia, H. L. (Latest) – Public Finance: Theory and Practice, Vikas Publication House, New Delhi
- Stiglitz, J. E. (1986) – Economic of Public Sector, Norton, New York.
- Mundle, S. (1999) – Public Finance Policy: Issues for India, Oxford University Press, New Delhi.
- Andley, K.K. and K.P.M. Sundharam – Public Finance: Theory and Practice, S. Chand and Company, New Delhi
- Bhargava, P. K. (1991) – India's Fiscal Crisis, Ashish Publishing House, New Delhi.
- Reports of Various Finance Commissions
- Government of India Budget (Latest)
- Government of India Long term Fiscal Policy
- Economic Survey, Government of India.

Paper Code: M2ECO04-CT-10

M.A.ECONOMICS

SEMESTER – II

CORE PAPER – IV

ELEMENTARY STATISTICS AND ECONOMETRICS

Course Outcome:

CO1: The basic aim of this course is to acquaint the students with various Statistical Methods (techniques) and basic econometrics.

C02: This Paper covers those statistical tools which are frequently used in social sciences research such as estimation, hypothesis testing, Regression & correlation, concept and use of probability theory

CO3: The Econometrics part covers the basic concept and estimation of ordinary least square method which is essential for practical understanding of economic relations and framing economic models

UNIT-I

Central Tendency and Dispersion: Measures of central tendency: Mean, Median, Mode. Measures of dispersion: Range, Mean Deviation, Standard deviation, coefficient of variation. Skewness and Kurtosis.

Correlation and Regression: Correlation; Simple, Coefficient of correlation – Karl Pearson and Rank Correlation,

Regression analysis – Estimation of regression line in a bivariate distribution – Least squares method, interpretation of regression coefficients.

UNIT- II

Time series analysis: Concepts and components, Determination of Regular Trend and Seasonal Indices.

Index numbers – Concept, Price relative, Quantity relative and Value relative, Index Methods – Laspeyer's, Pasche's and Fisher, Family budget method, Problems in the construction and limitations of Index Numbers, Test for ideal Index Number.

UNIT-III

Probability Theory and Distribution: Elementary Probability Theory, addition and multiplication theorems, Bay's theorem, Random variables, Mathematical Expectation. Probability distribution: Binomial, Poisson and Normal.

UNIT-IV

Basic Econometrics- Nature, Meaning and Scope of Econometrics, Goals of Econometrics, Methodology of Econometric Research. The Simple Linear Regression Model -Ordinary Least-Squares Method, Assumptions and Properties of OLS Estimations(without derivation), Gauss Markov's Theorem, Numerical Application of Regression Analysis. Concept of R^2, Statistical Tests of Significance of the OLS Estimates – T test and their Numerical Application in OLS estimation.

UNIT-V

Problems in Regression Analysis- Autocorrelation, Multicollinearity, Hetroscedasticity – Nature and Causes.

Meaning and uses of Dummy variables; Reasons and role of Lags in Economics; Difference between Autoregressive and Distributed Lag Model.

Simultaneous equation models- Nature and meaning.

Reading List:

- Allen, R.G.D. : Mathematical Analysis for Economists.
- Black, J. and J.F. Bradley : Essential Mathematics for Economists.
- Chiang, A.C. : Fundamental Methods of Mathematical Economics.
- Croxton, F.E., D.J. Cowden and : Applied General Statistics.
- Gupta, S.P. – Statistical Methods.
- Nagar, A.L. and Das, R.K. (1993) – Basic Statistics, Oxford University Press, New Delhi.

- Gupta, S.C. – Fundamentals of Applied Statistics, Sultan Chand and Sons, New Delhi
- Rao, N.S., Suthar, S.P., Gupta, S.L. (2008) – Business Statistics, Arvind Prakashan, Udaipur.
- Mehta and Madnani – Elementary Mathematics in Economics, Educational Publisher, Agra.
- Gupta, S.C. and V.K. Kapoor : Fundamentals of Applied Statistics.
- Spiegal, M.R. : Theory and Problems of Statistics.
- Agarwal, D.R. : Quantitative Methods (Mathematics and Statistics)
- Gujrati, D. (1995), Basic Econometrics, (3rd Edition), McGraw Hill, New Delhi.
- Johnston, J. and J.D. Nardo (1997), Econometric Methods, McGraw Hill, New York.
- Mmenta, J. (1997), Elements of Econometrics, Michigan Press, New York.
- Koutsoyiannis, A. (1977), Theory of Econometrics, (2nd Edition), The Macmillan Press
- Ltd., Hampshire.
- Maddala, G.S. (1993), Econometrics – An Introduction, McGraw Hill, New York

M2ECO05-CT-11

M.A. ECONOMICS

SEMESTER- II

CORE PAPER- V

ECONOMICS OF DEVELOPMENT AND PLANNING

Course Outcome:

CO1: This course enables students to understand the models of economic development and their application for underdeveloped or developing economies.

CO2: It discuss important issues in the context of development such as, role of Population, International Trade, importance of domestic macroeconomic policies, investment criteria, and theory of economic planning.

CO3: It explains the project evaluation techniques, which will enable them to evaluate the profitability of projects.

UNIT I

Population, Human Capital formation and Economic Development

Population and Economic Development - Theory of Demographic Transition, Population as Limit to Growth and as Ultimate Source.

Human Capital Formation – Meaning, Need and Objectives. Measures, Problems and Limitations of Human Capital Formation. Criteria of Human Capital Formation.

UNIT II

Models of Economic Development I

Harrod and Domar Growth Models, Neo Classical Growth Models – Solow and Meade, Mrs. Joan Robinson's Growth Model- Golden Rule of Accumulation, Kaldor Model of Distribution.

UNIT III

Models of Economic Development II

Models of Technical Change: Neutral and Non-Neutral (Hicks and Harrod), Romer's Endogenous Growth Model. Jorgensons Model of Dual Economy. Uzawa Two Sector Model of Growth. Harris-Todaro Model of Rural-Urban Migration.

UNIT IV

Economic Planning

Economic Planning – Meaning, Objective and Principles. Planned Vs. Unplanned Economy. Plan Models- Meaning and Types. Control under Planning – Meaning, Need, Types and Limitations. Role of State in Economic Development.

UNIT V

Techniques and Problems of Economic Planning

Planning Techniques- Input-Output Analysis, Linear Programming and Capital-Output Ratio (Only Concept). Shadow Prices, Criterion of Project Evaluation, Investment Criterion.

Choice of techniques- Labour Intensive Vs. Capital Intensive Technique.

Resource mobilization for planning : Domestic resources and External resources- Foreign borrowings Vs. foreign direct investment.

Reading List:

- Behrman, S. and T.N. Srinivasan (1995). Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
- Ghatak, S. (1986). An introduction to Development Economic, Allen & Unwin, London.
- Jhingan, M.L. (2016) – Economics of Growth and Development, Vrinda Publication. (English & Hindi Version)
- Kapila, Uma, Ed. (1980). Indian Economy Since Indepndence, Vol.1,Academic Foundation, Delhi.
- Little, I. M. D. & J. E. Mirrlees (1974). Project Appraisal and Planning for Dveloping Countries, Basic Books, New York.
- Meier, G.M. and James E. R. (2006). Leading Issues in Economic Development, Oxford University Press, New York.
- Puri, V.K. and S.K. Misra (2016). Economics of Development and Planning, Himalaya Publishing House, New Delhi.
- Singh, S.P.(2001). Economic Growth and Planning, Himalaya Publishing House, New Delhi.
- Ray, Debraj-(2004). Development Economics, Oxford University Press, New Delhi
- Taneja, M. L. and R. M. Myer (2008). Economics of Development and Planning, Vishal Publishing Company, Jalandhar.

- Thirwall, A.P.(1999). Growth and Development with special reference to developing economics, Macmillan and ELBS, London.
- Todaro, M. P. (1996) (6th edition). Economic Development, Longman, London.
- Wadhwa, C.D., Ed., (1988). Some Problems of India's Economic Policy, 2nd Ed., Tata McGraw-Hill, New Delhi.

Paper Code: M2ECO06-CT-12

M.A. ECONOMICS
SEMESTER – II
CORE PAPER –VI
INDIAN ECONOMY

Course Outcome:

CO1: The objective of the paper would be to sharpen the analytical faculty of the students by highlighting on broad overview of the Indian economy.

CO2: The paper also emphasis on social and economic infrastructure; Natural resources of India.

CO3: To get familiar with the issues related to agriculture, industry, foreign trade and Economic Planning in India.

CO4: The course is expected to enable the student to appreciate the evaluation of the economy, its institutional frame work and various problems associated with it, for analysing public policy.

UNIT – I

An Overview of Indian Economy: Structural Transformation in India- Sectoral trends and growth rates. Broad Demographic Features of Indian Population, Occupational pattern in India. Rural-Urban Migration, Urbanisation and Civic Amenities, Population Policy (Latest).

Social Infrastructure- Education, Health and Malnutrition. Indicators of Human Development- Human Development Index (HDI), Gender Related Development Index (GDI). Happiness Index.

UNIT – II

Agriculture – Need for Land Reforms, Technological changes in Agriculture, Pricing of Agriculture Inputs and Output, Agriculture Finance Policy, Agriculture Marketing, Issues in Food Security, Policies for Sustainable Agriculture, Need for Agriculture Insurance.

Industry – Growth and Pattern of Industrialization, Industrial Policies and New Economic Reforms, Privatisation and Disinvestment, Exit Policy Issues in Labour Market Reforms.

UNIT –III

Resource Base Economic Infrastructure: Economic Infrastructure (Power, Transport and Communication), Issues and Policies in Infrastructural Development.

Natural Resources and Economic Development- Land Resource, Forest Resource, Livestock Resources, Water Resource; Environmental Degradation and Economic development.

UNIT – IV

Poverty, Inequality and Unemployment- Concepts, Estimation, Trends and measures to eradicate them. Problem of corruption and parallel economy. Challenges to inclusive growth in India. Need for and issues in good governance

Planning in India – Relevance of Planning in the Liberalised/Free Market Economy. Objectives and Strategies, Failures and Achievements of Plans, Latest Five Year Plan. Evolution of Niti Ayog and its approach towards planning in India.

UNIT-V

Foreign Trade – Volume, Structure and direction of Foreign Trade, Balance of Payments, Issues in Export-Import Policy and FEMA, Exchange Rate Policy, The management of Foreign Exchange, Issue of the Convertibility of Rupee on Capital Account. , WTO -objectives, various issues and a critical review of the working of WTO.

Key Economic Reforms introduced in India and their impact; Globalisation of Indian Economy – Foreign Capital and MNCs in India.

Reading List

- Mishra and Puri – Indian Economy, Himalaya Publishing House, New Delhi.
- Rudra Dutt and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
- Alok Ghosh – Indian Economy Its Nature and Problems, The New Book Stall.
- Hariharan, N. P. (2008) – Lights and Shades of Indian Economy, Vishal Publishing Co., Jalandhar.
- Uma Kapila (20th Edition) (2009) – Indian Economy Since Independence, Academic Foundation, New Delhi.
- Jalan, B. (1992) – The Indian Economy, Problems and Prospects, Viking, New Delhi.
- Reserve Bank of India – Report on Currency and Finance (Annual).
- Indian Economy (Extra issue) – Pratiyogita Darpan, Upkar Prakashan, Agra.

- Todaro, M. (1997) – Economic Development in the third world, Addison Wesley, England.
- Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987) – The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
- World Bank (2000) – Indian Reducing Poverty, Accelerating Economic Development, Oxford University Press, New Delhi.
- Government of India, Planning Commission, 11th Five Year Plan, New Delhi.
- Vijay Nagesh Gumma (2008) – The Impact of Globalization on Small Scale Industries, Deep and Deep Publication Pvt. Ltd., New Delhi.
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M2ECO01-Skill- 01

MA ECONOMICS

SEMESTER II

SKILL COURSE PAPER-01

BASIC ECONOMIC ANALYSIS WITH SPSS

Course Outcome:

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CO1: A Student of Economics must have knowledge of data analysis through software. This course aims at giving the exposure of data analysis package SPSS and make students familiar with its applications .

CO2: This paper aims to skill them in analysing the data with the help of SPSS by providing hands on experience.

UNIT I

Introduction to SPSS

Starting SPSS, SPSS main menus, Working with the data editor -General description, functions, menus, commands , SPSS file management.

Input and data cleaning - Defining variables, Manual input of data , Automated input of data and file import.

Data manipulation - Data Transformation, Syntax files and scripts, Output management.

Theoretical Framework: Types of Variables - Qualitative Vs. Quantitative Variables, Nominal, Ordinal, Interval and Ratio Scale Data. Hypothesis Testing, Type I and Type II Errors, Significance Level, One Tailed and Two Tailed Tests.

UNIT-II

Descriptive Statistics

Basic Concepts - Measures of Central Tendency, Measures of Variability,Percentiles, Quartiles and Interquartile Range, Skewness, Kurtosis.

Using SPSS Descriptive Statistics- Frequencies, Descriptives, Explore, Crosstabs.

UNIT- III

Data Presentation

Different Types of Charts- Histogram, Bar Charts, Pie, Cluster and Stacked Bar , Line Charts. Use of SPSS in making Charts: Chart Builder, Constructing and editing Charts.

UNIT-IV

Correlation

Correlation Coefficient , Pearson Correlation, Spearman Correlation, Kendall Tau B, Scatter Plots, Partial Correlation.

UNIT-V

Chi - Square Test

Basic Concepts – Chi-Square test of Independence and goodness of fit, Contingency Tables. using SPSS Test of Independence, 2x2 Cross tabulation, Layered cross tab, Goodness of fit.

Basic Readings:

- Gaur A. S. & Gaur S. S (2009). Statistical Methods for Practice and Research: A guide to data analysis using SPSS, Sage Response, Second edition.
- IBM SPSS Training Manual
- Parameswaranm R. (2010).Computer Applications in Business, S. Chand and Company, New Delhi.
- Sudalaimuthu, S. & Anthony R. S. (2008), Computer Applications in Business, Himalays Publishing House, New Delhi.

M3ECO01-CT-13

M.A. ECONOMICS

SEMESTER III

CORE PAPER I

INTERNATIONAL ECONOMICS

Course Outcome:

CO1: The paper presents clear comprehensive exposition of the theories of international economics.

CO2: The paper aims at developing the understanding and analytical skill of the students of international trade in real and complex situations.

CO3: It will greatly help the students to examine the impact of the trade policies on gains from trade and terms of trade of a country.

UNIT I

Theories of International Trade

Difference between Inter Regional and International Trade, Purpose and Subject Matter of International Economics. Theories of Absolute Advantage and Comparative Costs Advantage. Refinements of Comparative Cost Theory- in money terms, for more than two commodities, for more than two countries, multiproduct and multination trade model, in case of transportation cost, Opportunity Costs theory. Modern Theory of International Trade and its Empirical Testing.

UNIT – II

New Theories of International Trade I

Factor Price Equalization Theorem- Relative and Absolute Factor Price Equalisation, Factor Intensity Reversal, Kravis and Linder's Theorem, The Rybczynski Theorem, Stopler – Samuelson Theorem.

UNIT – III

New Theories of International Trade II

Posner's Theory, Vernon's Theory, Kenen's Theory, Emmanuel's Theory. Intra-industry Trade and Neo Heckscher-Ohlin Model by Falvey, Brander-Krugman Oligopolistic Model.

UNIT – IV

The Gains from Trade

Meaning, Potential and Actual Gain from International Trade. Measurement of Gains from Trade and their Distribution- Argument of Ricardo-Malthus, Findle, Taussing, Mill and Modern argument. Static and Dynamic Gains from Trade. Gain From Trade for Small and Large Nation.

UNIT – V

The Terms of Trade

Different Concepts, Determination of Terms of Trade, Factors Affecting Terms of Trade, Terms of Trade and Economic Development, Secular Deterioration Hypothesis. Trade as an Engine of Economic Growth.

Reading List:

- Acharya, R. (2014). International Economics,Oxford University Press.
- Bhagwati, J. (Ed.) (1981). International Trade: Selected Readings, Cambridge University Press, Mass.
- Cherunilam, F. (2008). International Economics, The Tata McGraw-Hill Companies,New Delhi. 5th Ed.
- Dunn R.M. and J.H. Mutt (2000), International Economics, Routledge, London.
- Goldstein, M. (1998) – The Asian Financial Crisis: Causes, Cure and Systematic Implication, Institute for International Economics, Washington, D.C.
- Grable, J. O. (1996) – International Financial Markets, Prentice Hall, Englewood Cliffs, New York.
- Jhingan M.L. (2015). International Economics, Vrinda Publications, New Delhi (English & Hindi Version)
- Kindlberger, C. P. (1991). International Economics, R D Irwin, Homewood.8th Ed.
- Krugman, P.R. and Obstfeld, M. (1994). International Economics: Theory and Policy, Glenview, Foresman.
- Mithani, D. M. – International Economics, Himalaya Publication House, Bombay.
- Mundell, R. (1968) – International Economics, The Macmillan Company Ltd., New York.

- Vaish, M.C. and S. Singh (2000). International Economics, Oxford and I.B.H. Publishing Company Pt. Ltd., New Delhi.
- Rana, K.C. and K.N. Verma (2010). International Economics, Vishal Publishing House, Ludhiyana. (English & Hindi Version)
- Salvator, D. (2014): International Economics: Trade and Finance, 11th Ed., John Willey & Sons, Singapore.
- Soderston, Bo. (1999), International Economics, The Macmillan Press Ltd. London.
- Swami, K. D. (2008) – International Economics, Scientific Publications, Jodhpur.

M3ECO02-CT-14

M.A. ECONOMICS

SEMESTER- III

CORE PAPER-II

RESEARCH METHODOLOGY

Course Outcome:

CO1: This course has an objective of explaining the theoretical framework and concepts of research to students.

CO2: It make them understand and use the various data collection and analysis tools for research.

CO3: Students will be skilled to frame a good research proposal and write its report.

UNIT I

Introduction

Research- Meaning, Objectives and Types. Characteristics of Good Research. Research Process.

Research Problem- Identification and Formulation. Review of Literature-Meaning and Importance, Formulation of Objectives.

UNIT II

Research and Sampling Design

Research designs- Meaning, Need, Features of Good Research Design, Types- Exploratory, Descriptive, Causal. Experimental and Non-Experimental Research Design.

Sampling Design- Meaning, Importance, Characteristics. Difference in Sample and Census Survey. Types of Sampling Design- Probability and Non-Probability Sampling Designs and their different types.

UNIT III

Data Collection and Processing

Types and measurement of Data. Sources of Data Collection- Primary and Secondary. Methods and Instruments of Data Collection. Problems of data collection. Designing of questionnaire - Meaning, types of questionnaire, Stages in questionnaire designing, Essentials of a good questionnaire

Data Editing and Coding. Data Classification, Tabulation- Importance, Components and Types of Tables, Diagrammatic and Graphical Representaion of Data- Importance and Types.

UNIT IV

Data Analysis and Hypothesis Testing

Multivariate Data Analysis- Multiple Regression, Factor Analysis, Principal Component Analysis, Cluster and Discriminent Analysis (Meaning and uses of these techniques).

Hypothesis Testing: Meaning and Formulation of Hypothesis, Types of Hypothesis, Procedure of Hypothesis Testing. Types of Errors, Level of Significance, Power of test. Types of Tests- Parametric and Non-Parametric. Parametric Test- z test, t-test, f-test, ANOVA. Non-Parametric Test- χ^2 test, Sign test, Run Test, Mann-Whitney U test, Median test, Kolmogorov-Smirnov test, Kruskal-Wallis test.

UNIT V

Content Analysis, Report Writing and Referencing

Content Analysis- Meaning, Features and Process. Merits and Demerits of Content Analysis.

Meaning and Importance of Report Writing. Cautions in writing a report. Components of Report.

Citation, References and Bibliography- APA style.

Reading List:

- Goode. W.J and Hatt. P.K (1952). *Methods in Social Research,* New York: McGraw Hill
- Kothari, C. R. (2008). *Research Methodology: Methods and Techniques*, New Delhi: New Age International.
- Sadhu A.N. and Singh A. (2005). *Research Methodology and Social Sciences*, New Delhi: Himalaya Publishing.
- Tandon.B.C (Ed.) (1979). *Research Methodology in Social Sciences,* Allahabad: Chaitanya Publishing House.
- Wilkinson, S. and Bhandarkar, P.L. (1989). *Methodology and Techniques of Social Research*, New Delhi: Himalaya Publishing.
- William N. (2005). *Your Research Project*, New Delhi: Vistar Publications.

- Young, P. V. (1949). *Scientific Social Surveys and Research*, New Jersey: Prentice Hall, Englewod Cliffs.
- Kataria, S.K. and Paliwal, N. (2018). *Shodh Pravidhi,* National Publishing House, Jaipur.

Paper Code: M3ECO-A1-ET-15

M.A. ECONOMICS

SEMESTER – III

Group A: Elective Paper – A1

BASIC ECONOMETRICS

Course Outcome:

CO1 : Econometrics is a very powerful tool for understanding of applied economic relationships and for meaningful research in economics.

CO2: This paper is designed to equip the students with the basic theories and assumptions of econometrics.

CO3: Student will learn how to construct econometric models, estimate the parameters of these models (in case of quantitative and qualitative data) and interpret the parameters estimates

UNIT – I

Meaning , objectives and Scope of Econometrics, Methodology of Econometric Research. The Simple Linear Regression Model -Ordinary Least-Squares Method, Assumptions and Properties of OLS Estimations, Gauss Markov's Theorem, Numerical Application of Regression Analysis. Goodness of fit R^2- Concept and Derivation of R^2 and Adjusted R^2, (i.e. $\overline{R}^2$ and Numerical Application, Confidence Intervals of the Parameters, Statistical Tests of Significance of the OLS Estimates – t and F test and its importance.

UNIT – II

Multiple Regression Model with Two Explanatory Variables: An application in Multiple Regression Model (without derivation), Matrix Approach to Linear Regression Model- Numerical Application. Hypothesis testing in Multiple Regression using T test and F -Test. Problems in Regression Analysis- Autocorrelation: Assumptions, Causes, Consequences, Tests to detect the problem and Remedial steps to solve these problems

UNIT – III

Problems in Regression Analysis- Multicollinearity, Hetroscedasticity – Assumptions, Sources, Causes, Consequences, Tests to detect the problem and Remedial steps to solve these problems. Errors of Measurement and Solutions for the Case of Errors in Variables.

UNIT –IV

Regression with Qualitative Variables: Dummy Variable Techniques- Testing structural stability of regression models; Comparing two regressions, Interaction Effects, Seasonal analysis, Piecewise linear regression, Use of dummy variables.

Regression with dummy dependent variables; The LPM, Logit, Probit and Tobit Models.

UNIT -V

Autoregressive and Distributed Lag Models-Koyek Model, Almon Model, Partial Adjustment Model, Adaptive Expectations Model; Functional forms of Regression Models- The log linear Model, Semilog Models, Reciprocal models, Logarithmic reciprocal model

Reading List

- Gujrati, D. (1995) – Basic Econometrics, (3rd Edition), McGraw Hill, New Delhi.
- Johnston, J. (1985) – Econometric Methods, McGraw Hill, New York.
- Koutsoyiannis, A. (1977) – Theory of Econometrics, (2nd Edition), The Macmillan Press Ltd., Hampshire.
- Maddala, G. S. (1993) – Econometrics: An Introduction, McGraw Hill, New York.
- Shyamala, S., Navdeep Kaur and T. Arul Pragasam – A Text Book on Econometrics – Theory and Applications, Vishal Publishing Co., Jalandhar.
- Madnani, G.M.K. – Introduction to Econometrics: Principles and Applications, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- Chow, G. C. (1983) – Econometrics, McGraw Hill, New York.
- Dhrymes, P. J. (1970) – Econometrics – Statistical Foundations and Applications, Harper and Row Publishers, New York.
- Intriligator, M. D. (1978) – Econometric Methods, Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
- Pindyck, R. S. and D. L. Rubinfield (1976) – Econometric Models and Econmetric Models and Economic Forecasts, McGraw Hill, Kogakusha, Tokyo.
- Franses, P. H. (1998) – Time Series Models for Business and Economic Forecasting, Cambridge University Press, Cambridge.

- Kmenta, J. (1997) – Elements of Econometrics, University of Michigan Press, New York.
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M.A. ECONOMICS

SEMESTER – III

GROUP A: ELECTIVE PAPER –A 2

MATHEMATICAL APPROACH TO MICRO ECONOMICS

Course Outcome:

CO1: This course is designed to equip students to apply mathematical tools and techniques to understand and elaborate the concepts and theories related to Micro Economics.

CO2: It will enable students to elaborate Micro Economic theories and Models with mathematical derivations.

CO3: It develops the quantitative reasoning among the students regarding behavior of consumers and producers in market and market mechanism.

UNIT – I

Consumer Behaviour Analysis I

Utility Function and types of Utility function, Indifference curve and Its Characteristics. Ordinal Utility Maximisation, Slutsky Equation – Income, Substitution and Price Effects, Derivation of Ordinary and Compensated Demand Curve, Elasticity of Demand.

UNIT – II

Consumer Behaviour Analysis II

Theory of Revealed Preference, Consumer Behaviour under Uncertainty- N-M Theorem. Dynamic Demand Function. And Linear Expenditure System.

UNIT III

Production Analysis

Production Function –Homogenous and Non-Homogeneous Production Function, Stages of Low of Variable Proportion, Cobb-Douglas Production Function, C.E.S. Production Function, Concept of VES and Translog Production Function, Producer's equilibrium under constraints.

UNIT – IV

Cost and Revenue Analysis

Simple derivation of Short and Long run Cost Functions and their relations, Concept of modern approaches to Theory of Costs, The concept of Revenue Functions, Total, Average and Marginal Revenue, Relation between AR, MR and Elasticities. Input Demand Function.

UNIT – V

Market Analysis

Product and factor market equilibrium; Existence, uniqueness and stability of equilibrium; Static stability, dynamic stability-lagged adjustment, dynamic stability continuous adjustment; Dynamic equilibrium with lagged adjustment-Cobb-Web Model. Price determination in Perfect Competition and Monopoly. Pricing under Monopolistic Competition.

Reading List:

- Allen, R.G.D. (1974) – Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
- Chiang, A.C. (1986) – Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- Henderson, J. M. and R. E. Quandt (1980) – Microeconomic Theory: A Mathematical Approach, McGraw Hill, New Delhi.
- Mehta, B. C. (1987) – Mathematical Economics: Microeconomic Models. Sultan Chand and Sons, New Delhi.
- Madnani, G.M.K. (2008) – Mathematical Economics, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- Mehta, B.C. and G.M.K. Madnani (2008) – Mathematics for Economists, Sultan Chand and Company, New Delhi.
- Arrow, K. J. and M. Intrigator (Eds.) (1982) – Handbook of Mathematical Economics, Vol. I, II and III, North Holland, Amsterdam.
- Chung, J. W. (1993) – Utility and Production: Theory and Applications, Basil Blackwell, London.
- Ferguson, C. E. (1976) – Neo Classical Theory of Production and Distribution.
- Hadley, G. (1962) – Linear Programming, Addison Wesley Publishing Co., Massachusetts.
- Mankiw, N. G. and D. Romer (Eds.) (1991) – New Keynesian Economics (2 Vols.), MIT Press, Cambridge, Mass.

➢ Nash, J. F. (1996) – Essays on Game Theory, Cheltenham, U.K.

M3ECO- A3-ET-17

M.A. ECONOMICS

SEMESTER III

GROUP A: ELECTIVE PAPER- A3

AGRICULTURAL ECONOMICS

Course Outcome:

CO1: To understand the theories and Principles of Agriculture Economics.

CO2: To understand input–output of agriculture sector and their inter relationship with Economy.

CO3: To understanding the models of agricultural development.

CO4: To understand the farm management and agriculture marketing system.

UNIT – I

Introduction

Agricultural Economics: Definition, Nature and Scope; Role of Agriculture in Economic Development. Inter-Sectoral Linkages of Agriculture. Complementarity between Agriculture and Industry. Resource management in Agriculture- Land, Labour and Capital in Farming.

UNIT – II

Agricultural Production, Supply and Demand

Agricultural Production- Stock and Flow Resources, Production functions – Factor-product, factor-factor and Product-product relationships. Types of Production function–Constant Return, Increasing Return and Diminishing Return Functions. Elasticity of Production. Cobb-Douglas production. Size of Farm and Laws of Returns . Factors determining Supply of and demand for farm products.

UNIT – III

Models of Agricultural Development

Models of agricultural development of Lewis, Fei-Ranis, Jorgenson. Schultz's Transformation of Traditional Agriculture, Mellor's Model of Agricultural Development, Boserup Model of Agriculture Development, Hayami - Ruttan Induced Innovation Hypothesis.

UNIT – IV

Farm Organization and Management

System of Farm Organisation- Peasant, Corporate, State and Cooperative Farming.

Farm Efficiency Measures, Farm Planning, Budgeting and Programming Techniques. Organic farming: definition, Principles, components and relevance in present context. Farm Management- Meaning, objectives, Scope, Principals and limitations.

UNIT – V

Agricultural Marketing and Agri-Business

Agricultural Marketing -Concepts, Need and pre-requisites for efficient agricultural marketing, Process and Functions of Marketing, Role in Economic Development, Agricultural Marketing Efficiency Criteria. Marketed and Marketable Surplus.

Agri-business – Meaning, nature and Scope of Agri-Business. Importance of Agri-business in agricultural development

Reading List:

- Bilgrami, S.A.R. (1996) – An introduction to Agriculture Economics, Himalaya Publishing House, New Delhi.
- Desai, R. G. (Latest) – Agriculture Economics, Himalaya Publishing House, New Delhi.
- Rudra, A. (1982) – Indian Agricultural Economics: Myths and Reality. Allied Publishers, New Delhi.
- Sadhu, A. N. and Amarjit Singh (Latest) – Fundamentals of Agriculture Economics, Himalaya Publishing House, New Delhi.
- Saini, G.R. (1979) – Farm size, Resource Use Efficiency and Income Distribution, Allied Publishers, New Delhi.
- Agrawal N. L.(2003)- Bhartiya Krishi Ka Arthtantra, Rajasthan Hindi Granth Academy.
- Srivatsava O.S. (1987), Theoretical Issues of Agricultural Economics, Allied Publishers Pvt. Ltd. Delhi.

- Reddy S.S., R. Ram, N. Sastry and B. Devi (2012), Agricultural Economics, Oxford & IBH, New Delhi.

M3ECO- A4- ET-18

M A ECONOMICS

SEMESTER III

GROUP –A ELECTIVE PAPER-A4

LABOR ECONOMICS

Course Outcome:

CO1: To understand the main features, problems and mechanism of the labour market

CO2: To understand the theory and concept of productivity, unemployment and migration.

CO3: To understand man power planning and resources management.

CO4: To explain wage theory and related issues.

UNIT – I

Nature, Scope and Importance of Labour Economics, Nature and Problems of Labour, Labour Market – Forms and characteristics, Demand and Supply of Labour,

UNIT – II

Productivity of Labour – Factors affecting productivity of Labour, Productivity and wage relationship, Migration, Absenteeism and Turnover in labour market, Labour and Rationalization

UNIT – III

Unemployment and development relationship; Unemployment – Concept, types and Principles, Automation and its impacts on Employment, Exit Policy and Need For Safety Nets,

UNIT – IV

The Concept of Evaluation of Personal Management, Manpower planning, Methods of Recruitment and placement,

UNIT – V

Wages – Meaning and Methods of wage payment, Theories of wage determination, Concept of minimum wage, living wage and fair wage, wage differentiations, Wage Standardisation, Non-wage component of labour remuneration.

Reading List :

- Datta, G. (1996) – Bargaining Power, Wages and Employment: Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi.
- Papola, T.S. and Rodgers, (Eds.) (1992) – Labour Institutions and Economic Development in India, International Institute for Labour Studies, Geneva.
- Sen, A. K. (1975) – Employment, Technology and Development, Oxford University Press, New Delhi.
- Solow, R. M. (1990) – Labour Market as an Institution, Blackwell, London.
- Hicks, J. R. (1932) – The Theory of Wages, Clarendon Press, Oxford.
- Misra, L. (2000) – Child Labour in India, Oxford University Press, New Delhi.
- Lester, R. A. (1964) – Economics of Labour (2nd Edition), Macmillan, New York.
- McConnell, C. R. and S. L. Bruce (1986) – Contemporary Labour Economics, McGraw Hill, New York.
- Sinha, V.C. Audhyogik Arthshastra.

M3ECO- B1- ET-15

M A ECONOMICS

SEMESTER III

GROUP –B ELECIVE PAPER-B1

INDUSTRIAL ECONOMICS

Course Outcome:

CO1: To understand the concepts of industrialization and related issues.

CO2: To understand the theories and concepts related to firm and markets.

CO3: To understand the process of growth, merger and settlement of firm in different market conditions.

CO4: To understand the product pricing, balance sheet statements and related issues.

UNIT-I

Industrial Economics – Definition and Scope, Industrialization – pattern and Stages, Determinants of Industrial Growth, Effects of Industrialization. Problems of Industrialization.

UNIT II

Concept of Firm-Its Organization and Different Forms of Ownership ,Objectives of a Firm, Theories of Industrial Localization-Alfred Wever and Sargent Florence's Theories

UNIT III

Market Structure: Sellers concentration, product differentiation, conditions of entry and economies of scale, market structure and profitability, Growth of firms: Vertical integration, diversification, mergers and innovation; constraints on growth – demand, financial and managerial.

UNIT-IV

Market conduct and product pricing- Methods of product pricing, Methods of evaluating investment expenditure, Capital budgeting- concepts and methods.

Mergers and Acquisitions of firms- meaning, types and methods, various forms of mergers in India, Market performance, size and growth of firms

UNIT V

Financial Statements – Balance Sheet, Profit and Loss Account, Ratio Analysis – Meaning and Forms, Classification of Ratios, Limitations, Cost – Profit Analysis, Techniques of Project Evaluation

Reading List:

- Barthwal,R R (2010): Industrial Economics, New Age International (P) Limited, New Delhi, 2010.
- Penrose, E (1959): The theory of growth of the Firm, Blackwell, Oxford.
- Ahluwalia(1985): Industrial Growth in India, Oxford University Press, New Delhi.
- Umakapila(2003) : Understanding the problems of Indian Economy, Academic Foundation
- Agarwal, A N (1995): Indian Economy Problems of development and planning Vishwas publication
- Desai, B. (1999) – Industrial Economy in India (3rd Edition), Himalaya Publishing House, Mumbai.
- Kuchhal, S. C. (1980) – Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.
- Singh, A. and A. N. Sadhu (1988) – Industrial Economics, Himalaya Publishing House, Bombay
- Mamoria and Mamoria (2000) – Dynamics of Industrial Relations in India, (15th Edition), Himalaya Publishing House, Mumbai
- Government of India, Economic Survey (Annual), New Delhi

M3ECO- B2- ET-16

M A ECONOMICS

SEMESTER III

GROUP – B ELECTIVE PAPER-B2

FINANCIAL ECONOMICS

Course Outcome:

CO1: This course introduces students to the economics of finance.

CO2: This course enables students to know the operation of the Indian Financial System and activities in the financial markets.

CO3: The students will understand how the theoretical concepts learned in the class apply to the real world through interpretation of real world events.

UNIT I

Financial system-Structure,Functions, Financial markets, Financial Instruments,Role of Financial system,Financial system and Economic development.

UNIT II

Money market-Meaning,Functions,Instruments of money market,Call loans, Collateral loans, Promissory notes, Bills of Exchange, Treasury Bills, Gilt edged securities, Certificate ofDeposits', Commercial papers, REPOS-Components of money market,Call money market, Collateral loan market, Acceptance market, Bill market.

UNIT III

Institutions of money market-Acceptance houses, Discount houses, Central bank, Commercial bank,Features of Indian money market, DFHI and RBI in Indian Money market.

UNIT IV

Capital market- Meaning, Functions,Structure,Primary and Secondary markets,Primary market (New issue market),Functions of NIM,Intermediaries in NIM (merchant bankers, underwriters, registrar and share transfer agents, bankers to an issue, stock broker)

UNIT V

Instruments of Capital market- -Preference shares, Differed shares, Equities Ordinary shares-Bonds and debentures, Government promissory notes, Public sector bonds-Initial Public Offer-Methods of floatation of shares –Dematerialization of Shares- Depository-Functioning of depository. Secondary Market- Nature and functions of stock exchanges -Settlement and trading in stock exchange- Players in stock exchanges-Speculators-Bulls, Bears, Lame duck, Stag- Kerb trading, Insider trading- Listing of securities.

Reading List:

- Keith, P Ibeam (2005): Finance and Financial Markets, 2nd ed, Palgrave Mc Milan.
- Bhole, L M (1999): Financial Institutions and Markets, TATA Mc Graw Hill Co Ltd, New Delhi
- Gupta, S B (2007): Monetary Economics Institutions Theory and Policy, Chand and Co Ltd
- Smith, P F (1978): Money and Financial Intermediation: The Theory and Structure of the Financial System, Prentice Hall, New Delhi
- Khan, N Y (1996): Indian Financial system, TATA Mc Graw Hill Co Ltd, New Delhi
- Bharathi V Pathak(2003):Indian Financial system, Pierson Education, New Delhi
- Preethi Singh (2009) : Dynamics of Indian Financial system, markets, institutions and services, Annes Books Pvt Ltd, New Delhi
- Guru Swamy, S (2009): Financial Markets and Institutions, 3rd ed, Vijay Nicole Imprints Pvt Ltd,Chennai, TATA Mc Graw Hills Co Ltd, New Delhi.
- Guru Swamy,S(2006):Capital Markets, 2nd ed, Vijay Nicole Imprints Pvt Ltd, Chennai, TATA McGraw Hills Co Ltd, New Delhi.
- Faboozi, J Frank, Modiglani Franco(2008):Capital Markets-Institution and Instruments, 4th ed, Pearson Education, New Delhi (PHI).
- Avadhani, V A (1993): Investments and Securities markets in India, Himalaya Publishing House, Mumbai.
- Kevin, S (2008): Security Analysis and Portfolio Management, 2nd ed, Prentice Hall of India.

- Avadhani, V A (2008): Security analysis and Portfolio Management, Himalaya Publishing House
- Sasidharan, K, Mathews K Alex (2013): Security analysis and Portfolio Management, Tata McGraw Hills Co Ltd, New Delhi
- RBI Reports

M3ECO- B3- ET-17

MA ECONOMICS

SEMESTER III

Group B: Elective Paper –B3

MANAGERIAL ECONOMICS

Course Outcome:

CO1: This course introduces students to the role and importance of Managerial Economics.

CO2: The students will understand the internal and external decisions to be made by managers.

CO3: The students will understand the importance of economic approaches in managerial decision making.

CO4: The students will be able to use theoretical knowledge of economic theories to analyse real-world business problems.

UNIT I

Meaning, scope and role of managerial economics. Marginal and Incremental Analysis. Meaning and types of demand, demand function and Law of Demand, increase and decrease in demand, elasticity of demand, consumer's surplus. Demand Forcasting. Indifference curves and consumer's equilibrium. Price effect, Substitution Effect and Income Effect. Supply- meaning and supply function. Law of Supply.

UNIT II

Meaning and types of production function, application and importance of production function i n managerial decision making, Economies of scale and scope. Producer's surplus. Iso-Cost lines, Iso-quant and Producers' Equilibrium. Cost concepts, cost- output relationships and its importance, types of cost, functional form

of short- run and long- run cost, LAC as a decision making tool. Impact of learning curve. Revenue concepts- TR, MR, AR.

UNIT III

Market structure- meaning, types, and need for analysing market structure.

Perfect Competition- features, representative firm and industry, Equilibrium in short and long run, price and output determination with diagrams, normal profits and losses, supernormal profits.

Monopoly- features, equilibrium in short and long run, Price discrimination, Dumping

UNIT IV

Oligopoly- definition and characteristics, collusion and cartel, non-price competition, price stickiness and kinked demand. Game theory.

Monopolistic competition- definition and characteristics, equilibrium price and output determination.

Pricing policies and practices- role of cost, demand and consumer psychology in pricing.

Pricing methods: full cost pricing, marginal cost pricing, pricing of new products, penetration pricing, skimming pricing.

UNIT V

Introduction to National Income – National Income Concepts and methods of Measurement.

Business Cycles – Phases – Management of Cyclical Fluctuations. Fiscal and Monetary Policies. Inflation- Meaning and measures to control.

The Investment selection process - Evaluating and Ranking Investment projects, Cost – Benefit Analysis

Reading List

- William Boyes (2009) The New Managerial Economics (Indian Adaptation), New Delhi, Sigtantra
- Joseph Nellis and David Parken (2003) The essence of Business Economics, Prentice – Hall India
- SalvatoreD. and Srivastava R (2012). Managerial Economics, Oxford; Seventh edition
- Ahuja, H. L. (2014). Managerial Economics, S Chand Publishing; Eight edition

- Dwivedi, D.N. (2010). Managerial Economics S.Chand (G/L) & Company Ltd; Seventh edition

M3ECO- B4- ET-18

M A ECONOMICS

SEMESTER III

GROUP –B ELECTIVE PAPER-B4

HUMAN RESOURCE MANAGEMENT (HRM)

Course Outcome:

CO1: The course is designed to make student understand the significance and problems of Human Resource Management in constituting economic growth.

CO2: This course will explain basic principles of strategic human resource management and the various aspects of human resource planning.

UNIT I

Nature and Scope of HRM -Meaning and Definitions, Objectives, Scope and Functions of HRM ,Perspectives of Human Resource Management , Role of HRM in the Emerging Economic Scenario.

UNIT II

HRM in India: Introduction, Changing Role of Human Resource in India, Globalization, Its Impact on HR

UNIT III

Concept of Human capital – The economic principle of 'Labour theory of value'. Human Resource Development (HRD) - The trend of Working age population in India (compared to other countries) and future potential in global scenario. Distinction between HRD and HRM.

UNIT IV

Meaning and Objectives of HRP - Need for HRP at Macro Level, Methods of Recruitment,Selection and Placement, Defining Training, Needs and Benefits of Training,Training Methods.

UNIT V

Promotion,Transfer ,Demotion ,Separation. Concept and Meaning of Discipline, Disciplinary Action Procedure. Industrial Democracy,Workers' Participation in Management in India, Collective Bargaining in India.

Reading List:

- Michel, U.P (2001): Human Resources Development and Human Relations, Himalaya
- Publishing House, Mumbai.
- Ü Tripathi, P.C (2004): Human Resources Management, S.Chand & Sons, New Delhi.
- Ü Duderja, V.D (2000): HRM and Development in New Millennium, Common Wealth
- Publishers, New Delhi.
- Pattanayak, B (2001): Human Resource Management, PHI, New Delhi.

M4ECO01-CT-19

M.A. ECONOMICS

SEMESTER IV

CORE PAPER I

INTERNATIONAL TRADE AND COMMERCIAL POLICIES

Course Outcome:

CO1: This course enables students to understand how restrictions to international trade would be used for the nation's development and how it limits the same.

CO2: This course explains the importance of maintaining equilibrium in the balance of payments and suggests suitable measures to correct disequilibrium as well.

CO3 : It develops a complete understanding of role of international economic institutions in present global scenario.

UNIT – I

Tariff Barriers

Free Trade V/s Protection, Tariffs – Meaning and Types, Effects of Tariff under partial and general equilibrium, Optimum Tariff, Stopler – Samuelson Theorem in case of Tariff, Effective Rate of Protection.

UNIT – II

Non-Tariff Barriers (NTBs)

Meaning and Types, Import Quotas – Meaning, Objectives, Types, Import Quotas V/s Tariffs, Voluntary Export Restraints, Export Subsidies, International Cartels, Technical and Administrative Regulations, Dumping. Dumping – Meaning, Objective, Types and Effects. Anti Dumping Measures. Economic Integration-The Theory of Customs Union, its Partial and general equilibrium analysis.

UNIT – III

Balance of Payment

Balance of Trade and Balance of Payments – Meaning and Components, Disequilibrium in Balance of Payments, Measures to correct Disequilibrium in Balance of Payments, Adjustment Mechanism of Balance of Payments- Automatic Price Adjustment, Elasticity Approach, Absorption Approach, Expenditure Policies and Monetary Approach.

UNIT – IV

Exchange Rate and Internal & External Balance

Foreign Trade Multiplier, Foreign Exchange Rate- Meaning and Determination. Theories of Foreign Exchange Rate Determination-Mint Parity, PPP, BoP, Monetary Approach, Portfolio Balance Approach. Fixed v/s Flexible Exchange Rate Policies, Intermediate or Hybrid Exchange Rate Systems, Multiple Exchange Rates System. Exchange Rate Regimes in Practice. Internal and External Balance Simultaneously- Mundellian Model of Monetary and Fiscal Policies, IS-LM-BP Model with Flexible Exchange Rate.

UNIT – V

International Economic Institutions

International Monetary Fund, World Bank and WTO- Objectives, Organization, Functions, Activities and their role in Economic Development of India. The Problem of International Liquidity. Multilateralism and Regionalism- Contemporary Regionalism, economic effects and gains from Regionalism, Multilateralism in post WTO Era and global free trade.

Reading List

- Acharya, R. (2014). International Economics,Oxford University Press.
- Bhagwati, J. (Ed.) (1981). International Trade: Selected Readings, Cambridge University Press, Mass.
- Cherunilam, F. (2008). International Economics, The Tata McGraw-Hill Companies,New Delhi. 5th Ed.
- Dunn R.M. and J.H. Mutt (2000), International Economics, Routledge, London.
- Goldstein, M. (1998) – The Asian Financial Crisis: Causes, Cure and Systematic Implication, Institute for International Economics, Washington, D.C.
- Grable, J. O. (1996) – International Financial Markets, Prentice Hall, Englewood Cliffs, New York.
- Jhingan M.L. (2015). International Economics, Vrinda Publications, New Delhi (English & Hindi Version)
- Kindlberger, C. P. (1991). International Economics, R D Irwin, Homewood.8th Ed.

- Krugman, P.R. and Obstfeld, M. (1994). International Economics: Theory and Policy, Glenview, Foresman.
- Mithani, D. M. – International Economics, Himalaya Publication House, Bombay.
- Mundell, R. (1968) – International Economics, The Macmillan Company Ltd., New York.
- Vaish, M.C. and S. Singh (2000). International Economics, Oxford and I.B.H. Publishing Company Pt. Ltd., New Delhi.
- Rana, K.C. and K.N. Verma (2010). International Economics, Vishal Publishing House, Ludhiyana. (English & Hindi Version)
- Salvator, D. (2014): International Economics: Trade and Finance, 11th Ed., John Willey & Sons, Singapore.
- Soderston, Bo. (1999), International Economics, The Macmillan Press Ltd. London.
- Swami, K. D. (2008) – International Economics, Scientific Publications, Jodhpur.

M4ECO01-CT-20A

M.A. ECONOMICS

SEMESTER – IV

CORE PAPER – IIA

PROJECT WORK- DISSERTATION

Course Outcome:

The course outcome of the paper is as follows-

CO1: This course is introduced to develop the understanding of practical problems one has to face during research and how to overcome it.

CO2 : It will enhance the ability of students to conduct surveys and analysing the data collected. They will choose the topic of their interest under the guidance of faculty members which has some relevance to economic issues.

CO3: It aims to make student familiar with economic issues of local communities and surroundings and to study in depth with practical application on any economic phenomenon.

M4ECO01-CT-20B

M.A. ECONOMICS

SEMESTER – IV

CORE PAPER – IIB

PUBLIC POLICY IN INDIA

Course Outcome:

CO1: To enable students to learn about the economic aspects of various public policies related to Indian Economy, which are directly and indirectly affecting the economic welfare of the people.

CO2: Student will have the knowledge about the formulation, implementation, monitoring, evaluation, analysis and limitations of public policies in India.

UNIT- I

Understanding Public Policy in India

Concept of Public and Policy, Meaning Nature and Significance of Public Policy,

Models of Public Policy: Rational Policy Making Model, Political Public Policy Approach, Mixed Approach by Hogwood and Gunn.

UNIT- II

Public Policy Formulation in India

Process of Policy Formulation, Role of Government (Union, State and Local Bodies), Civil Societies, International Agencies (World Bank, IMF, WTO).

Constraints in Public Policy Formulation in India.

UNIT- III

Implementation of Public Policy in India

Policy Implementation System- Network , Allocation of Tasks, Decision Making . Implementation Approaches/ Models – Top-bottom, Bottom-up, Policy Action Relationship, inter-organisational interaction, Synthesis of Bottom-up and Top- bottom approach.

Problems of Public Policy Implementation in India.

UNIT- IV

Monitoring and Evaluation of Public Policy in India

Monitoring: Meaning and Significance, Constraints , Remedial Measures of Effective Monitoring.

Evaluation: Concept, Nature and Significance. Criteria for Evaluation, Evaluating Agencies, Problems in Policy Evaluation.

UNIT-V

Analysis of Economic Policies in India (Few Case Studies)

Agricultural Price Policy in India (Current Policy): Evolution, Goals, Significance, Prerequisites, Impact , Limitations.

Industrial Policy in India (Current Policy): Objectives, Strategy – Liberalisation and Privatisation, Impact, Limitations, Criticism, Superiority over Previous Policies.

Foreign Trade Policy in India (Current Policy): Meaning, Objective, Significance and Achievements, Limitations.

Reading List

- Acharya, S. (2010). Macroeconomic Performance and Policies 2000-08, in Shankar Acharya and Rakesh Mohan edited *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
- B.N. Goldar and S.C. Aggarwal, (2005). Trade Liberalisation and Price-Cost Margin in Indian Industries, *The Developing Economics*, September.
- Dunn, W. N. (1981). *Public Policy Analysis: An Introduction.* Englewood Cliffs, NJ: Prentice-Hall.
- Fischer, Frank. 2003a. *Reframing Public Policy: Discursive Politics and Deliberative Practices.* New York: Oxford University Press.
- Indira Gandhi National Open University, 1993, *BDP* Course Material, EPA.06 Public Policy, Block No.8 Models of Public Policy-Making (Hindi and English Version).
- J. Dennis Rajakumar, (2011). Size and Growth of Private Corporate Sector in Indian Manufacturing, *Economic and Political Weekly*, April.
- Kaldor, N. (1939). Welfare Propositions of Economics and Interpersonal Comparisons of Utility, *Economic Journal,* 49 (195): 549-552.
- Lane, Jan-Erik and S.O. Ersson (2000). *The New Institutional Politics: Performance and Out comes*, Routledge, London.
- Madan, K.D., K. Deish, Ashok Pradhan and C. Chandra Shekharan (Eds), 1982, *Policy-Making in Government, Pu*blications Division, Ministry of Information and Broadcasting, Government of India .

- Mishra and Puri (2108). Indian Economy, Himalaya Publishing House, New Delhi (Hindi and English Version).
- Nagel S.S. (1990). Policy Theory and Policy Evaluation: Concept, Knowledge, Cause and Norms, Delhi: Greenwood Press.
- Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar (2008). Agricultural Growth in India Since 1991, RBI DEAP Study no. 27.
- Rudra Dutt and Sundaram (2018) – Indian Economy, S. Chand and Company, New Delhi (Hindi and English Version).
- Sabatier, P.A. (1986). Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggestive Synthesis, *Journal of Public Policy,* V01.6.
- Sapru, R.K. (1998). "Environmental Policy and Politics in India", Uday Desai (Ed.) *Ecological Policy and Politics in Developing Countries,* State University NY Press, New York. Sapru, R.K., 1994, *Public Policy: Formulation, Implementation and Evaluation,* Sterling Publishers, New Delhi.
- Saxena, P.K. (ed.) (1993). Comparative Public Policy, Jaipur: Rawat Publication.
- Sen K. (2010). "Trade, Foreign Direct Investment and Industrial Transformation in India", in edited book *The Rise of Asia* by Premachandra Athukorala, Routledge.
- Uma Kapila (20th Edition) (2009) – Indian Economy Since Independence, Academic Foundation, New Delhi.
- Sinha, M. (2015-16). Prashasan Evam Lok Niti, Orient Longman Publication, Jaipur.i (Hindi Version).
- Sharma A. and R. Dogra (2016). Lokniti, New Age Publications,New Delhi.

E-Source

- E-PG Pathshala: (2015-16). Module ECO_P9_M20 and Title: Transfers of Resources from Union & States to Local bodies, Paper No. 9, Paper Title: Public Finance and policy in India, Module, MHRD, Government of India. (https://epgp.inflibnet.ac.in /ahl.php?csrno=29).
- E-PG Pathshala (2015-16). Module ECO_P9_M19 and Title: Problems of states resources and Indebtedness, Paper No. 9, Paper Title: Public Finance and policy in India, MHRD, Government of India (https://epgp.inflibnet.ac.in/ahl.php?csrno=29).
- Institute of Lifelong Learning (2016): "Industrial policy and Performance in India: Pre reform period" Published in E-containt of Indian Economics (ISSN 2349-154X), University of Delhi, New Delhi.

- Institute of Lifelong Learning (2016):"Industrial Policy and Performance in India : Post- reform period" Published in E-containt of Indian Economics (ISSN 2349-154X), University of Delhi, New Delhi.

Paper Code: M4ECO-A1-ET-21

M.A. ECONOMICS

SEMESTER – IV

GROUP A: ELECTIVE PAPER – A1

ADVANCED ECONOMETRICS

Course Outcome:

CO1: A primary objective of teaching this course is to engage students in active learning and critical thinking about econometrics using advanced tools.

CO2: This course introduces the theory and application of time series techniques which is crucial for the economic and financial research.

CO3: Another objective of this course is to relate economic questions to empirical observations and try to select those econometric models which are best suited.

UNIT – I

Simultaneous Equation Models – Meaning and basic concepts- Structural, Reduced form Model. Consequences of applying OLS to simultaneous model, Recursive models. Problem of identification and Conditions for Identification (Rank and Order Conditions).

UNIT – II

Estimation of Simultaneous Equation Models – Indirect Least Square Method (ILS), Two Stage Least Square Methods (2 SLS), The Method of Instrumental Variables (IV), Identification and Choice of Estimation Method. Estimation under linear restrictions, Specification Bias.

UNIT – III

Time Series Econometrics: Basic Concepts- Stationary and Non stationary Stochastic Processes, unit root stochastic processes, Trend stationary and Difference stationary stochastic process. Random walk model. The Unit root test- Augmented Dickey-Fuller test. The phenomenon of co-integration-spurious regression. The Granger Causality test.

UNIT-IV

Time Series Model: Forecasting with ARMA, Forecasting with ARIMA model, Box-Jenkings methodology. ARCH and GARCH Model to measure the volatility.

Vector autocoregression: Problems with VAR modelling .

UNIT-V

Econometric Modelling: Model selection criterion- Hendry and Richard criterion, The R^2 Criterion, Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC).

Panel data Regression Model- Meaning, Uses and estimation of Panel data Regression Model using Fixed effects model, Random effects model.

Reading List:

- Gujrati, D. (1995) – Basic Econometrics, (3rd Edition), McGraw Hill, New Delhi.
- Johnston, J. (1985) – Econometric Methods, McGraw Hill, New York.
- Koutsoyiannis, A. (1977) – Theory of Econometrics, (2nd Edition), The Macmillan Press Ltd., Hampshire.
- Maddala, G. S. (1993) – Econometrics: An Introduction, McGraw Hill, New York.
- S. Shyamala, Navdeep Kaur and T. Arul Pragasam – A Text Book on Econometrics – Theory and Applications, Vishal Publishing Co., Jalandhar.
- G. M. K. Madnani – Introduction to Econometrics: Principles and Applications, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- Chow, G. C. (1983) – Econometrics, McGraw Hill, New York.
- Dhrymes, P. J. (1970) – Econometrics – Statistical Foundations and Applications, Harper and Row Publishers, New York.

- Intriligator, M. D. (1978) – Econometric Methods, Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
- Pindyck, R. S. and D. L. Rubinfield (1976) – Econometric Models and Econmetric Models and Economic Forecasts, McGraw Hill, Kogakusha, Tokyo.
- Franses, P. H. (1998) – Time Series Models for Business and Economic Forecasting, Cambridge University Press, Cambridge.
- Kmenta, J. (1997) – Elements of Econometrics, University of Michigan Press, New York.
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M.A. ECONOMICS

SEMESTER – IV

GROUP A: ELECTIVE PAPER –A 2

MATHEMATICAL ECONOMICS

Course Outcome:

CO1: This course aims to develop understanding of the economic concepts and theories using mathematical tools and techniques to refine the verbal logic.

CO2: It helps student to use modern algebraic tools which allow convenient handling of simultaneous equations in the context of linear programming, game theory and input-output analysis.

CO3: This course covers important aspects of microeconomics, macroeconomics and development theory to elaborate with mathematical explanation.

UNIT – I

Linear Programming – Meaning and definitions, Basic concepts and Solution of LPP through Simplex Method, Primal and Dual problem, Problem of Degeneracy in LPP, Application of LPP in Transport and Storage problems and other problems in Economics.

UNIT – II

Input-Output Model – Static and Dynamic Model, Closed and Open Input Output Model, Solution of Input Output Model, Hawkins Simon conditions.

UNIT – III

Game Theory – Concept of Game, Two Person Zero Sum Game, Pay-off Matrix, Pure and Mixed Strategies, Maximin in and Minimax criteria and Saddle Point, Non-constant Sum Game, Prisoner's Dilemma, Linear Programming Equivalence.

UNIT – IV

Pricing under Duopoly- The Cournot Model, The Bertrand Model, and the Stackelberg Model. Collusive Oligopoly. Kinked Demand Curve Model. Bilateral Monopoly. Pareto Optimality; The efficiency of perfect and imperfect competition; Social welfare function. General Equilibrium.

UNIT – V

Trade Cycle Model of Hicks and Samuelson. Harrod Growth Model, Neoclassical Growth Model – Solow and Meade Growth Models, Endogenous Growth Model of Romer and Harris-Todaro Model of Rural-Urban Migration.

Reading List:

- Allen, R.G.D. (1974) – Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
- Chiang, A.C. (1986) – Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- Henderson, J. M. and R. E. Quandt (1980) – McGraw Hill, New Delhi.
- Mehta, B. C. (1987) – Mathematical Economics: Microeconomic Models, Sultan Chand and Sons, New Delhi.
- Madnani, G.M.K. (2008) – Mathematical Economics, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- Mehta, B.C. and G.M.K. Madnani (2008) – Mathematics for Economists, Sultan Chand and Company, New Delhi.
- Arrow, K. J. and M. Intrigator (Eds.) (1982) – Handbook of Mathematical Economics, Vol. I, II and III, North Holland, Amsterdam.
- Chung, J. W. (1993) – Utility and Production: Theory and Applications, Basil Blackwell, London.
- Ferguson, C. E. (1976) – Neo Classical Theory of Production and Distribution.
- Hadley, G. (1962) – Linear Programming, Addison Wesley Publishing Co., Massachusetts.

- Mankiw, N. G. and D. Romer (Eds.) (1991) – New Keynesian Economics (2 Vols.), MIT Press, Cambridge, Mass.
- Nash, J. F. (1996) – Essays on Game Theory, Cheltenham, U.K.

M4ECO- A3 -ET-23

M.A. ECONOMICS

SEMESTER IV

GROUP A: ELECTIVE PAPER- A3

ISSUES IN INDIAN AGRICULTURE

Course Outcome:

CO1: To understand the main features, trends and problems of indian agriculture.

CO2: To understand the agriculture finance, marketing, capital formation in india.

CO3: To understand the policies of government and other institutions in indian agriculture.

CO4: To understand the changes and new innovations in Indian Agriculture.

UNIT – I

Agricultural Development in India

Recent Agricultural Growth in India. Land Utilisation and Cropping Pattern Changes in India. Causes of Low Productivity in India, Suggestions to increase and Measures employed to develop agriculture in India. Diversification of Indian Agriculture, White Revolution in India – Fishery, Poultry, Forestry, Horticulture and Floriculture . Rural Industrialization: Problems and Prospects, Agro-based industries in India, Need for Second Green Revolution in India

UNIT II

Input Supply in Indian Agriculture

Supply of Inputs-Irrigation, Power, Seed and Fertilizer. Irrigation: Sources and Sources wise Development, Problems. Land Reforms: Objective and achievement. Farm Size and Prodcutivity controversy.Farm Mechanisation: Types and Progess. Mechanisation Vs. Employment. Growth og Agricultural Labourers: Causes and problems.

UNIT – II

Capital Formation and Finance in Indian Agriculture

Role of Public Investment and Capital Formation in Indian Agriculture, Sources of Agricultural Finance in India - Institutional and Non- Institutional Sources, NABARD and Rural Credit, Micro Finance. Problems of Agricultural Finance in India. Suggestions of V.L. Mehta Committee.

UNIT – III

Indian Agricultural Markets and Pricing System

System of Agricultural Marketing in India, Measures to Improve Marketing Efficiency in India, , Agricultural Marketing – Issues and Suggestions.

Agricultural Prices In India: Objectives and Performance Trends in Agricultural Prices, Terms of Trade between Agriculture and Non-Agriculture Prices, Need and Methods of Price Stabilization, Warehousing of Agricultural Produce in India.

UNIT – IV

State Intervention in Indian Agriculture

Need for State Intervention, State Policy with Respect to Agricultural Marketing; Prices (Agricultural Price policy of India); Taxation and Crop Insurance in India. Food Security in India and Public Distribution System in India. Pricing of Inputs and Role of Subsidies

UNIT – V

Changes in Indian Agriculture

Technological Change in Agriculture-Indigenous Practices, Information and Communication Technologies and Agriculture - Agricultural Information Systems, Role of Remote Sensing, GPS Technology, Biotechnology, Nano Technology in Agriculture, Kisan Credit Cards, Kisan Call Centers, Bhoomi Project, Agricultural Technology Information Centers, Agricultural Knowledge System, Sustainable, Agricultural Extension in India, FAO. Impacts of WTO agreements on Indian Agriculture, Globalisation and priority issues for Indian Agriculture.

Reading List:

- Raj, K. N. *et al.* (1988) – Essays in the Commercialisation of Indian Agriculture, Oxford University Press, New Delhi.
- Subbarao, K. and De Janvry (1986) – Agriculture Price Policy and Income Distribution in India, Oxford University Press, New Delhi.
- Bhalla, G. S. (1994) – Economic Liberalisation and Indian Agriculture Institute for Studies in Industrial Development, New Delhi.
- Bhalla, G. S. (1994) – Economic Liberalisation and Indian Agriculture Institute for Studies in Industrial Development, New Delhi.
- Dhawan, B. D. (1988) – Irrigation in Indian Agriculture Development, Sage Publication, New Delhi.
- Rao, C. H. Hanumantha (1994) – Agriculture Growth, Rural Poverty and Environmental Degradation in India, Oxford University Press, New Delhi.
- Misra and Puri (2008) – Indian Economy, Himalaya Publishing Company, New Delhi.
- Dutta, R. and Sundaram (2008) – Indian Economy, S. Chand and Company, New Delhi.

- Hariharan, N. P. (2008) – Lights and Shades of Indian Economy, Vishal Publishing Company, Jalandhar.
- Soni, R. N. (2008) – Leading Issues of Agriculture Economics, Vishal Publishing Company, Jalandhar.
- Sadhu and Singh (1991), Agricultural Problems in India, Himalaya Publishing House, New Delhi.
- Government of India – Reports of the National Commission on Agriculture, New Delhi.
- Government of India-Statistical Abstract of India (Latest), Directorate of Economics and Statistics of India.
- Government of India- Agricultural Statistics at a Glance, Ministry of Agricultural and farmers welfare.
- Reserve Bank of India – Report of the Agricultural Credit Review Committee, Bombay.
- Government of India – Economic Survey (Annual) Ministry of Finance.

M4ECO- A4 -ET-24

M A ECONOMICS

SEMESTER IV

GROUP –A ELECTIVE PAPER-A4

ISSUES OF LABOUR IN INDIA

Course Outcome:

CO1: To understand the wage and bonus policies of industrial labour in India.

CO2: To understand the role trade union, collective bagging and industrial peace in India

CO3: To understand concept of social security, welfare policies and programmes for labour.

CO4: To understand the specific problem of social groups and effect of changing economic scenario.

UNIT – I

Industrial Labour in India- Composition and Characteristics , Fair wages , Wage Boards in India, Bonus system and Profit Sharing, Wage Policy in India, The Problem of Bonus In India

UNIT – II

Trade Unions - Types and Functions, Growth of Trade Union Movement in India, Trade Unions Act, Evaluation of Trade Unions, Emerging Trends in Trade Union Movement, Trade Unions and Economic Development, Social Responsibilities of Trade Unions.

UNIT – III

Concept of Industrial Peace – Causes of Industrial Disputes and Present Mechanism of Dispute Settlement in India, Role of Tripartism, Collecting Bargaining, Workers Participation in Management, ILO and India.

UNIT – IV

Social Security – Concept of Social Security and its evolution, Social Assistance and Social Insurance, Review and Appraisal of State Policies with respect to Social Security and Labour Welfare in India, Social Security Measures in India, Workmen's Compensation Act and ESI Act (in Brief).

UNIT – V

Specific Labour Problems in India – Child Labour, Labour Problems of Unorganized Sector, Gender Bias in Labour Market, Report of Second National Commission on Labour, Impact of Globalization on Indian Labour Market.

Reading List:

- Datta, G. (1996) – Bargaining Power, Wages and Employment: Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi.
- Papola, T.S. and Rodgers, (Eds.) (1992) – Labour Institutions and Economic Development in India, International Institute for Labour Studies, Geneva.
- Sen, A. K. (1975) – Employment, Technology and Development, Oxford University Press, New Delhi.
- Solow, R. M. (1990) – Labour Market as an Institution, Blackwell, London.
- Hicks, J. R. (1932) – The Theory of Wages, Clarendon Press, Oxford.
- Misra, L. (2000) – Child Labour in India, Oxford University Press, New Delhi.
- Lester, R. A. (1964) – Economics of Labour (2nd Edition), Macmillan, New York.
- McConnell, C. R. and S. L. Bruce (1986) – Contemporary Labour Economics, McGraw Hill, New York.
- Sinha, V.C. Audhyogik Arthshastra

M4ECO- B1 -ET-21

M A ECONOMICS

SEMESTER IV

GROUP –B ELECTIVE PAPER-B1

INDIAN INDUSTRIAL ECONOMICS

Course Outcome:

CO1: To understand the industrialization process in India and related issues.

CO2: To understand the role of public sector, effect of LPG policy, requirement to change in policies and measures taken by government for industrial development.

CO3: To understand the role of foreign capital and MNCs in industrial development.

CO4: To understand the sources of industrial finance and growth of main industries in India.

UNIT – I

Industrial Growth and Pattern of Industrialization in India, Recent trends in Indian Industrial Growth, Small-scale and Cottage Industries of India- Definition, Importance and Problems.

UNIT-II

LPG Policy and its Impact on Industrial Development, Evaluation of Role of Public Sector on Industrial Development, Balanced Regional Development- Need, Challenges and Measures taken by The Government.

UNIT – III

Role of Foreign Capital in Industrial Development of India, Multinational Corporations – Definitions, Merits and Demerits, Recent Trends, Perspective code of conduct, MNCs In India, Foreign Investment by Indian Companies, Major Indian MNCs and their Importance.

UNIT – IV

Industrial Proliferation and Environmental Protection- Challenges and Measures taken by the Government of India for Environmental Protection, Major Indian Industries-Iron and Steel Industry, Cotton Textile Industry, Cement Industry, Sugar Industry

UNIT – V

Industrial Finance – Sources, Types, Components, Institutional Finance – IDBI, IFCI, SFCs, SIDC, Commercial Banks, Indian Money and Capital Market.

Reading List:

- Barthwal,R R (2010): Industrial Economics, New Age International (P) Limited, New Delhi, 2010.
- Penrose, E (1959): The theory of growth of the Firm, Blackwell, Oxford.
- Ahluwalia(1985): Industrial Growth in India, Oxford University Press, New Delhi.
- Umakapila(2003) : Understanding the problems of Indian Economy, Academic Foundation
- Agarwal, A N (1995): Indian Economy Problems of development and planning Vishwas publication
- Desai, B. (1999) – Industrial Economy in India (3rd Edition), Himalaya Publishing House, Mumbai.
- Kuchhal, S. C. (1980) – Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.
- Singh, A. and A. N. Sadhu (1988) – Industrial Economics, Himalaya Publishing House, Bombay
- Mamoria and Mamoria (2000) – Dynamics of Industrial Relations in India, (15th Edition), Himalaya Publishing House, Mumbai
- Gaurav Dutt and Ashwini Mahajan, 2017 , Indian Economy, S Chand and Co. New Delhi
- Government of India, Economic Survey (Annual), New Delhi

Paper Code: M4ECO-B2-ET-22

M.A. ECONOMICS

SEMESTER – IV

GROUP B: ELECTIVE PAPER – B2

DEMOGRAPHY

Course Outcome:

CO1: The basic aim of this paper is to understand the demographic trends and issues in India.

CO2: The study theories of population and structure of population in India.

CO3: Basic concepts related to demography like fertility, Mortality and Migration in population will be discussed.

CO4: Student will also be acquainted with the various methods related to population projections and implications of changing composition population on labour force.

UNIT-I

Nature and Scope of Demography, Relation with other Disciplines. Population trends India; Study of Census in India – Methodology and characteristics of Census since 1951; Size, Composition and Distribution of Population. Latest Population Policy in India. Concept of Demographic Dividend.

Theories of population- Malthusian Theory, Post Malthusian Theories- Marx ideas on Population, Optimum Theory of Population, Theory of Demographic Transition. Views of Medows, Enke and Simon. Population and development.

UNIT – II

Fertility: Meaning and importance of study of fertility, Differential Fertility, Measurement of Fertility, Factors Influencing Fertility , Fertility levels and Trends in Developed and Developing Countries – Fertility in India. Fertility Transition in India. Nuptiality – Concept and Analysis of Marital Status, Single Mean age at Marriage. Concept of Morbidity, measures of Morbidity, incidence and prevalence rates.

UNIT – III

Mortality: Measurement of Mortality, Mortality levels and Trends in Developed and Developing Countries-Mortality in India, Reasons for Declining Trends in Mortality. Infant Mortality.

Techniques of Analysis: Crude Birth Rate, Death Rates, Age Specific Birth and Death Rates, Infant Mortality , Child Mortality, Maternal Mortality; Standardized Birth and Death Rates; Analysis of Total Fertility Rate; Gross Reproductive Rate, Net Reproductive Rate.

UNIT –IV

Concept and Types of Migration – Temporary, Internal and International. International Migration – Its effect on Population Growth and Pattern, Factors affecting Migration, Theories of Migration related to Internal Migration.

Life Table : Basic Concepts of Life Table, Types and Forms of Life Table, Construction of Life Tables based on Age-Specific Death Rates, Conventional Approach of Life Table Construction; Concept and Need for Model Life Tables.

UNIT- V

Concept and uses of Population Projection, Methods of Interpolation, Extrapolation using Gompertz Curves; Concepts and Measures of Population Ageing; Implications of Population Ageing on Labour Force, Retirement and Work Participation among Elderly, Implication for Government Expenditure on Pension.

Reading List

- Agarwal, S. N. (1985) – India's Population Problem, Tata McGraw Hill, Bombay.
- Agarwal, U. D. (1999) – Population Projections and Their Accuracy, B. R. Publishing Corporation, New Delhi.
- Bhende, A. A. and T. R. Kanitkar (1982) – Principles of Population Studies, Himalaya Publishing House, Bombay.
- Bogue, A. (1996) – India's Basic Demographic Statistics, B. R. Publishing Corporation, New Delhi.

- Choubey, P. K. (2000) – Population Policy in India, Kanishka Publications, New Delhi.
- Misra, B. D. (1980) – An introduction to the study of population, South Asian Publishers, New Delhi.
- Srinivasan, K. (Ed.) (1999) – Population Policy and Reproductive Health, Hindustan Publishing Corporation, New Delhi.
- Census of India, Government of India, Various Reports, New Delhi.
- Srinivasan, K. (1998) – Basic Demographic Techniques and Applications, Sage Publications, New Delhi.
- Simon, J. L. (1992) – Population and Development in Poor Countries, Princeton University Press.
- Agnihotri, S. B. (2000) – Sex ratio in Indian Population: A Fresh Exploration, Sage Publications, New Delhi.
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Paper Code: M4ECO-B3-ET-23

M.A. ECONOMICS

SEMESTER – IV

GROUP B: ELECTIVE PAPER – B3

ECONOMY OF RAJASTHAN

Course Outcome:

The course outcome of the paper is as follows-

CO1: The objective of the paper would be to make analytical study on Rajasthan Economy and its position and contribution in Indian economy.

CO2: The paper emphasis on major issues related to agriculture, industry and tourism sector of Rajasthan.

CO3: The course is expected to enable the student to appreciate the evaluation of the Rajasthan economy, its institutional frame work for analysing public policy, and to get familiar with the current issues and challenges of Rajasthan economy.

UNIT-I

Rajasthan Economy- Characteristics, compositional trend of SDP; Position of Rajasthan in the Indian Economy. Broad Demographic Features of Rajasthan: Population Size and Growth Rates, Sex Composition, Population and occupational Distribution of Labour Force. New Population Policy of Rajasthan.

UNIT – II

Major issues related to Agriculture sector- Land utilization pattern, irrigated Area, Sources of irrigation and their contribution , cropping Patterns in Rajasthan: Trends in the Production of food grains, Agricultural Development during Planning Period, Problem of Drought and Famine in Rajasthan. Animal Husbandry in Rajasthan. Government policies and programmes to promote Agriculture Development.

UNIT-III

Industry -Salient Features, Regional variation in Industrial Development of Rajasthan, Role and Problems of small scale Industries. Role of different corporations in Industrial Development- RIICO, Rajasthan Financial Corporation(RFC), Rajasthan small industries Corporation Limited (RAJSICO).

Tourism Development in Rajasthan - Role of Tourism in Rajasthan, Problems and Prospects of Tourism in Rajasthan. Government Policies and Programmes for Tourism Development in Rajasthan.

UNIT –IV

Resource Base Economic Infrastructure: Economic Infrastructure - Power and Roads; Issues and Policies in Infrastructural Development.

Natural Resources and Economic Development- Land Resource, Forest Resource, Water Resource, Livestock Resources, Mineral resources. Latest Mineral policy of Rajasthan.

UNIT-V

Problems of Rajasthan Economy – Poverty and Unemployment: causes and measures undertaken by Government to solve the problems. Rural Development Schemes and Special Area Programmes in Rajasthan.

Economic Planning in Rajasthan : objectives and Achievements. Latest Five Year Plan of Rajasthan – Objectives, Strategy.

Rajasthan Budget Analysis (Latest)

Finance Commission and Centre- Rajasthan State Financial Relationship (Latest).

Reading List:

- Laxminarayan Nathuram Ka, Rajasthan Economy, college book house, Jaipur.
- H.R. Bhalla, Contemporary issues in Rajasthan.
- State Finance: A study of budget.
- Economic Review, Government of Rajasthan.
- Tourism policy of Rajasthan, Department of Rajasthan.
- Agricultural statistics of Rajasthan.
- Basic statistics, Rajasthan.
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Paper Code: M4ECO-B4-ET-24

M.A. ECONOMICS

SEMESTER – IV

GROUP B–ELECTIVE PAPER – B4

ENVIRONMENTAL ECONOMICS

Course Outcome:

CO1: This course introduces students to concepts, methods and policy options in managing the environment using tools of economic analysis

CO2: This course intends to expose the student with practical applications of methods for valuation of environmental goods and services and quantification of environmental risk and damages.

CO3: Paper also discusses the various theories for managing the natural resources. It also highlights the concept and indicators for measuring sustainable development

CO4: Environment economics also brings insight the various issues and problems associated with the environment degradation in Indian and international context. Along with that, the policy measures adopted are also discussed.

UNIT – I

Environmental Economics - Meaning, Importance and Scope; The Concept of Externalities, Environment as a Public Good and Market Failure, Common Property Resources, Theories of optimal use of Exhaustible and Renewable Resources, Environmental Kuznet's Curve: Theory and Some Empirical Evidences

UNIT – II

Environmental valuation and Environmental risk: Valuing the Environment and Natural Resources – Concept of total Economic Value, Use Value, Option, Values and Non-use Values, Valuation Methods – Physical Linkage Methods, Abatement Cost Method, Behavioural Linkage Method, Contingent Valuation Method (CVM), Hedonic Pricing Technique. Environmental Accounting – Meaning, Need, Nature of Environmental Accounting (IEEA) and the Measurement of Environmentally corrected GDP (Green Accounting).

Environmental Risk – Concept and Assessment of Environmental Risks, Choice under Risk, Risk Management.

UNIT – III

Managing Natural Resources and Sustainable Development : Economics of Natural Resources, A Resource Taxonomy; Managing Exhaustible and Renewable Resources. The Theory of Collective Choices: Hardin's Thesis of the Tragedy of Commons; Prisoner's Dilemma Game, Olsen's theory of collective action. Methods of Abatement of Externalities:

Sustainable Development: Concept, Indicators, Measurement and Strategies for Sustainable

Development

UNIT IV

Environmental Issues and Environmental Policy: Global Environmental Issues: Negative International Externalities and their Implications. Global Warming and Acid Rains: Causes, Effects and Solutions.

Major Environmental organization and Events: Green Peace movement, The World

conservation union, The nature conservancy. Sierra club, WWF, UNEP, UNCED.

Environmental Policy Instruments- Internalizing Environmental externalities, Pigouvian taxes and subsidies; Coase's bargaining solution and collective action; Tradable pollution permits and international carbon tax,

UNIT – V

Environmental Law and Policy in India: The Vision, Goals, Objectives and Instruments of Environmental Policy; A Critique of India's Environmental Policy. Mechanism for Environmental Regulations in India, Environmental Laws and their implementation, Policy instruments for Controlling Water and Air Pollution, Forest Policy in India Resources and Energy.

Reading List:

- Charles D. Kolstad (2008) – Environmental Economics, Oxford University Press.
- H. K. Pathak (2010) – Economics of Environmental Development, G. S. Rawat for Cyber Tech Publication.

- Bhattacharya, R. N. (Ed.) (2001) – Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.
- Markandya, A. and J. Richardson (Eds.) – The Earth Scan Reader in Environmental Economics, Earth Scan, London.
- Panchmukhi, P. R. (1980) – Economics of Health: A Trend Report in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied Publishers, Delhi.
- Peare, D. W. and R. K. Turner (1991) – Economics of Natural Resource Use and Environment, Johns Hopkins University Press, Baltimore.
- Beman, P. and M. E. Khan (1993) – Paying for India's Health Care, Sage Publications, New Delhi.
- Cooms, P. H. and J. Hallak (1988) – Cost Analysis in Education, John Hopkins University Press, Baltimore.
- M.L. Jhingan- Environmental Economics, Vrinda publication, New Delhi.
- Murty, M. N., A. J. James and S. Misra (1999) – The Economics of Water Pollution in India, Oxford University Press, New Delhi.
- Sengupta, R. P. (Ed.) (2001) – Ecology and Economics: An Approach to Sustainable Development, Oxford University Press, New Delhi.
- Woodhall, M. (1992) – Cost Benefit Analysis in Educational Planning, UNESCO, Paris.
- World Bank (1993) – The World Development Report, 1993: Investing in Health, Oxford University Press, New York.
- Arun Kumar Singh – Environmental Economics, Deep and Deep Publications Pvt. Ltd., New Delhi.
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M4ECO01-Skill- 02

MA ECONOMICS

SEMESTER IV

SKILL COURSE PAPER-02

ADVANCE ECONOMIC ANALYSIS WITH SPSS

Course Outcome:

The course outcome of the paper is as follows-

CO1: The paper will equipped students with practical applications of SPSS for advanced economic analysis**.**

CO2: The students will develop a strong theoretical framework of advanced statistical technique of data analysis with hands on training on SPSS.

UNIT-I

Comparing Means: One or Two Samples

Basic concept – t- tests and z tests, One sample t-test; independent samples t-test, dependent sample t- test, Dependent (paired) Samples t- test.

Using SPSS – One Sample t- test, independent Samples t-test, Dependent Samples t- test.

UNIT-II

Analysis of Variance

Basic concepts- ANOVA Procedure, Factors and Covariated, between, within and Mixed (Between – Within) Designs, Main effects and Interactions, Post-Hoc Multiple Comparisons, Contrast Analysis.

Using SPSS – One Way between Groups ANOVA, Planned comparisons, Two Way between Groups ANOVA.

Unit III

Regression Analysis

Concept of Ordinary Linear Regression, Curvilinear Regression and Multiple Regresssion.

Use of SPSS – Linear Regression, Curvilinear and Multiple Regression.

Unit IV

Other Multivariate Techniques

Concept of Factor Analysis, Cluster and Discriminant Analysis.

Use of SPSS- Dimension Reduction, Cluster and Discriminant Analysis.

Basic Readings:

- Gaur A. S. & Gaur S. S (2009). Statistical Methods for Practice and Research: A guide to data analysis using SPSS, Sage Response, Second edition.
- IBM SPSS Training Manual

- Parameswaranm R. (2010).Computer Applications in Business, S. Chand and Company, New Delhi.
- Sudalaimuthu, S. & Anthony R. S. (2008), Computer Applications in Business, Himalays Publishing House, New Delhi.

MOHANLAL SUKHADIA UNIVERSITY: UDAIPUR

SYLLABUS

OF

ECONOMICS

FACULTY OF SOCIAL SCIENCE

Third Year Degree Course Arts (Economics)

2019-20 onwards

Paper Code: 1321

First Year T.D.C. Arts
Paper – I

MICRO ECONOMICS

Course Outcomes:

CO1: This course enables students to understand the basic concepts and principles of Micro Economics and to apply them to the real world

CO2: The students will learn how consumers and producers behave in markets and how price is determined in commodity market.

CO3: This paper also enhanced the understanding of students about factor Pricing.

UNIT – I

Introduction: Definitions of Economics – Wealth, Welfare, Scarcity and Development related definitions, Nature and Scope of Economics, Methods of Study Economics: Inductive and Deductive Methods, Micro and Macro Economics, Static and Dynamic Analysis, The Concept of Equilibrium.

UNIT – II

Consumer Behaviour: Utility Analysis- Cardinal Approach – Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility, Ordinal Approach- Indifference Curve Analysis – Consumer's Equilibrium, Price, Income and Substitution Effects (Hicksian Approach).

Demand- Meaning, Law of Demand and Demand Curve, Elasticity of Demand – Price, Income and Cross Elasticity, Consumer's Surplus.

UNIT – III

Producer's Behaviour: Production Function, Laws of Variable Proportions and Stages of Production. Isoquants – Factor Substitution and Returns to Scale, Equilibrium of the Firm, Expansion Path.

Different Concepts of Cost and Revenue Curves and their relationship.

UNIT – IV

Market Forms and Commodity Price Determination: Types of markets, Perfect Competition: Characteristics, Determination of Equilibrium Price and Quantity. Monopoly Market – Characteristics, Determination of Equilibrium Price and Quantity under Monopoly. Price Discrimination.

Monopolistic Competition:Characteristics and Determination of Equilibrium Price and Quantity. Oligopoly: Characteristics, Price rigidity and Kinked demand Curve, Cartel.

UNIT – V

Distribution Theories: Marginal Productivity Theory of Distribution, Theories of Wage Determination- Subsistence Theory and Modern Theory**.** Theories of Rent – Ricardian and Modern Theory. Theories of Interest – Classical, Keynesian and Modern Theory. Theories of Profit: Innovation, Risk and Uncertainty Theory.

Basic Reading List :-

1. Ahuja, H.L. (Latest Addition). Principles of Micro Economics, Sultan Chand and Company, New Delhi (Hindi and English Versions).
2. Barla, C.S. .(Latest Addition), Micro Economics, National Publishing House, Jaipur, New Delhi (Hindi and English Versions).
3. Jhingan, M.L. (Latest Addition), Micro Economic, Vrinda Publication, New Delhi (Hindi and English Versions).
4. Karl E. Case and Ray C. Fair, (2007), Principles of Economics, 8th Ed., Pearson Education Inc.
5. Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
6. Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton
7. Mankiw, G. (2010), Principles of Microeconomics, 6th ed., South-Western College Publication, USA.
8. Misra, S. K. and Puri, V. K. (2001) – Advanced Micro Economic Theory, Himalaya Publishing House, Bombay (Hindi and English Versions).
9. Salvatore D. (2006), Microeconomics-Theory and Applications, Oxford University Press
10. Salvatore D, (2002) Theory and Problems of Microeconomic Theory, Schaum's Outline Series, McGraw-Hill Book Company, Singapore.
11. Samuelson, P.A. and W.D. Nardhaus – Economics, Tata McGraw Hill, New Delhi.
12. Seth, M.L. (Latest Edition) – Principles of Economics, Laxmi Narayan Agrawal, Agra. (Hindi and English Versions.
13. Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
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Paper Code: 1322

First Year T.D.C. Arts

Paper – II

INDIAN ECONOMIC ENVIRONMENT

Course Outcomes:

CO1: The objective of the course is to sharpen the analytical skills of the students by highlighting on broad overview of the Indian economy.

CO2: To get familiar with the issues related to agriculture, industry, foreign trade, Economic Planning and various problems in India.

CO3: Students will also acquaint with the broad overview of Rajasthan economy.

UNIT – I

Characteristics of Indian Economy, Trends and Sectoral Composition of National Income, Sectoral Distribution of workforce; Broad Demographic Features: Population Size and Growth Rates, Sex Composition, Problems of Over-population, Population Policy.

UNIT – II

Nature and Importance of Agriculture, Trends in Agricultural Production and Productivity; Green Revolution and Need for Second Green Revolution, Agricultural Market, Agricultural price policy and Minimum supporting price, Government measures for Agriculture development.

Trends in Industrial Development during pre and post reform Period, Growth and Problems of Small Scale Industries, Industrial Policy of 1956, 1991 and Latest.

UNIT – III

Economic Infrastructure – Transport , Power and communication

Major Problems of Indian Economy – Poverty, Inequality and Unemployment- Their Trends and Measures taken by Government to overcome them

Economic planning in India-Concept of Five year planning; Niti Aayog- Structure and planning.

UNIT – IV

The Position of Rajasthan's Economy in Indian Economy, Broad Demographic Features of Rajasthan- Trends in population growth and Human Development Index, Trends and Sectoral Composition of State Domestic Product, Sectoral Distribution of workforce, Trends in Agriculture and Industrial Production, Tourism Development in Rajasthan.

UNIT – V

Natural Resource Endowments- Land, Water, Livestock and Minerals

Economic Infrastructure- Power, Roads, Industrial Finance- RIICO, RFC, RAJSICO

Problem of Poverty, Unemployment, Famine and Drought- Trends and Measures taken by Government to overcome them. Tribal Development schemes of Rajasthan

Basic Reading List

1. Mishra and Puri – Indian Economy, Himalaya Publishing House, New Delhi.
2. Rudra Dutt and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
3. Alok Ghosh – Indian Economy Its Nature and Problems, The New Book Stall.
4. Hariharan, N. P. (2008) – Lights and Shades of Indian Economy, Vishal Publishing Co., Jalandhar.
5. Uma Kapila (20th Edition) (2009) – Indian Economy Since Independence, Academic Foundation, New Delhi.
6. Jalan, B. (1992) – The Indian Economy, Problems and Prospects, Viking, New Delhi.
7. Reserve Bank of India – Report on Currency and Finance (Annual).
8. Indian Economy (Extra issue) – Pratiyogita Darpan, Upkar Prakashan, Agra.
9. Annual Economic Survey, Government of India (Latest).
10. Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987) – The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
11. Government of India, Planning Commission, 11th Five Year Plan, New Delhi.
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MOHANLAL SUKHADIA UNIVERSITY: UDAIPUR

SYLLABUS

OF

ECONOMICS

FACULTY OF SOCIAL SCIENCE

Bachelor of Arts Honours (Economics)

2019-20 onwards

Paper code:1331

B.A. HONOURS IN ECONOMICS

FIRST YEAR HONOURS

Paper – I

MICRO ECONOMICS

Course Outcome:

CO1: This course enables students to understand the basic concepts and principles of Micro Economics and to apply them to the real world

CO2: It will develop the understanding of behaviours of consumers and producers in the market, price determination in commodity and factor market and criteria of welfare in Economics.

CO3: Theories and diagrammatical representations are the most important tools that will aid students to understand and grasp the subject.

UNIT – I

Introduction of Economics: Definition, Nature, Scope, Methods-Inductive and Deductive. Utility Analysis – Cardinal and Ordinal Utility Approach. Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility. Demand – Meaning, Law of Demand, Demand Curve, Elasticity of Demand – Price, Income and Cross Elasticity, Consumer's Surplus. Indifference Curve: Consumer's Equilibrium, Price, Income and Substitution Effects (Hicks Approach).

UNIT – II

Production Function – Law of Variable Proportions, Stages of Production, Iso-quants and Expansion Path, Factor Substitution, Returns to Scale, Cost and Revenue Concepts and their interpretations, Equilibrium of the Firm.

UNIT – III

Market Forms – Perfect and Imperfect Markets. Characteristics and Price-Output Determination under Perfect Competition, Monopolistic Competition, Monopoly and Discriminating Monopoly. Oligopoly Market: Characteristics, Price Rigidity and Kinked Demand Curve, Cartels.

UNIT – IV

Distribution Theories: Marginal Productivity Theory of Distribution, Theories of Wage Determination- Subsistence Theory and Modern Theory. Theories of Rent – Ricardian and

Modern Theory. Theories of Interest – Classical, Keynesian and Modern Theory. Theories of Profit: Innovation, Risk and Uncertainty Theory.

UNIT – V

Welfare Economics – Meaning and Nature, Economic and General Welfare. Welfare Criteria – Classical View, Pareto Criterion, Compensation Criterion, Social Welfare Function.

Basic Reading List

1. Ahuja, H.L. (Latest Addition). Advanced Economic Theory, Sultan Chand and Company, New Delhi (Hindi and English Versions).
2. Barla, C.S. (Latest Addition), Advanced Micro Economics, National Publishing House, Jaipur, New Delhi (Hindi and English Versions).
3. Baumol, W. J. (1982) – Economic Theory and Operations Analysis (4th Edition), Prentice Hall of India, New Delhi.
4. Jhingan, M.L. (Latest Addition), Micro Economics, Vrinda Publication, New Delhi (Hindi and English Versions).
5. Karl E. Case and Ray C. Fair, (2007), Principles of Economics, 8th Ed., Pearson Education Inc.
6. Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
7. Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton
8. Mankiw, G. (2010), Principles of Microeconomics, 6th ed., South-Western College Publication, USA.
9. Misra, S. K. and Puri, V. K. (2001) – Advanced Micro Economic Theory, Himalaya Publishing House, Bombay (Hindi and English Versions).
10. Salvatore D. (2006), Microeconomics-Theory and Applications, Oxford University Press
11. Samuelson, P.A. and W.D. Nardhaus – Economics, Tata McGraw Hill, New Delhi.
12. Seth, M.L. (Latest Edition) – Principles of Economics, Laxmi Narayan Agrawal, Agra. (Hindi and English Versions.
13. Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
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Paper Code:1332

B.A. HONOURS IN ECONOMICS

FIRST YEAR HONOURS

Paper –II

PUBLIC ECONOMICS

Course Outcome:

CO1: The course will provide basic information to students on the scope of Public Economics.

CO2: The students will be able to understand the significance of government and its functions, governmental finance and its impacts on economic development.

UNIT –I

Nature and Scope of Public Finance, Market Failure: Market efficiency, Reasons for Market failure, Public goods and Externalities,

UNIT-II

Taxation-Objectives, Classification, Canons and Effects of Taxation. Tax Elasticity, Impact and Incidence of Taxation; Theories of Taxation-Benefit Theory, Ability to Pay Theory, Principle of Maximum Social Advantage. Characteristics of Good Taxation System.

UNIT-III

Public Debt: Sources and Effects, Public debt Vs Alternative Sources of Resource Mobilization, Public Expenditure- Classifications, Canons and Effects of Public Expenditure, Wagner Law and Wiseman-Peacock Hypothesis.

UNIT-IV

Functions of Fiscal Policy- Allocation, Distribution and Stabilization. Fiscal policy in India. Public Expenditure in India- need for government spending, areas of government spending in India, Pattern and Trends in Central Governments Expenditure; Capital and Revenue Expenditure, Plan and Non-plan Expenditure of central government. Capital Receipts, Revenue Receipts; Tax and Non-tax revenue; Direct and Indirect Taxes. Steps taken to increase Revenue- Tax Simplification, Improvement in Tax Administration, Expansion of Tax Net. Need to Rationalize Tax Structure. Goods and Services Tax (GST) in India.

UNIT-V

Deficits- Concept and Types - Fiscal, Primary, Revenue. Impact of Fiscal Deficit on Economy, Need to Control Fiscal Deficits, Trends in Fiscal and Revenue Deficit. Zero-Base

Budgeting and Gender Budgeting. Fiscal Devolution and Centre-State Financial Relations in India, Role of Finance Commission.

Reading List:

1. Agarwal, R.C (2007): Public Finance Theory and Practice, Leksmi Narayan Agarwal, Agra,India.
2. Andley and Sundaram (2006): Public Economics and Public Finance, Ratan Prakash, Agra.
3. Bhatia,H.L.(1994): Public Finance, Vikas Publishing House, New Delhi.
4. Hajela, T N(2010): Public Finance, 3rd ed, Ann's Books, New Delhi.
5. Lekhi, R K (2003): Public Finance, Kalyani Publications, New Delhi.
6. Mithani, D M(1998): Modern Public Finance, 1st ed, Himalaya Publishing House, New Delhi.
7. Singh, S. K (2010): Public finance-Theory and Practice, 6th ed, S Chand, New Delhi
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Paper Code :1333

B.A. HONOURS IN ECONOMICS

FIRST YEAR HONOURS

Paper – III

QUANTITATIVE TECHNIQUES

Course Outcome:

CO1: This course provides basic knowledge of mathematical technique which are frequently used in economic analysis.

CO2: This course will enable the students to use elementary statistical techniques for data analysis in social researches.

CO2: Being combination of basic mathematical and statistical techniques, this course will enable students to use these techniques to understand the economic theories.

UNIT – I

Simple Differential calculus – First and Higher Order derivatives, Maxima and Minima. Partial and Total Derivatives- First and Higher Order derivatives.

Integration – Methods of Integration, Substitution and by Parts, Partial Fraction and Definite Integrals.

UNIT – II

Matrices and their types, Inverse of Matrices. Determinants and their properties. Application of the Matrices and Determinants in solving Simultaneous Equations. Game theory: Saddle Point Solution, Mixed Strategy, Nash Equilibrium.

UNIT – III

Measures of Central Tendency – Mean, Median, Mode. Measures of Dispersion – Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Quartile Deviation, Skewness and Kurtosis.

UNIT – IV

Correlation – Simple Coefficient of Correlation, Karl Pearson and Rank Correlation, Regression Analysis – Simple Regression, Least Square Method,

Time Series Analysis – Concept and Components, Determination of Regular trends: Moving Average Methods and Least Square Method.

UNIT – V

Index numbers – Concept, Index Methods – Laspeyer's, Pasche's and Fisher, Family budget method, Problems in the construction and limitations of Index Numbers, Test for ideal Index Number.

Elementary Probability Theory: concept of permutation and combination, concept of probability, rules of probability (addition and multiplication rules), Conditional Probability and Bayes' rule. Probability Distribution – Binomial, Poison and Normal Distribution (concept).

Basic Reading List

1. Agrawal, D.R. (2015). Mathematics and Statistics in Economics, Vrinda Publications,Delhi.
2. Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics (3rd Edition), McGraw Hill, New Delhi
3. Croxton, Crowden and Klein (1971) –Applied General Statistics, Prentice Hall of India, New Delhi.
4. Gupta, S.P. (2002) – Statistical Methods ,S. Chand and Sons, New Delhi.
5. Madnani, G.M.K.- Arthshastra Me Ganit Ke Prayog .(Hindi Version)
6. Nathuramka L.N. (2016), Arthshastra Me Ganit Ke Prayog, College Book House, Jaipur.(Hindi Version)
7. Nagar, A.L. and Das, R.K. (1993) –Basic Statistics, Oxford University Press, New Delhi.
8. Sydsaeter K.and P. Hammond (2002) *Mathematics for Economic Analysis*, Pearson Educational Asia, Delhi
9. dSyk'kukFk ukxj (2002) & lkaf[;dh ds ewy rRo] feuk{kh ifCyds'ku] esjBA

Paper Code :1334

B.A. HONOURS IN ECONOMICS
FIRST YEAR HONOURS
Paper – IV
HISTORY OF ECONOMIC THOUGHT

Course Outcome:

The course outcome of the paper is as follows

CO1: The paper will make students aware of the economic history.

CO2: It will also provide a historical perspective on the evolution and process of transformation of economic thought.

UNIT – I

Nature and Significance of History of Economic Thought, Economic Thought of Plato and Aristotle, Mercantalism, Physiocracy.

UNIT – II

Classical School – Adam smith, Malthus, Ricardo, J.S. Mill and J.B. Say

UNIT – III

The Socialists – Sismondi, Robertowen, Rodbertus and Karl Marx, The Mathematical School – Jevons, Fisher, Walras and Pareto.

UNIT – IV

Marshall, Keynes, Pigou, Robbins, Schumpeter and Galbrath, J.R. Hicks

UNIT – V

Economic Ideas of Kautilya, Mahatma Gandhi, J.K. Mehta, Jawaharlal Nehru and Amartya Sen.

Basic Reading List

1. Bell John Fred (1963), History of Economic Thought, the Ronald Press Company, New York
2. Bhatia, H.L (1980), History of Economic Thought, Vikas publishing house Pvt. Ltd. India.

3. Ganguli, B.N. (1977) – Indian Economic Thought: A 19th Century Perspective, Tata McGraw Hill, New Delhi.
4. J.C.Pant & M.L.seth, (2015) Aarthik Vicharon Ka Itihas,Laxmi Narain Agarwal, Agra. .(Hindi Version)
5. M.C.Vaish, (2002) Aarthik Vicharon Ka Itihas,S.Chand & Co., New Delhi.(Hindi Version)
6. Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York.
7. Seshadri, G.B. (1997), Economic Doctrines, B.R. Publishing Corporation, Delhi.
8. Roll, E. (1973) – A History of Economic Thought, Faber, London.

Paper Code: 2331

B.A. HONOURS IN ECONOMICS

SECOND YEAR HONOURS

Paper – V

MACRO ECONOMICS

Course Outcome:

CO1: This course will make the learners familiar with the economic aggregates and their role in economy.

CO2: It also covers various theories related to consumption and basic concept of investment.

CO3: Students will also get familiar with the Concept and various theories of business cycles.

UNIT – I

Nature and Scope of Macro Economics, Concepts and Measurement of National Income, Circular flow of Income (Four sector Economy), Savings and Investment – Ex ante and Ex post Equality and Equilibrium; Different forms of National Income Accounting – Social Accounting, Green Accounting.

UNIT – II

The Classical Theory of Income and Employment, Keynes Critique on classical theory, Keynesian Theory of determination of Income and Employment,

Theories of Interest – Classical, Neo-Classical, Keynesian Theory and Modern Theory.

UNIT – III

Consumption Function- Meaning and Basic concepts, Theories of consumption- Absolute Income hypothesis, Relative Income hypothesis, Permanent Income Hypothesis and Life cycle theory.Factors influencing Consumption Spending. Concept of Multiplier , The Acceleration principle.

Meaning and Types of Investment; Concept of Marginal Efficiency of Capital.

UNIT – IV

Business Cycle – Nature, Characteristics, Phases, Theories of Business Cycle – Hawtrey's Monetary Theory, Hayek's over Investment Theory, Keynes view on Trade Cycle, Samuelson and Hicks Multiplier and Accelerator Interaction Model. Measures to control business cycles in India

Paper Code: 2331

B.A. HONOURS IN ECONOMICS

SECOND YEAR HONOURS

Paper – V

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UNIT – V

Inflation – Classical, Keynesian and Monetarist approaches to inflation, Structuralist theory of inflation; Philips curve analysis - Short run and long run Philips curve; Tobin's modified Philips curve. Samuelson and Solow - the natural rate of unemployment hypothesis.

Reading List:

1. Ackley, G. (1978) – Macroeconomics: Theory and Policy, McMillan, New York.
2. Branson, W.A. (1989) Macroeconomic Theory and Policy, (3rd Edition) Harper and Row, New Delhi.
3. Dornbusch, Fischer, Startz-Macroeconomics, The Mcgraw Hill Company Ltd., New York.
4. H.L. Ahuja –Advanced Macro Economic Theory, S Chand and Co. New Delhi
5. Shapiro, E. (1996) – Macroeconomic Analysis, Galgotia Publications, New Delhi.
6. Keynes, J. M. (1936) – The General Theory of Employment, Interest and Money, Macmillan, London.
7. M.L. Jhingan- Macro Economic Theory, Vrinda publication, New Delhi
8. Romar, D. L. (1996) – Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
9. Patinkin, D. (1965) – Money, Interest and Prices. Haper and Row, New York.
10. Culbertson, J. M. (1968) – Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogenkoshi, Tokyo.
11. Friedman, M. (1957) – The Theory of Consumption Function, Princeton University Press, Princeton.
12. Duesenberry, J. S. (1949) – Income saving and the Theory of Consumer Behaviour, Harvard University Press, Harvard.
13. Hicks, J. R. (1950) – A contribution to the Theory of Trade Cycles, Clarendon Press, Oxford.
14. Hicks, J. R. (1974) – The Crisis in Keynesian Economics, Oxford University Press, New Delhi.

Paper Code:2332

B.A. HONOURS IN ECONOMICS

SECOND YEAR HONOURS

PAPER – VI

MONEY AND FINANCIAL MARKETS

Course Outcome:

CO1: The course will provide the basic information to students about the concepts, theories and scope of financial sector.

CO2: The students will understand the significance and functions of short term and long term financial markets, Exchange Rate and their impact on economic indicators.

UNIT – I

Money – Meaning, Functions and Classification; Importance of Money, Gresham's Law; Main Components of Money Supply, New measurement of Money supply, Concept of Money Multiplier, Near Money. Quantity Theory of Money – Cash Transaction, Cash Balance and Keynesian Approach.

UNIT – II

Commercial Banks – Meaning, Types and Functions, The Process of Credit Creation in single Bank system and Multi-banking system, Limitation to Credit Creation; Liabilities and Assets of Banks. Role and importance of Non-Banking Institutions in economy.

Role and functions of Central Bank, Quantitative and Qualitative Methods of Credit Control: Bank Rate, Open Market Operations, Variable Reserve Ratio and Selective Methods;

RBI and Monetary policy in India.

UNIT – III

Financial system – Financial intermediary, financial assets and financial market. Financial Assets-Share, Bond and debenture and financial innovation. Problems in financial transactions- Asymmetric information and Moral hazard. Financial Market- Money Market and Capital Market; Components, Functions and Sources of Long Term and Short Term Finance. Non-Banking Financial Institutions (NBFI's) – Mutual fund, LIC, Investment Companies, Venture Capital. Co-operative Institutions: Structure, Objectives and Limitations.

UNIT-IV

Financial System in India – Components, Functions and Importance; Markets, Measures taken by Government of India to liberalize the financial system, Financial Sector Reforms and their Impact on economic growth in India. Role of SEBI in capital market,

UNIT – V

Foreign Exchange – Determination of Exchange Rate under Fixed and Flexible Exchange Rate, Spot and Forward Exchange Rate, Future ,Forward and option contract to control the Exchange Rate. The role of hedging in the determination of Exchange Rate, Euro-Dollar Markets – Its rate and significance.

Basic Reading List

1. Mitthani, D.M. – Money and Banking, Himalaya Publishing Company, New Delhi.
2. Sethi, T.T. – Monetary Economics, Laxmi Narayan Agarwal, Agra.
3. Seth, M. L. – Money and Banking, Lakshmi Narayan Agrawal, Agra.
4. Ojha, B.L. – Money Banking and Public Finance, Ramesh Book Depo., Jaipur.
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Paper Code :2333

B.A. HONOURS IN ECONOMICS

SECOND YEAR HONOURS
Paper – VII
MATHEMATICAL ECONOMICS

Course Outcome:

CO1: This course will equip students to understand the economic concepts and theories with the use of mathematical tools and techniques to refine the verbal logic.

CO2: The Modern algebraic tools will allow convenient handling of simultaneous equations in the context of linear programming and input-output analysis.

UNIT – I

Utility function, Indifference Curves and their characteristics, Budget line, Constrained Optimization, Consumer's Equilibrium, Slutsky equation -Income effect, Substitution effect and Price effect. Derivation of Simple Demand Curve and Elasticity of Demand.

UNIT – II

Properties of Production Function – Homogeneous and Non-Homogeneous, Cobb-Douglas, CES, Returns to Scale. Choice of Optimal Combination of Factors of Production; Cost and Revenue Functions, Derivation of Cost Curves, Relation between total, Average and Marginal cost and revenue, Adding up theorem.

UNIT – III

Concept of Equilibrium – Equilibrium of the firm under Perfect Competition, Monopoly and Monopolistic Competition, Monopoly – Price Discrimination, Cobweb Model.

UNIT – IV

Pricing under Duopoly- The Cournot Model, The Bertrand Model, and the Stackelberg Model. Collusive Oligopoly. Kinked Demand Curve Model.

Trade Cycle Model of Hicks and Samuelson. Harrod-Domar Growth Model.

UNIT – V

Input-Output Analysis – The simple closed and open model, Linkages, Concepts and Measurement, Dynamic Input-Output Model.

Linear programming- Concept and Assumptions, Basic theorem of Linear Programming, Primal and Dual, Graphic and Simplex Method.

Basic Reading List

1. Henderson, J. and R.E. Quandt (1980) – Microeconomic Theory: a Mathematical Approach, McGraw Hill, New Delhi.
2. Mehta and Madnani – Mathematics for Economists, Sultan Chand and Sons, New Delhi.
3. Madnani, G.M.K. – Mathematical Economics: Oxford and IBH Publishing Co., New Delhi.
4. Cliang, A.C. – Fundamentals of Mathematical Economics, McGraw Hill, New York.
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Paper Code: 2334

B.A. HONOURS IN ECONOMICS

SECOND YEAR HONOURS
Paper – VIII
INTERNATIONAL ECONOMICS

<u>Course Outcome</u>:

CO1: This paper will develop the understanding of theories of International Trade which explain the reasons, composition and impacts of international trade to students.

CO2: It will also build the understanding of trade policy and exchange rate system.

CO3: The students will have an idea about trends, composition and direction of international trade and trade policy of India.

UNIT – I

Importance of International Economics, Inter-regional and international trade, Theories of International Trade, Theory of Absolute Advantage, Comparative Advantage and Opportunity Cost, Hecksher-Ohlin theory of trade and trade under Imperfect Competition.

UNIT – II

Gains from Trade – Their measurement and distribution, Concepts of terms of trade and determinants of Terms of Trade.

Concept and components of Balance of Payments, Equilibrium & Dis-equilibrium in Balance of Payments, Devaluation and other measures to correct deficit in the Balance of Payments.

UNIT – III

Foreign Trade Policy – Free trade v/s Protection, Types of Tariffs and Quotas and their impact on Partial Equilibrium analysis. Concept of Optimum and effective Tarrif. Concept of Foreign Trade Multiplier.

UNIT – IV

Foreign exchange – Meaning, Types and Theories of Determination of Exchange Rate- The Purchasing Power Parity Theory and Modern Theory. Fixed v/s Flexible Exchange Rate Policy. Exchange Control- Meaning, Objectives and Methods of Exchange Control.

UNIT – V

Foreign Trade of India- Trend, Composition and Direction. EXIM Policy of India –Pre and Post Globalisation. FDI- Trends and Impact. WTO and Its Impact on Indian Economy. Globalisation Debate: Regionalism, Multilateralism or Nationalism.

Basic Reading List

1. Acharyya R.(2014). International Economics-An Introduction to Theory and Policy, Oxford University Press, New Delhi.
2. Barla C.S. and Agrawal (2012). International Economics. Laxmi Narayan Agarwal, Agra. (Hindi Version)
3. Cherunilam, F. (2008). International Economics, The Tata McGraw-Hill Companies,New Delhi. 5th Ed.
4. Jhingan M.L. (2015). International Economics, Vrinda Publications, New Delhi (English & Hindi Version)
5. Kindlberger, C. P. (1991). International Economics, R D Irwin, Homewood.8th Ed.
6. Krugman, P.R. and M. Obstfeld (2013). International Economics- Theory and Policy, Dorling Kindersely Pvt. Ltd. Licensee of Pearson Education, new Delhi India.
7. Salvatore, D. (2014). International Economics: Trade and Finance., Jhon Wiley &Sons, Singapore.
8. Mithani, D. M. – International Economics, Himalaya Publication House, Bombay
9. Rana, K.C. and K.N. Verma (2010). International Economics, Vishal Publishing House, Ludhiyana. (English & Hindi Version)
10. Sodersten, B.C. (1991). International Economics, Macmillan Press, London.
11. Swami, K. D. (2008) – International Economics, Scientific Publications, Jodhpur. (Hindi Version)
12. Vaish, M.C. and S. Singh (2000). International Economics, Oxford and I.B.H. Publishing Company Pt. Ltd., New Delhi. (Hindi Version)

Paper Code: 3331

B.A. HONOURS IN ECONOMICS

THIRD YEAR HONOURS

Paper – IX

GROWTH AND DEVELOPMENT ECONOMICS

Basic Reading List

1. Acharyya R.(2014). International Economics-An Introduction to Theory and Policy, Oxford University Press, New Delhi.
2. Barla C.S. and Agrawal (2012). International Economics. Laxmi Narayan Agarwal, Agra. (Hindi Version)
3. Cherunilam, F. (2008). International Economics, The Tata McGraw-Hill Companies,New Delhi. 5th Ed.
4. Jhingan M.L. (2015). International Economics, Vrinda Publications, New Delhi (English & Hindi Version)
5. Kindlberger, C. P. (1991). International Economics, R D Irwin, Homewood.8th Ed.
6. Krugman, P.R. and M. Obstfeld (2013). International Economics- Theory and Policy, Dorling Kindersely Pvt. Ltd. Licensee of Pearson Education, new Delhi India.
7. Salvatore, D. (2014). International Economics: Trade and Finance., Jhon Wiley &Sons, Singapore.
8. Mithani, D. M. – International Economics, Himalaya Publication House, Bombay
9. Rana, K.C. and K.N. Verma (2010). International Economics, Vishal Publishing House, Ludhiyana. (English & Hindi Version)
10. Sodersten, B.C. (1991). International Economics, Macmillan Press, London.
11. Swami, K. D. (2008) – International Economics, Scientific Publications, Jodhpur. (Hindi Version)
12. Vaish, M.C. and S. Singh (2000). International Economics, Oxford and I.B.H. Publishing Company Pt. Ltd., New Delhi. (Hindi Version)

Paper Code: 3331

B.A. HONOURS IN ECONOMICS

THIRD YEAR HONOURS

Paper – IX

GROWTH AND DEVELOPMENT ECONOMICS

Course Outcome:

CO1: The Student will be able to understand the models of Economic Development and their applications for underdeveloped or developing economies.

CO2: This paper will help students to understand the important issues in the context of development.

UNIT – I

Growth and Development – Concept and Measurements: HDI and other indices; Factors affecting Economic Growth, Sustainable Development, Concepts of Inclusive and Exclusive Growth.

UNIT – II

Theories of Growth and Development-Malthus, Karl Marx & Schumpeter, Rostow's Stages of Economic Growth, Nelson's Theory of Low Level Equilibrium Trap.

Growth Balanced and Unbalanced Growth- Rosenstein Rodan's Big Push Theory and Hirschman's Strategy.

UNIT – III

Models of Economic Development- Harrod and Domar Growth Models, Solow Growth Model, Mrs. Joan Robinson's Growth Model- Golden Rule of Accumulation, Kaldor Model of Distribution. Endogenous Growth Model.

UNIT – IV

Role of State in Economic Development, Role of Agriculture in Economic Development, ,Role of Industries in Economic Development, Role of Foreign Trade in Economic Development. Infrastructure and its importance in Economic Development.

UNIT – V

Population and Economic Development - Theory of Demographic Transition, Population as Limit to Growth and as Ultimate Source. Human Capital Formation – Meaning and Need.

Issues in Economic Growth and Development: Vicious Circle of Poverty, Modern Growth and rise in International Inequalities- The inverted U-hypothesis, Economic Growth and Social Justice.

Basic Reading List

1. Gupta, L. K. – Growth Theory and Strategy: New Direction, Oxford University.
2. Jhingan, M.L. – Economic of Growth and Development, Vrinda Publication, New Delhi (English and Hindi Version).
3. Meier, G.M. and James E. R. (2006). Leading Issues in Economic Development, Oxford University Press, New York.
4. Puri, V.K. and S.K. Misra (2016). Economics of Development and Planning, Himalaya Publishing House, New Delhi.
5. Ray, D. (2009). Development Economics, Oxford University Press, New Delhi.
6. Sen, A. (2000) Development as Freedom, Oxford University Press.
7. Singh, S.P.(2001). Economic Growth and Planning, Himalaya Publishing House, New Delhi (English and Hindi Version).
8. Taneja, M. L. and R. M. Myer (2008). Economics of Development and Planning, Vishal Publishing Company, Jalandhar(English and Hindi Version).
9. Thirwall, A.P.(1999). Growth and Development with special reference to Developing Economics, Macmillan and ELBS, London.
10. Todaro, M. P. (1996) (6^{th} edition). Economic Development, Longman, London.

Paper Code :3332

B.A. HONOURS IN ECONOMICS

THIRD YEAR HONOURS
Paper – X
INDIAN ECONOMICS

Course Outcome:

CO1: The paper will help students to get familiarized with the broad overview of the Indian economy.

CO2: The students will also get familiar with the issues related to agriculture, industry, foreign trade and Economic Planning in India.

CO3: The students will have a broad idea regarding the social and economic infrastructure of India.

Unit – I

Basic Features of Indian Economy, Trends and Sectoral Composition of National Income, Broad Demographic Features: Population Size and Growth Rates, Sex Composition, Sectoral Distribution of workforce, Problems of Over-population, Population Policy.

Unit – II

Nature and Importance of Agriculture, Trends in Agricultural Production, Land Reforms, New Agricultural Strategy and Need for Second Green Revolution, Rural Credit, Agricultural Marketing, Agricultural price policy and Minimum supporting price.

Trends in Industrial Development during pre and post reform Period, Industrial Policy of 1956 and 1991 and Latest Industrial Policy, Growth, Problems and Policies for Small-Scale Industries. Sources and Problems of Industrial Finance.

Unit – III

Economic planning in India-Concept of Five year planning; Niti Aayog- Structure and planning.

New Economic Reforms – Liberalization, Privatization and Globalization, Rationale behind Economic Reforms, Problems of Poverty, Inequality and Unemployment in India.

Unit – IV

Infrastructure Development – Irrigation, Power, Transport and Communication. Social Infrastructure- Education, Health and Malnutrition. Indicators of Human Development-

Human Development Index (HDI), Gender Related Development Index (GDI). Happiness Index.

Unit – V

The Position of Rajasthan's Economy in Indian Economy, Broad Demographic Features of Rajasthan- Trends in population growth and Human Development Index, Trends and Sectoral Composition of State Domestic Product, Sectoral Distribution of workforce, Trends in Agriculture, Industrial and Mining Production, Tourism Development in Rajasthan.

Problem of Poverty, Unemployment, Famine and Drought- Trends and Measures by Government to overcome them. Tribal Development schemes of Rajasthan

Reading List

1. Mishra and Puri – Indian Economy, Himalaya Publishing House, New Delhi.
2. Rudra Dutt and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
3. Alok Ghosh – Indian Economy Its Nature and Problems, The New Book Stall.
4. Hariharan, N. P. (2008) – Lights and Shades of Indian Economy, Vishal Publishing Co., Jalandhar.
5. Uma Kapila (20th Edition) (2009) – Indian Economy Since Independence, Academic Foundation, New Delhi.
6. Jalan, B. (1992) – The Indian Economy, Problems and Prospects, Viking, New Delhi.
7. Reserve Bank of India – Report on Currency and Finance (Annual).
8. Annual Economic Survey, Government of India (Latest).
9. Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987) – The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
10. Government of India, Planning Commission, 11th Five Year Plan, New Delhi.
11. :æ nÙk & fodkl] xjhch ,oa lerk] nhi ,oa nhi ifCyds'ku çk- fy-] ubZ fnYyhA
12. Hkkjrh; vFkZO;oLFkk vfrfjDrkad½] çfr;ksfxrk niZ.k] midkj çdk'ku] vkxjkA
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Paper Code :3333

B.A. HONOURS IN ECONOMICS

THIRD YEAR HONOURS

Paper – XI

ECONOMETRIC METHODS

Course Outcome:

CO1: This paper will equip the students with basic theories of econometrics.

CO2: Students will learn the construction of econometric models, estimation of parameters of these models and will be able to interpret the parameters estimates.

UNIT – I

Definition and Scope of Econometrics, The methodology of Econometric Research, Statistical v/s. Deterministic relationships, Basic concepts of Estimation, Desirable properties of Estimators (small sample and large sample properties).

UNIT – II

Theoretical Frequency Distributions – Binomial, Poisson and Normal- Their Meaning, characteristics and probability Distribution Function (Only Theoritical).

Testing of Hypothesis, Type-I and Type-II errors, Tests based on Z, t and x^2 (Chi-square) Statistics.

UNIT – III

Ordinary Least Squares (OLS) Method – Assumptions, Gauss – Markov Theorem (Derivation), Application of OLS Method, Testing of Regression Coefficients- T test, F test and Coefficient of Determination(R^2).

UNIT – IV

Problem of Heteroscedasticity, Auto Correlation (first order) and Multicollinearity – Meaning, Consequences, tests and remedies.

UNIT – V

Lags in econometric Models – Meaning and Basic Concepts, Koyck model, Partial Adjustment and Adaptive Expectation Models. Dummy variables – Meaning and Uses of dummy variables. Concept of Instrumental variable.

Basic Reading List-

1. Gujarati, D. – Basic Econometrics, McGraw Hill, New Delhi.
2. Johnston, J. (1985) – Econometric Methods, McGraw Hill, New York.
3. Madnani, G.M.K. – Introduction to Econometrics – Principles and Applications, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Maddala, G.S. (1993) – Econometrics – An Introduction, McGraw Hill, New York.
5. Koutsoyiannis, A. (1977) – Theory of Econometrics (2nd Edition), McGraw Hill, New York.

Paper Code :3334

B.A. HONOURS IN ECONOMICS

THIRD YEAR HONOURS

Paper – XII

COMPREHENSIVE ECONOMICS

Course Outcome:

CO1: This course will give a comprehensive basic knowledge of Labour, Industrial Agricultural and Environmental Economics to students.

CO2: It will build a theoretical foundation of these broad topics and enable students to discuss the contemporary issues related to them.

UNIT – I

Labour Market – Forms and characteristics, Demand and Supply of Labour. Characteristics of Labour Market in India. Major issues in Organised and Unorganised Labour Markets.

Labour Migration. Labour market reforms – Exit policy, need for safety nets, measures imparting flexibility in labour market in India. Second National Commission on Labour in India.

Social Security – Concept, Objectives and Main Features, Need for Social Security in India, Social Security Measures in India – Workmen's Compensation Act, Employee's State Insurance Scheme (In brief).

UNIT – II

Industrial Economics – Definition and Scope, Determinants of Industrial Growth, Theories of Industrial Location – Weber and Sargent Florence; Factors affecting location, Concept of the firm and organization of a firm-ownership. Growth of firms: Vertical integration, diversification, mergers and innovation; constraints on growth – demand, financial and managerial. Mergers and Acquisitions of firms- meaning, types and methods, various forms of mergers in India.

UNIT –III

Nature and Scope of Agricultural Economics, Role of Agriculture in Economic Development, Interdependence between Agriculture and Industry, Agriculture Development and Technological Progress, Sustainable Agriculture, Indigenous Practices, Bio-technological Practices. Causes of low Productivity of Indian Agriculture and suggestions for improvement of Agricultural Productivity.

UNIT – IV

Agricultural Marketing -Concepts, Need and pre-requisites for efficient agricultural marketing, Role in Economic Development, Agricultural Marketing Efficiency Criteria.

Agri-business – Meaning, nature and Scope of Agri-Business. Importance of Agri-business in Agricultural Development, Agricultural Prices and Price Policy in India, Agriculture Price and Cost Commission in India. Agricultural Insurance- Concept, Need and Effects

Trends in Agricultural Exports, WTO and Indian Agriculture.

UNIT – V

Environmental Economics - Meaning, Importance and Scope; The Concept of Externalities, Environment as a Public Good and Market Failure. Environmental Kuznet's Curve.

Environmental valuation - Physical Linkage Methods, Abatement Cost Method, Behavioural Linkage Method, Contingent Valuation Method (CVM), Hedonic Pricing Technique.

Development and Environment: Environmental problems, Trans- boundary Environmental Problem- Global warming and Climate change, Carbon trading; Environmental Law and Policy in India

Basic Reading List

1. Agrawal, N.L. (2003). Bhartiya Krishi Ka Arthtantra, Rajasthan Hindi Granth Academy.
2. Barthwal, R. R. (2010).Industrial Economics, New Age International (P) Limited, New Delhi, 2010.
3. Bhattacharya, R. N. (Ed.) (2001) – Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.
4. Bilgrami, S.A.R. (1996). An introduction to Agriculture Economics, Himalaya Publishing House, New Delhi.
5. Kolstad, C.D. (2008). Environmental Economics, Oxford University Press.
6. Cherunilam, F. (1994). Industrial Economics: Indian Perspective (3rd Edition) Himalaya Publishing House, Mumbai.
7. Desai, B. (1999). Industrial economy in India (3rd Edition) Himalaya Publishing House, Mumbai.
8. Desai, R. G. (Latest). Agriculture Economics, Himalaya Publishing House, New Delhi.
9. Govt. of India: Economic Survey (Latest), Government of India.
10. H. K. Pathak (2010). Economics of Environmental Development, G. S. Rawat for Cyber Tech Publication.
11. Lester, R.A. (1964). Economics of Labour (2nd Edition), Macmillan, New York.
12. M.L. Jhingan (Latest). Environmental Economics, Vrinda publication, New Delhi.
13. Mamoria and Mamoria (2000). Dynamics of Industrial Relations in India, (15th Edition), Himalaya Publishing House, Mumbai
14. Mc Connell, C.R. and Bruce, S.L. (1986).Contemporary Labour Economics, McGraw Hill, New York.

15. Papola, T.S. and Rodgers, (Eds.) (1992). Labour Institutions and Economic Development in India, International Institute for Labour Studies, Geneva.

16. Rudra, A. (1982). Indian Agricultural Economics: Myths and Reality. Allied Publishers, New Delhi.

17. Sadhu, A. N. and Amarjit Singh (Latest). Fundamentals of Agriculture Economics, Himalaya Publishing House, New Delhi.

18. Sengupta, R. P. (Ed.) (2001). Ecology and Economics: An Approach to Sustainable Development, Oxford University Press, New Delhi.

19. Singh, A. and A.N. Sadhu (1988). Industrial Economies, Himalaya Publishing House, Mumbai.

Faculty of Education

Courses offered-

- B.A. B.Ed.
- B.Ed.
- B.Sc. B.Ed.
- M.Ed.

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR (Raj.)

SYLLABUS

FACULTY OF EDUCATION

SCHEME OF EXAMINATION & COURSE OF STUDIES

B.A.B.Ed. FOUR- YEARS INTEGRATED PROGRAMME

Mohanlal Sukhadia University, Udaipur (Raj.) – 313 001

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR (Raj.)

Scheme of Examination and Course of Studies

BACHELOR OF ARTS (B.A.) & BACHELOR OF EDUCATION (B.Ed.)

B.A.B.Ed FOUR YEARS INTEGRATED COURSE

(B.A.B.Ed. Programme Is a Full Time, Four Academic Session Programme; Each Session Will Be of 200 Days Duration)

1. INTRODUCTION

Destiny of a nation is shaped in its classrooms and teacher is the architect who shapes the destiny. Enlightened, emancipated and empowered teachers lead communities and nations towards better and higher quality of life. Teachers are expected to create soul cohesion, national integration and learning society. They disseminate knowledge and generate new knowledge. It is therefore, essential for nation to have a sound and effective programme of teacher preparation. The teacher education programme needs to be upgraded and updated periodically.

A perusal of the reports of various commissions and committees indicate the preference for longer duration of B.A.B.Ed. Course. It was also endorsed by the Hon'ble Supreme Court of India in its judgement on 15 June 1993. "The Teachers Training Institutes are meant to teach children of impressionable age and we cannot let loose on the innocent and unwary children the teachers who have not received proper and adequate training. True, they will be required to pass the examination but that may not be enough. Training for a certain minimum period in a properly organised training institute is essential before a teacher may be duly launched." The NCTE (2009) recommended a four year B.A.B.Ed. Course. Earlier too in 1998 NCTE had recommended four year B.A.B.Ed. Course in its earlier curriculum framework. The NCERT had prepared four year B.A.B.Ed. Curriculum and launched it in the Regional Institutes of Education in 1999.

Now, finally the NCTE has recommended that the B.A.B.Ed. Course should be of four years duration and has prepared a Curriculum Framework for Four year B.A.B.Ed. Programme. Mohanlal Sukhadiya University also decided to introduce four year B.A.B.Ed. Course and has prepared a detailed course of study and Scheme of Examination for four years B.A.B.Ed. Course on the basis of guideline given in the curriculum framework. The four year B.A.B.Ed. Course will come in to force from the session commencing in 2016. The four year B.A.B.Ed. Course aims at a complete development of the student-teacher; particularly in knowledge and skills, in individual care of the learner and also in methods and evaluation designed to facilitate learning. This course is divided into four parts. It aims at developing understanding of and competence to render disciplinary knowledge into forms relevant to stage specific understanding of teaching-learning situation apprehended through intensive study of conceptual explanations, observation and analysis of live classroom situations as well as hand-on experiences and longer duration of field experience. Interactive processes, i.e. group reflection, critical thinking and meaning-making have been encouraged. The maturity of student-teachers has

been kept in mind while visualizing modes of learning engagements; instead of continuous teacher monitoring, greater autonomy to learners has been given in accordance with andragogic principles of learning. The syllabus retains the essence of student-teachers being active participants in the learning process and prepares the student-teachers for facing the emerging challenges resulting out of globalization and its consequences. Therefore it becomes essential for any nation to give necessary professional inputs to its teachers. Mohanlal Sukhadia University pursues the following curriculum for its pre-service teacher training programme. The curriculum also aims at developing language proficiency of the pupil teacher by providing him opportunities through different activities and course content.

The B.A.B.Ed. Courses are integrated progressive in accruing the doubles bachelor's degree which is the B.A. & B.Ed degree. The degree enable's the students to complete the B.Ed Education along with the B.A. degree course. The courses are conducted by M.L.S.U.

2. OBJECTIVES OF THE COURSE

The objectives of theory course prescribed for the B.A. B.Ed. course are as follows:

1. To develop competence to teach subjects of their specialization on the basis of an adequate theory of learning and a sound knowledge of the subjects.
2. To develop interest, attitude and knowledge which will enable them (i) to foster the all-round growth and development of children under their care and (ii) to provide guidance to individual pupils?
3. To develop an understanding of the aims and objectives of education in the Indian background and to promote an awareness of the role of the school and the teacher in realizing these aims and ideals.
4. To develop an understanding of the close relationship between societies and the school, between life and school work.
5. To become self-regulated learners; develop professional commitment and work as responsible professionals.
6. To make them comfortable with content and pedagogical effective use and utilization of ICT.
7. To enable them to critically analyse the various evaluation tools to serve CCE.
8. To reflect on teacher practices and interface with societal resources
9. To build up professional consciousness.

The objectives of practical work prescribed for the B.A. B.Ed. course are as follows:

To develop the ability and self-confidence of pupil teachers to-

1. Be conscious of a sense of values and need for their inculcation in children through all available means including ones own personal life.
2. Posses a high sense of professional responsibility.
3. Develop resourcefulness so as to make the best use of the situation available.
4. Appreciate and respect each child's individuality and treat him as an independent and integrated personality.

5. Arouse their curiosity and interest and secure their active participation in the education process.
6. Develop capacity for thinking and working independently and guide them to that end.
7. Organize and manage the class for teaching learning.
8. Appreciate the dynamic nature of the classroom situation and teaching techniques.
9. Define objectives of particular lessons and plan for achievement.
10. Organize the prescribed subject matter in relation to the needs, interest and abilities of the pupils.
11. Use appropriate teaching methods and techniques.
12. Prepare and use appropriate teaching aids, use of the black board and other apparatus and materials properly.
13. Convey ideas in clear and concise language and in a logical manner for effective learning.
14. Undertake action research.
15. Give proper opportunity to the gifted pupils and take proper care of the pupils with special need.
16. Correlate knowledge of the subjects being taught with other subjects and with real life situations as and when possible.
17. Prepare and use assignment.
18. Evaluate pupil's progress.
19. Plan and organize co-curricular activities and participate in them.
20. Co-operate with the school teachers and administrators and learn to maintain school records and registers.

Learning Outcomes

After the completion of the course the student teacher is expected to attain the following learning out comes:

1. Competence to teach effectively two school subjects at the secondary/senior secondary level.
2. Ability to translate broad objectives of secondary/senior secondary education in terms of specific programmes and activities in relation to the curriculum.
3. Ability to understand children's needs, motives, growth pattern and the process of learning to stimulate learning and creative thinking to foster growth and development.
4. Ability to use (a) individualized instruction and (b) dynamic methods in large classes.
5. Ability to examine pupil's progress and effectiveness of their own teaching through the use of proper evaluation techniques.
6. Use of Equipment for diagnosing pupil's difficulties and deficiencies in achievement and dealing with them through remedial work.
7. Readiness to spot talented and gifted children and capacity to meet their needs.
8. Ability to cater to the need of children with special needs.
9. Ability to organize various school programmes, activities for pupils.
10. Ability to provide guidance in educational, personal and vocational matters.
11. Ability to assess the all round development of pupils and to maintain a cumulative record.

12. Development of certain practical skills such as:

- Black board work
- Preparing improvised apparatus
- Preparing teaching aids

13. Developing professional competence.

14. Readiness to participate in activities of professional organizations.

3. MODES OF LEARNING ENGAGEMENT

Overall Intention of Modes of Learning Engagement

- The Curriculum is so designed that the student-teachers internalize the nature of education and pedagogic process through enriched experiences.
- The kinds of learning engagement suggested will contribute to reduction of the gap between theory and practice by dovetailing both appropriately.
- The Curriculum emphasises the use of varied modes of learning engagement in accordance with the requirements.
- Interactive processes wherein group reflection, critical thinking and meaning making will be encouraged.
- In this respect, critical theory, critical pedagogy and critical thinking become very crucial theoretical inputs and are embedded implicitly in various courses.
- While visualizing modes of learning engagement, the nature of student teachers who are adults has been kept in mind. Instead of continuous teacher monitoring greater autonomy to learners has been recommended which is more relevant and in accordance with the andragogic principles of learning.

- Multiple learning engagements visualized being more active / interactive, the course work is clearly not meant to be burdensome and 'memory based', but challenging and engaging.

Some Specific Modes of Learning School Observation

- Observation of school infrastructure.
- Short Lesson plan.
- Innovation in teaching learning.
- Importance of interaction between Parents & Teachers.
- Tutorial classes.
- Prepare a Sociomatry test.
- To develop and evaluate moral values.
- To prepare, administrate & analysis of a questionnaire.

These are suggestive modes of learning engagement. Teacher educators will have to create, design and evolve different modes of learning engagement based on the course and suited to the needs of student teachers.

Enhancement of Learning through School-based Experiences

Most courses require school experience for various purposes. I year significant aspect is School observation Single school visit for carrying out tasks related to course .School-based experience to learn not only classroom pedagogy, but also learning to function as a teacher in the school environment.

Perspectives in Education

Perspectives in Education include courses in the study of childhood, child development and adolescence, contemporary India and education

Course 1 Childhood and Growing Up

Course 2 Contemporary India and Education (Including Gender, School and Society)

The course on 'Childhood and Growing up' shall enable student-teachers to en gage with studies on Indian society and education, acquire conceptual tools of sociological analysis and hands-on experience of engaging with diverse communities, children and schools. The course on 'Contemporary India and Education' shall develop a conceptual understanding about issues of

Diversity, inequality and marginalization in Indian society and the implications for education, with analyses of significant policy debates in Indian education.

These courses shall aim to develop in students an understanding of the curriculum, linking school knowledge with community life. A variety of investigative projects, that link with curricular area III given below, shall be included to reconstruct concepts from subject knowledge though appropriate pedagogic processes that communicates meaningfully with children.

Optional courses will be offered in areas such as Vocational/Work Education, Health and Physical Education, Peace Education, Guidance and Counseling,

Select three subjects by choosing any one subject in one group.

Group A – ECONOMICS / SANSKRIT

B – GEOGRAPHY / RAJASTHANI

C – POLITICAL SCIENCE / DRAWING

D – PSYCHOLOGY / HISTORY

E - PUBLIC ADMINISTRATION / HINDI / HOMESCIENCE

F – SOCIOLOGY / ENGLISH

4. EVALUATION

EVALUATION OF THEORY PAPERS

Some theory papers will carry a weightage of 100 marks, out of which 80 marks will be for external University Examination and 20 marks will be for internal sessional work. Out of 20 marks - 10 marks will be for sessional and 10 marks will be for mid-term test. The final external examination paper for **80 marks will be of three hour's duration**

1. Each question paper (80 MARKS) will have three sections- **Section A** will contain 10 very short answer type questions and the candidate will be required to attempt the entire ten questions. Each question will carry two marks. **Section-B** will contain 10 short answer type questions out of which a candidate is required to attempt any 5 questions (one question per unit to be attempted out of two questions per unit). Each question will carry 6 marks. **Section-C** will have 5 questions and a candidate will be required to attempt any three questions. There will be 10 marks for each question.

3. Very short answer type questions would aim at testing of critical thinking, knowledge of concepts, facts, definitions, laws, principles, generalization etc. and also understanding of principles and concepts.

4. Short answer type questions would aim at testing knowledge, definitions, laws, generalization etc. And also understanding of concepts.

5. Essay type questions are to aim at testing the abilities of critical thinking and application of principles taught in theory.

Question Type	No. of Questions per Unit	Total No. of Questions	No. of Questions to be attempted	Total Marks
Very short question type	2 Per Unit	10	10	10 x 2 = 20
short question type	2 Per Unit	10	5 (One question per unit to be attempted)	5 x 6 = 30
Long Question Type	1 Per Unit	5	3	3 x 10 = 30

5.THE CURRICULAR DETAILS FOR FOUR YEARS

ANNUAL DISTRIBUTION OF THE COURSES

B.A.B.Ed FOUR YEARS INTEGRATED COURSE I Year					
Cours No.	**Paper Code**	**Name of Subject**	**Paper**	**Max. Marks**	**Min. Marks**
Course 1	9371	Childhood and Growing up	Theory	100 (80+20)	36
Course 2	9372	Contemporary India and Education (Including Gender, School & Society)	Theory	100 (80+20)	36
Course 3	9373	Understanding the Self (Internal Assessment)		50	20
Course 4	9374	School Observation	Presentation & Documentation	50	20
Course 5	9601	Core Subjects*			
		a) Gen English.	Theory	100	36
	9602	b) Environmental Studies	Theory	75	27
			Fieldwork	25	9
Course 6	9301	Economics I	Paper I	100	36
	9302	Economics II	Paper II	100	36
Course 7	9303	Sanskrit I	Paper I	100	36
	9304	Sanskrit II	Paper II	100	36
Course 8	9305	Geography I	Paper I	70	25
	9306	Geography II	Paper II	70	25
	9307	Geography Practical	Practical	60	22
Course 9	9308	Rajasthani I	Paper I	100	36
	9309	Rajasthani II	Paper II	100	36
Course 10	9310	Political Science I	Paper I	100	36
	9311	Political Science II	Paper II	100	36
Course 11	9312	Drawing I	Paper I	85	31
	9313	Drawing II	Paper II	85	31
	9314	Submission Work		30	10
Course 12	9315	Psychology I	Paper I	70	25
	9316	Psychology II	Paper II	70	25
	9317	Psychology Practical	Practical	60	22
Course 13	9318	History I	Paper I	100	36
	9319	History II	Paper II	100	36

Course 14	9320	Public Administration I	Paper I	100	36
	9321	Public Administration II	Paper II	100	36
Course 15	9322	Hindi I	Paper I	100	36
	9323	Hindi II	Paper II	100	36
Course 16	9324	Home Science I	Paper I	75	27
	9325	Home Science II	Paper II	75	27
	9326	Home Science Practical I	Practical I	25	9
	9327	Home Science Practical II	Practical II	25	9
Course 17	9328	Sociology I	Paper I	100	36
	9329	Sociology II	Paper II	100	36
Course 18	9330	English I	Paper I	100	36
	9331	English II	Paper II	100	36

B.A.B.Ed FOUR YEARS INTEGRATED COURSE
II Year

Course No.	Paper Code	Nomenclature	Paper	Max. Marks	Min. Marks
Course 19	9471	Learning & Teaching	Theory	100 (80+20)	36
Course 20	9472 - 9483	Pedagogy of School Subject I	Theory	100 (80 +20)	36
Course 21	9472 - 9483	Pedagogy of School Subject II	Theory	100 (80+20)	36
Course 20 & 21	9472	1. Pedagogy of Economics			
	9473	2. Pedagogy of Sanskrit			
	9474	3. Pedagogy of Geography			
	9475	4. Pedagogy of Rajasthani			
	9476	5. Pedagogy of Political Science			
	9477	6. Pedagogy of Art			
	9478	7. Pedagogy of Psychology			
	9479	8. Pedagogy of History			
	9480	9. Pedagogy of Hindi			
	9481	10. Pedagogy of Home Science			
	9482	11. Pedagogy of Social science			
	9483	12. Pedagogy of English			
Course 22	9484	Pre-Practice Teaching	Practical	50	20

		(Internal Assessment)		**(20+10+20)**	
		a) Practicing teaching Skill		**20**	
		b) T.L.M. Workshop in each Subject		**10**	
		c) Simulated teaching		**20**	
Course 23	**9485**	**Open Air Session / SUPW Camp (Internal Assessment)**		**50**	**20**
Course 24		**Core Subject***			
	9603	**Elementry Computer Application**	**Theory**	**60**	**22**
	9604	**Practical**	**Practical**	**40**	**14**
Course 25	**9401**	**Economics I**	**Paper I**	**100**	**36**
	9402	**Economics II**	**Paper II**	**100**	**36**
Course 26	**9403**	**Sanskrit I**	**Paper I**	**100**	**36**
	9404	**Sanskrit II**	**Paper II**	**100**	**36**
Course 27	**9405**	**Geography I**	**Paper I**	**70**	**25**
	9406	**Geography II**	**Paper II**	**70**	**25**
	9407	**Geography Practical**	**Practical**	**60**	**22**
Course 28	**9408**	**Rajasthani I**	**Paper I**	**100**	**36**
	9409	**Rajasthani II**	**Paper II**	**100**	**36**
Course 29	**9410**	**Political Science I**	**Paper I**	**100**	**36**
	9411	**Political Science II**	**Paper II**	**100**	**36**
Course 30	**9412**	**Drawing I**	**Paper I**	**85**	**31**
	9413	**Drawing II**	**Paper II**	**85**	**31**
	9414	**Submission Work**		**30**	**10**
Course 31	**9415**	**Psychology I**	**Paper I**	**70**	**25**
	9416	**Psychology II**	**Paper II**	**70**	**25**
	9417	**Psychology Practical**	**Practical**	**60**	**22**
Course 32	**9418**	**History I**	**Paper I**	**100**	**36**
	9419	**History II**	**Paper II**	**100**	**36**
Course 33	**9420**	**Public Administration I**	**Paper I**	**100**	**36**
	9421	**Public Administration II**	**Paper II**	**100**	**36**
Course 34	**9422**	**Hindi I**	**Paper I**	**100**	**36**
	9423	**Hindi II**	**Paper II**	**100**	**36**
	9424	**Home Science I**	**Paper I**	**75**	**27**

Course 35	9425	Home Science II	Paper II	75	27
	9426	Home Science Practical I	Practical I	25	9
	9427	Home Science Practical II	Practical II	25	9
Course 36	9428	Sociology I	Paper I	100	36
	9429	Sociology II	Paper II	100	36
Course 37	9430	English I	Paper I	100	36
	9431	English II	Paper II	100	36

B.A.B.Ed FOUR YEARS INTEGRATED COURSE III Year					
Course No.	Paper Code	Nomenclature	Paper	Max. Marks	Min. Marks
Course 38	9571	Assessment for Learning	Theory	100 (80+20)	36
Course 39	9572	Language acroos the curriculam (Including Reading & Reflecting on texts)	Theory	100 (80+20)	36
Course 40	9573	School Internship (Phase I,4 weeks) Internal assessment Engagement with the field: Tasks and Assignment for courses 20 &21		150	60
Course 41	9574	External Assessment one lesson of Pedagogy of a School subject.		100	40
Course 42	9605	Core Subject*			
		General Hindi		50	18
Course 43	9501	Economics I	Paper I	100	36
	9502	Economics II	Paper II	100	36
Course 44	9503	Sanskrit I	Paper I	100	36
	9504	Sanskrit II	Paper II	100	36
Course 45	9505	Geography I	Paper I	70	25
	9506	Geography II	Paper II	70	25
	9507	Geography Practical	Practical	60	22

Course 46	9508	Rajasthani I	Paper I	100	36
	9509	Rajasthani II	Paper II	100	36
Course 47	9510	Political Science I	Paper I	100	36
	9511	Political Science II	Paper II	100	36
Course 48	9512	Drawing I	Paper I	85	31
	9513	Drawing II	Paper II	85	31
	9514	Submission Work		30	10
Course 49	9515	Psychology I	Paper I	70	25
	9516	Psychology II	Paper II	70	25
	9517	Psychology Practical	Practical	60	22
Course 50	9518	History I	Paper I	100	36
	9519	History II	Paper II	100	36
Course 51	9520	Public Administration I	Paper I	100	36
	9521	Public Administration II	Paper II	100	36
Course 52	9522	Hindi I	Paper I	100	36
	9523	Hindi II	Paper II	100	36
Course 53	9524	Home Science I	Paper I	75	27
	9525	Home Science II	Paper II	75	27
	9526	Home Science Practical I	Practical I	25	9
	9527	Home Science Practical II	Practical II	25	9
Course 54	9528	Sociology I	Paper I	100	36
	9529	Sociology II	Paper II	100	36
Course 55	9530	English I	Paper I	100	36
	9531	English II	Paper II	100	36

B.A.B.Ed FOUR YEARS INTEGRATED COURSE IV Year

Course No.	Paper Code	Name of Subject	Paper	Max. Marks	Min. Marks

Course 56	**9671**	**Educational Management & creating an Inclusive school**	**Theory**	**100 (80+20)**	**36**
Course 57	**9672**	**Knowledge & Curriculam.**	**Theory**	**100 (80+20)**	**36**
Course 58	**9673**	**Drama & Art. (Internal Assessment)**		**50**	**20**
Course 59	**9674**	**Optional Courses (any 1). 1. Health & Physical Education. 2. Guidance & Counselling. 3. Peace Education.**		**50 (40+10)**	**18**
Course 60	**9675**	**School Internship (Phase II, 16 Weeks) Engagement with the field: Tasks and Assignment for courses 20 & 21**		**250**	**100**
Course 61	**9676**	**External Assessment Viva-Voce for School Internship subject**		**150**	**60**

SYLLABUS

FIRST YEAR

Cours No.	Name of Subject
Course 1	Childhood and Growing up
Course 2	Contemporary India and Education (Including Gender, School & Society)
Course 3	Understanding the Self (Internal Assessment)
Course 4	School Observation
Course 5	Core Subjects*
	a) Gen English.
	b) Environmental Studies
Course 6	Economics I
	Economics II
Course 7	Sanskrit I
	Sanskrit II
Course 8	Geography I
	Geography II
	Geography Practical
Course 9	Rajasthani I
	Rajasthani II
Course 10	Political Science I
	Political Science II
Course 11	Drawing I
	Drawing II
	Submission Work
Course 12	Psychology I
	Psychology II
	Psychology Practical
Course 13	History I
	History II
Course 14	Public Administration I
	Public Administration II

Course 15	**Hindi I**
	Hindi II
Course 16	**Home Science I**
	Home Science II
	Home Science Practical I
	Home Science Practical II
Course 17	**Sociology I**
	Sociology II
Course 18	**English I**
	English II

Paper Code - 9371

Course 1 - CHILDHOOD & GROWING UP

Objectives–After completion of the course the student teachers will be able to:-

1. Understand the Developmental characteristics of Childhood and adolescence.
2. Learn the Theories of development.
3. Understand Educational provisions of children at different stages of development.
4. Understand the Concepts and Components of Personality.
5. Know the Techniques of Personality Assessment.
6. Understand the Psycho-Analytic Theory of personality.
7. Understand the Concept and Importance of Mental Health and role of Teacher in Promoting Mental Health.
8. Acquire the Concept of Individual Variation and their Classroom Implications.
9. Understand nature and Characteristics of Intelligence.
10. Understand the Theories of Intelligence.
11. Acquire the skill of Measurement of Intelligence.

COURSE CONTENT

UNIT- I Basic Concepts of Child Development

1. Meaning, Scope and Importance of studying Child Development.
2. Methods of study of Children- Case Study, Observation and Field Studies.
3. Basic Concepts in Child Development-Growth V/S Development, Maturation V/S Learning, Heredity Vs. Environment (Family, Neighborhood, School and Community)
4. Principles of Growth and Development
5. Stages of Development.

UNIT- II Childhood

1. Developmental characteristics of Childhood with reference to Physical, Cognitive, Motor, Social, Emotional and Moral aspects.
2. Theories of Development- Piaget (cognitive), Erikson (Psychosocial)
3. Educational Implications of Development during Childhood.

UNIT- III Adolescence

1. Characteristics of adolescence development- Physical, Cognitive, Social and Emotional.
2. Difficulties during transition period- Difficulties in Social Transition, Conflicts, Social Attitude and Behavior, Influence of Peers, Conformity and Self assertiveness and Personality Integration.
3. Impact of Urbanization, Economic, Social and Political changes on the construction and experience of Adolescence.
4. Issues in adolescence -

- Identity crisis;
- Idealism and Hero worship
- Gender Issues
- Child Labor
- Changing Family Structures
- Peer Pressures
- Pressure of Competition
- Juvenile Delinquency

5. Critical analysis of significant events e.g. sexual abuse, Harassment, Gender and Poverty.
6. Guidance and Counseling of adolescents.

UNIT- IV Personality and Mental Health

1. Personality Concept, types and Components of Personality.
2. Psychoanalytic theory of Personality by Freud.
3. Factors affecting Personality development.
4. Assessment of Personality- Projective and Non-Projective Techniques.
5. Mental Health

a) Concept and Importance

b) Types of Conflicts and Defense Mechanisms

c) Role of Teacher in Promoting Mental Health

UNIT - V Individual Variations

1. Concept of Variation and Classroom, Implication with reference to Intelligence, Aptitude, Creativity, Emotional Stability, Social Adjustment, Self Concept and Interest.
2. Introduction to Socially disadvantaged children who are marginalized on account of class, caste, Language, ethnicity or gender, first class generation learners.
   (Focus should be to understand how different socio political realities construct different childhoods Within children's lived contexts: Family, Schools, Neighborhood and Community through close Observation and interaction with children of different socio- economic and cultural backgrounds) Intelligence, Nature and Characteristics
3. Theories of Intelligence
   a) J.P. Guilford Structure of Intellect
   b) Howard Garden's Theory of Multiple Intelligence.
   c) Daniel Goleman's Model of Emotional Intelligence.
4. Measurement of Intelligence Types of Intelligence Tests – Verbal, Non- Verbal and Performance Tests.

SESSIONAL/PRACTICUM

Any Two from the following:

Practicum no.1 is compulsory for all.

1. Administration, Scoring, Interpretation and Reporting of one Mental Ability Test and one Personality Test .Any one from the following:

2 Preparation of case history of children from early childhood to adolescence taken from different Socio economic and cultural background in the context of family, schools, neighborhood and community.

3 Study of any one psychosocial issue related to adolescence (Child labour, Juvenile Delinquency, Pressure of Competition, Gender issues)

4 Study of any one issue represented and highlighted by media (sexual abuse and harassment, poverty, gender, child labour etc).

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Paper Code - 9372

Course 2- CONTEMPORARY INDIA & EDUCATION

(Including Gender, School & Society)

Objectives: Student teachers will be able to :-

1. Understand the diversified nature of Indian Society.
2. Understand the Marginalization and Inequality present in Indian Society.
3. Understand the Challenges and implications of Social diversity and inequality in school education.
4. Understand the role of Education in grooming children with respect to diversity.
5. Understand the Constitutional promises of freedom Social justice, equality and fraternity.
6. Critically examine the reflection of constitutional values in educational system.
7. Understand the policies related to education in pre and post independent india.
8. Critically examine the implementation of policies on education.
9. Understand the implications of Globalization, Privatization and Liberalization in education.
10. Develop gender sensitivity and understand the gender discrimination in family, school and society.

COURSE CONTENT

UNIT- I Indian Society & Education

1. Meaning, Nature & purpose of Education:
   a) According to different thinkers i.e,Gandhi, Tagore, Aurobindo, J.krishnamurti, Rousseau and Dewey.
   b) According to important National documents on Education i.e Education commission (1966) NPE (1986) its revision 1992, NCF (2005),
2. Concept of Social diversity, inequity and Marginalisation and role of Education to cope up with these issues.
3. Universalization of Education/RTE(2009) & its Challenges
4. Globalization, Liberalization, and Privatization and their implications in Education.

UNIT- II Education in India

1. Education in Pre Independence Period/ Macaulay's Minutes/ and major educational polices during preIndependence British Period.
2. Education in Post Independence period-
   (a) Policies regarding Education in post Independence Period [Specially NPE (1986), RTE (2009)
   (b) Important national documents on Education – Education commissions (1966), NCF (2005), Learning without burden (Yashpal committee report), NCFTE (2009)
   (iii) Dellors commission report – relevance to Indian Conditions

UNIT- III – Challenges in Education

1. Language policy
2. Enhancement of quality in Education and role of SSA and RAMSA in this.
3. Increasing enrollment at different stages

UNIT- IV Gender, School and Society

1. (a) Gender Sensitivity and its importance for society
   (b) Gender discrimination in Family
   (c) Gender discrimination in society
   (d) Gender discrimination in Schools
2. Role of Education, family, media and legislation in developing gender parity.

UNIT – V - Values in Education –

1. Values: concept and classification, unity of all life and being); tolerance; Values in modern Indian context with the reference to the Indian Constitution. Rights and Duties of a citizen as stated in constitution.
2. Value Education and role of school. Human rights & danger to Social Security, Role of Education in safe guarding human rights. Activities helpful in Inculcation of values.
3. Environmental Education- Role of teacher in Promoting Conservation of Environment.
4. Education for peaceful and cooperative living.

Practicum/Sessional work

Attempt any two-(One each from following sections)

Section A

1. Term paper on any one Topic/issues related to Education
2. Two abstract of any Two articles related to Education

Section B

1. Prepare a report on Co-curricular Activities of a school supporting Environment protection.
2. Case study of any one institution with reference to gender sensitivity.
3. Prepare a report of a group discussion conducted on language Policy/ Constitutional values/ Globalization/ Libralization/ Privatization.

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PAPER CODE- 9373

Course 3 - UNDERSTANDING THE SELF

Objectives: After completion of the course, the pupil teachers will be able to:

1. Understand the development of self as a person and as a teacher.
2. Develop sensibilities, dispositions and skills to facilitate personal growth of their students in the classroom.
3. Know the development of self concept and the professional identity.
4. Develop social relational sensitivity.
5. Build resilience within to deal with conflicts.
6. Analyze self identity (one's implicit beliefs, stereotypes and prejudices resulting from gender, culture, assets and limitations of oneself).
7. Become aware of the impact of political, historical, and social forces on their identity formation.
8. Learn and practice effective communication skills.
9. Understand the philosophy of yoga.
10. Practice Yoga to enhance abilities of body and mind.

COURSE CONTENT

UNIT 1: Exploration Into Self

1. Meaning and Nature of Self and Self Concept. Role of Home, Neighborhood, Community, Peer Group, School in their development. Importance of Building social Relations.

(a) Pupil teachers are required to explore their own self, self concept and self esteem by Administering tests of self efficacy, Self concept, self esteem and self identity under the Supervision of facilitators and prepare their personality profile.

(b) Pupil Teachers will be required to administer above tests to five school students and prepare student profile. On the basis of this profile they are required to prepare a teaching strategy to Enrich self concept, classroom learning and enhance achievement of students

Note: Records of the above to be submitted for evaluation

2. Self Esteem and Self Identity: Meaning and Nature; Development process: parenting practices, role of caste class, gender, age, religion, school, role models in the development of self esteem and self identity. Development of Teachers Personality: role of social, cultural, Political, academic, Psychological and organisational factors.

Pupil teachers are required to:

(a) Write down biographies of the best teachers they have come across

(b) Interview Successful teachers, professionals, businessmen and prepare a report of their interview.

(c) Collect success stories of high achievers in the field of academics/ sports / athletes/ actors and analyse them to identify their unique personality factors contributing to their success.

(d) Identify their own best contribution as a teacher, identify challenging situations they have come across during class room teaching.

Note : Reports of the above will be presented and discussed in the group situation and to be submitted for evaluation.

3. Motivation: Meaning and importance of achievement motivation for achieving excellence. Importance of Goal Determination and Goal Achievement. Achieving self actualisation in teaching Profession.

(Mode: Workshop in Small Groups)

Identify influences of motives in his/her achievement in schools, college/jobs/personal relations. Pupil teachers will reflect on their own contribution to enrichment of their family, society and peer group.

UNIT – II Communication

Meaning, nature, types; factors influencing communication: psychological, social, organisational. Mass Communication: its impact on personality development and classroom learning. Effective listening and its role in the classroom, Characteristics of effective communication (body language, listening behaviour, responding strategies), Mastering Effective Communication.

Workshop of Pupil Teachers to restructure personality through:

(a) Analysis of one's strengths and weaknesses, beliefs, prejudices, time management, life goals, professional commitment.

(b) Developing effective listening and observation skills. Student teachers are required to develop in the workshop their personal strategies to enrich inner self as a teacher and stipulate its impact on their students.

UNIT – III Philosophy and use of Yoga

Philosophy of Yoga and its role in well being, use of yoga in different contexts; importance of Meditation; contribution to development of self.

(a) Practice of Yoga Exercises and Meditation

SESSIONAL WORK

1. Reports of the practicums of the above units.

NOTE: In this paper there will be no external examination. Internally college will conduct a written examination carrying a weightage of 10 marks and a practical examination carrying a weightage of 20 marks, Viva Voce carrying a weightage of 10 marks and 10 marks will be awarded for sessional work.

College will conduct Internally

Total Marks : 50	**Internal Assessment : 50**
Written Examination	**10 Marks**
Practical Examination	**20 Marks**
Viva – Voce	**10 Marks**
Practicum / Sessional work	**10 Marks**

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FIRST YEAR
Course 5- (a)GENERAL ENGLISH

MM: 50

(Common for Science, Social Sciences and Humanities & Commerce Faculties)

(1) Texts :

1. The Many Worlds of Literature ed: Jasbir Jain: Macmilan India.

2. Animal Farm: By George Orwell

Or

A Vendor of Sweets: By R.K. Narayan

Distribution of Marks :

	Marks
1. Current English for Language skills:	**15**
(a) Short-answer questions (5 out of 10) each carrying 1 mark = 5 marks	
(b) General questions (2 out of 4) each carrying 4 marks = 8 marks	
(c) Questions on vocabulary = 2 marks	
2. Animal Farm or A Vendor of Sweets:	**10**
(a) Two questions (out of 4) each question carrying 5 marks = 10 marks	
2. Grammar :	**13**
(a) Tenses	3 marks
(b) Modal Auxiliaries	2 marks
(c) Phrasal Verbs	3 marks
(d) Clause (Nominal, Adjectival, Adverbial)	2 marks
(e) Use of Non-finite verbs (Gerunds, Participles and infinitives)	3 marks
3. Comprehension and Composition:	**12**
(a) Precis writing	5 marks
(b) Essay (about 300 words) on one topic out of four topics	7 marks

Books Recommended :

1. Pit Corder: An Intermediate English Grammar

2. Thompson and Martinet: A Practical English Grammar (ELBS - Oxford University Press)

Paper Code : 9602

FIRST YEAR

Course 5-(b)ENVIRONMENTAL STUDIES

(Credit Course)

(Compulsory for all Faculties)

The Environmental Studies (Compulsory) Examination shall consist of one theory paper of three hour duration and a field work. The student has to pass in theory as well as in field work separately.

Distribution of Marks	**Max. Marks**	**Min. Pass Marks**
Theory Paper	75	27
Field Work	25	09
Total	**100**	**36**

Pattern of question paper in the examination and distribution of marks :

The Environmental Studies (Compulsory) Examination will have a theory paper consisting two parts, A and B and a field work.

In Part A, total 10 questions will be set in the paper selecting at least one from each unit. Each question to be answered in about 50 words. All questions are compulsory. Each question carries 2.5 marks, total 25 marks.

In Part B, total 10 questions will be set, selecting at least one from each unit. Five questions have to be answered by the student selecting not more one from a unit. Each question to be answered in about 350 words. These questions carries 10 marks each, total 50 marks.

Field Work: Student will have to submit a typed/ hand written report of about 20 pages based on study of a local area of environmental interest. The report will be assessed by an internal examiner under the supervision of Dean/Principal of the College.

Suggested Books:

1. Chaudhary B.L. and J. Pandey (2004) : Environmental Studies (In Hindi), APEX Publishing House, Udaipur.

2. Purohit, S.S., Q.J. Shammi and A.K. Agrawal (2004), A Text Book of Environmental Sciences (In English), Student Edition, Jodhpur.

SYLLABUS

UNIT-1: The Multidisciplinary Nature of Environmental Studies

Definition, Scope and Importance; Need for public awareness (2 lectures).

UNIT-2: Natural Resources

Renewable and Non-renewable Resources: Natural resources and associated problems.

a) Forest Resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

b) Water Resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral Resources: Use and exploitation, environmental effects of extracting and using minerals resources, case studies.

d) Food Resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) Energy Resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.

f) Land Resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

* Role of an individual in conservation of natural resources.

* Equitable use of resources for sustainable lifestyles. **(8 Lectures)**

UNIT-3: Ecosystem

* Concept of an ecosystem

* Structure and function of an ecosystem

* Producers, consumers and decomposers

* Energy flow in the ecosystem

* Ecological succession

* Food chains, food webs and ecological pyramids.

* Introduction, types, characteristic features, structure and function of the following ecosystem -

(a) Forest ecosystem, (b) Grassland ecosystem, (c) Desert ecosystem, (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) **(6 lectures).**

UNIT-4: Bio-diversity and its conservation

* Introduction-Definition: Genetic, species and ecosystem diversity.

* Biogeographically classification of India.

* Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.

* Biodiversity at global, national and local levels.

* India as a mega-diversity nation

* Hot-spots of biodiversity

* Threats of biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.

* Endangered and endemic species of India.

* Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity **(8 lectures)**

UNIT-5: Environmental Pollution

Definition:

* Causes, effects and control measures of: (a) Air pollution; (b) Water pollution; (c) Soil pollution; (d) Marine pollution; (e) Noise pollution; (f) Thermal pollution; (g) Nuclear hazards.

* Solid Waste Management: Causes, effects and control measures of urban and industrial wastes.

* Role of an individual in prevention of pollution.

* Pollution case studies.

* Disaster management: floods, earthquake, cyclone and landslides. **(8 lectures)**

UNIT-6: Social Issues and the Environment

* From Unsustainable to sustainable development

* Urban problems related to energy

* Water conservation, rain water harvesting, watershed management

* Resettlement and rehabilitation of people; its problem and concerns. Case studies.

* Environmental ethics: Issues and possible solutions.

* Climatic change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
* Wasteland reclamation
* Consumerism and waste products
* Environment Protection Act
* Air (Prevention and Control of Pollution) Act
* Water (Prevention and Control of Pollution) Act
* Wildlife Protection Act
* Forest Conservation Act
* Issues involved in enforcement of environment legislation
* Public awareness **(7 lectures).**

UNIT-7: Human Population and the Environment

* Population growth, variation among nations
* Population explosion - Family Welfare Programme
* Environment and Human Health
* Human Rights
* Value Education
* HIV/AIDS
* Women and Child Welfare
* Role of Information Technology in Environment and Human Health
* Case Studies **(6 lectures)**

UNIT-8: Field Work

* Visit to a local area to document environmental assets - river/forest/grassland/hill/mountain
* Visit to a local polluted site - Urban/Rural/ Industrial/Agricultural
* Study of common plants, insects, birds
* Study of simple ecosystems - pond, river, hill slopes etc. (Field work Equal to **5 lecture** hours).

Paper Code: 9301

First Year Arts
Paper – I
Course 6-MICRO ECONOMICS

UNIT – I

Introduction: Definitions of Economics – Wealth, Welfare, Scarcity and Development related definitions, Nature and Scope of Economics, Methods of Study Normative and Deductive Approach, Choice as an Economic Problem, Micro and Macro Economics, Static and Dynamic Analysis, The Concept of Equilibrium.

UNIT – II

Consumer Behavior: Utility Analysis- Cardinal Approach – Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility, Ordinal Approach- Indifference Curve Analysis – Consumer's Equilibrium, Price, Income and Substitution effects (Hicksian Approach). Demand- Meaning, Law of Demand and Demand Curve, Elasticity of Demand – Price, Income and Cross Elasticity, Consumer's Surplus.

UNIT – III

Producer's Behaviour: Production Function, Laws of Variable Proportions and Stages of Production, Different Concepts of Cost and Revenue Curves and their relationship. Isoquants – Factor Substitution and Returns to Scale, Equilibrium of the Firm, Expansion Path.

UNIT – IV

Market Forms: Perfect and Imperfect Markets, Characteristics and Determination of Equilibrium Price and Quantity in Perfect Competition and Monopolistic Competition. Monopoly Market – Characteristics, Determination of Equilibrium Price and Quantity under Monopoly. Price Discrimination. Measures of Monopoly Power. Effects of Taxation on Equilibrium of the Firm.

UNIT – V

Distribution: Marginal Productivity Theory of Distribution, Concept of Wages, Determination, Substance, Theory of Wages and Modern Theory of Wager Determination, Concept of Rent, Theories of rent – Different Rent and Quasi-rent. Concepts of Interests – Classical and Keynesian Theories of Interest, Concepts of
Profits, Innovation, Risk and Uncertainty Theories of Profit.

Basic Reading List :-

1. Koutsyannis, A. – Modern Micro Economics, Macmillan.
2. Samuelson, P.A. and W.D. Nardhaus – Economics, Tata McGraw Hill, New Delhi.
3. Misra and Puri – Advanced Economic Theory, Himalaya Publishing Company, Bombay.
4. Seth, M.L. – Principles of Economics, Laxmi Narayan Agrawal, Agra.
5. Ahuja, H.L. – Principles of Micro Economics, S. Chand and Co. Ltd., New Delhi.
6. Jhingan, M.L. – Micro Economic, Vrinda Publications Pvt. Ltd., New Delhi.
7. नाथूरामका, एल.एन. – व्यष्टि अर्थशास्त्र, कॉलेज बुक हाऊस, जयपुर
8. ओझा बी. एल. – व्यष्टि अर्थशास्त्र, आदर्श प्रकाशन जयपुर
9. बरला, सी. एस. – व्यष्टि अर्थशास्त्र
10. झिंगन, एम.एल. – व्यष्टि अर्थशास्त्र, वृन्दा पब्लिकेशन, नई दिल्ली।
11. सेठ, एम.एल. – अर्थशास्त्र के सिद्धान्त, लक्ष

Paper Code: 9302

First Year Arts
Paper – II
INDIAN ECONOMIC ENVIRONMENT

UNIT – I

Characteristics of Indian Economy, Trends and Sectoral Composition of National Income, Broad Demographic Features: Population Size and Growth Rates, Sex Composition, Rural-Urban Migration.

Occupational Distribution; Problems of Over-population, Population Policy.

UNIT – II

Nature and Importance of Agriculture, Trends in Agricultural Production and Productivity Status and Need for Irrigation Development, Land Reforms, Green Revolution and Need for Second Green Revolution, Agricultural Marketing, Rural Indebtness, Rural Credit, Agriculture Policy (Latest).

Trends in Industrial Development during the Planning Period, Growth and Problems of Small Scale Industries, Economic Infrastructure for Industrial Development, Transport Power and Industrial Finance, Industrial Policy of 1956, 1991 and Latest.

UNIT – III

Objectives, Strategy, Achievements and Failures of Indian Plans, Current Five Year Plan-Objectives, Allocation and Targets.

New Economic Reforms – Liberalization, Privatization and Globalization, Major Problems of Indian Economy – Poverty, Inequality and Unemployment.

UNIT – IV

Role of Foreign Trade; Trends in Exports and Imports, Composition and Direction of Indian's Foreign Trade, Problems of Balance of Payment, Export Promotion Measures and the New EXIM Policies, Role and Importance of FDI and MNCs.

5

UNIT – V

The Position of Rajasthan's Economy in Indian Economy, Broad Demographic Features, Trends and Sectoral Corporation of State Domestic Product, Trends in Agriculture and Industrial Production and Productivity, Tourism Development in Rajasthan.

Problem of Famine and droughts, Tribal Development Schemes of Rajasthan, Latest Five Year Plan of Rajasthan – Objectives, Strategy.

Basic Reading List

1. Agrawal, A.N. – Indian Economy, Vishwa Prakashan.
2. Misra and Puri – Indian Economy, Himalaya Publishing House, New Delhi.
3. Dutta, Rudra and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
4. मिश्रा एवं पुरी – भारतीय अर्थव्यवस्था, हिमालय पब्लिशिंग हाऊस, नई दिल्ली।
5. रूद्र दत्त एवं सुन्दरम – भारतीय अर्थव्यवस्था, एस. चन्द एण्ड कम्पनी, नई दिल्ली।
6. नाथुरामका, एल.एन. – भारतीय अर्थव्यवस्था, कॉलेज बुक हाऊस, जयपुर।
7. ओझा, बी.एल. – भारती अर्थव्यवस्था, आदर्श प्रकाशन, जयपुर।

Paper Code : 9303

बी.एड. प्रथम वर्ष (संस्कृत) 2007–2008

Course 7-प्रथम प्रश्न पत्र : काव्य ,नाटक एवं प्रायोगिक व्याकरण

अंक – 100

पाठ्यक्रम –

1. काव्य – नीतिशतकम् – भर्तृहरि
2. नाटक : स्वप्नवासवदत्तम् – भास
3. प्रायोगिक व्याकरण

समग्र पाठ्यक्रम पांच इकाइयों में तथा प्रश्नपत्र तीन खण्डों में विभाजित किया गया है। इसका विस्तृत विवरण निम्नलिखित है –

पाठयक्रम की इकाइयाँ

प्रथम इकाई –

नीतिशतक की प्रथम पांच पद्धतियां – मूर्खपद्धति, विद्वत्पद्धति, मानशौर्यपद्धति, अर्थपद्धति, दुर्जनपद्धति।

द्वितीय इकाई –

नीतिशतक की शेष पद्धतियाँ – सज्जनपद्धति, परोपकारपद्धति, धैर्यपद्धति, दैवपद्धति, कर्मपद्धति।

तृतीय इकाई

स्वप्नवासवदत्तम् के एक से चार अंक

चतुर्थ इकाई –

स्वप्नवासवदत्तम् के पंचम व षष्ठ अंक

पंचम इकाई –

प्रायेागिक व्याकरण

प्रश्न–पत्र का विस्तृत अंक विभाजन

प्रथम खण्ड

(वस्तुनिष्ठात्मक भाग) **10 अंक**

इस खण्ड के अन्तर्गत विकल्परहित वस्तुनिष्ठात्मक दस प्रश्न पूछे जायेंगे। ये सम्पूर्ण पाठ्यक्रम पर आधारित होंगे तथा समस्त इकाइयों से समान रूप से सम्बद्ध होंगे।

द्वितीय खण्ड

(व्याख्यात्मक भाग) **50 अंक**

इस खण्ड के अन्तर्गत कुल पांच प्रश्न (व्याख्याएं) शत–प्रतिशत विकल्प के साथ पूछे जायें। इनमें से प्रत्येक प्रश्न का उतर (व्याख्या) लगभग 250 शब्दों में देना होगा। प्रत्यक प्रश्न के लिये 10 अंक निर्धारित है। इनका पाठ्यक्रमानुसार विभाजन निम्न प्रकार से है –

(क) नीतिशतक की प्रथम पांच पद्धतियों (मूर्खपद्धति, विद्वत्पद्धति, मानशौर्यपद्धति, अर्थपद्धति, दुर्जनपद्धति) के श्लोकों में सेदो श्लोक देकर किसी एक की व्याख्या पूछी जाएगी।

10 अंक

(ख) नीतिशतक की शेष पद्धतियाँ (सज्जनपद्धति, परोपकारपद्धति, धैर्यपद्धति, दैवपद्धति, कर्मपद्धति, कमपद्धति) के श्लोक में सेदो श्लोक देकर किसी एक की व्याख्या पूछी जाएगी। 10 अंक

(ग) स्वप्नवासदत्तम् के प्रथम चार अंकों में से दो श्लोक देकर किसी एक श्लोक की व्याख्या पूछी जाएगी। 10 अंक

(घ) स्वप्नवासवदत्तम् के प्रचम व षष्ठ अंक में से दो श्लोक देकर किसी एक श्लोक की संस्कृत व्याख्या पूछी जाएगी। 10 अंक

(ड) पाठ्यक्रम में निर्धारित पुस्तकों में से सन्धि, समाज एवं प्रकृति–प्रत्यय विषयक पांच प्रयोगों पर व्याकरणात्मक टिप्पणियां पूछी जाएगी। 10 अंक

तृतीय खण्ड

(निबन्धात्मक भाग) **40 अंक**

इस खण्ड के अन्तर्गत कुल दो प्रश्न विकल्पों के साथ पूछे जाएंगे। इनमें से प्रत्येंक का उत्तर लगभग 400 शबदों में देना होगा। इन दो प्रश्नों के क्रमशः 20–20 अंक निर्धारित है।

1. उक्त खण्ड के प्रथम प्रश्न के अन्तर्गत नीतिशतक में से संबंधित समीक्षात्मक दो प्रश्न देकर एक का उत्तर पूछा जाएगा। 20 अंक
2. उक्त खण्ड के द्वितीय प्रश्न के अन्तर्गत स्वप्नवासवदत्तम नाटक से सम्बन्धित आलोचनात्मक दो प्रश्न देकर एक का उत्तर पूछा जाएगां 20 अंक

सहायक पुस्तकें

1. संस्कृतव्याकरणप्रवेशिका – डॉ. बाबूराम सक्सेना
2. स्नातकसंस्कृतरचनानुवादकौमुदी – पं. ननदकुमार शास्त्री
3. संस्कृतव्याकरणकौमुदी (1–4 भाग) – पं. ईश्वरचन्द्र विद्यासागर
4. हायर संस्कृत ग्राम – एम.आर.काले
5. बृहद्अनुवादचन्द्रिका – प. चक्रधर हंस नौटियाल
6. सिद्धान्तकौमुदी प्रथम भाग – पं. बालकृष्ण व्यास
7. स्टूडेन्टस गाइड टू संस्कृत कम्पोजिशन – मू.ले.बी.एस. आप्टे अनु. डॉ. उमेश चन्द्र पाण्डे
8. रचनानुवादकौमुदी – डॉ. कपिलदेव द्विवेदी

बी.ए. प्रथम वष्र संस्कृत परीक्षा

द्वितीय प्रश्न पत्र : गद्य, व्याकरण एवं अनुवाद

100 अंक

संपूर्ण पाठ्यक्रम पांच इकाइयों में और प्रश्न पत्र तीन खण्डों में विभक्त है। अंक विभाजन निम्न प्रकार से है –

प्रथम खण्ड	–	10 अंक
द्वितीय खण्ड	–	50 अंक
तृतीय खण्ड	–	40 अंक

पाठयक्रम एवं विस्तृत विवरण :

1. गद्य –

हितोपदेश–मित्रलाभ (अश्लील अंश को छोड़कर) – नारायण विरचित

2. व्याकरण –

(क) लघुसिद्धान्तकौमुदी – संज्ञाप्रकरण तथा अच्सन्धि

(ख) समास – अव्ययीभाव, तत्पुरूष, कर्मधारय, द्विगु, बहुब्रिहि एवं द्वन्द्व समासों का सोदाहरण सामान्य परिचय अपेक्षित हैं

(ग) कारक – निम्नलिखित सूत्रों का अध्ययन अपेक्षित है –

कर्तुरीप्सिततमं कर्म, अकथितं च, अधिशीङस्थासां कर्म, उपान्वध्यायवसः कालाध्वनोरत्यसन्तसंयोगे, साधकतमं करणम्, अपवर्गे तृतीया, सहयुक्तेऽप्रधाने, योनाङगविकारः, इत्यथंभूतलक्षणे, कर्मणा यमभिप्रेति स सम्प्रदानाम्, रूच्यर्थानां प्रीयमाणः, धारेरूत्तमर्ण, क्रुधद्रुहेर्ष्यासूर्यार्थानां यं प्रतिकोपः, तादर्थ्ये चतुर्थी वाच्या, नमःस्वस्तिस्वाहास्वधालंवषड्योगाच्च, ध्रुवमयोपायेऽपादानम् भीत्रार्थानां भयहेतुः, वारणार्थनामीप्सितमः, आख्यातोपयोगे, जनिकर्तुः, प्रकृतिः, भुवः प्रभवश्च, दूरान्तिकार्थेभ्यो द्वितीया चा, पृथग्विनानानाभिस्तृतीयाऽन्यतरस्याम्, षष्ठी शेषे, षष्ठीहेतुप्रयोगे कर्तृकर्मणोः कृतिः तुल्यार्थैरतुलोपभाम्यां तृतीयान्यतरस्याम्, आधारोऽधिकरणम्, सप्तम्यधिकरणे च, यस्य च भावेन भावलक्षणम् षष्ठी चानादरे, यतश्च निर्धारणम्।

(घ) शब्दरूप –

सर्व, विश्व, इदम्, अदस्, तत्, यत्, एतत् सर्वनाम् एवं एक से दश तक की संख्यावाची शब्दों के तीनों लिंगों एवं सभी विभक्तियों के रूप तथा मातृ, पितृ, आत्मन्, धनुष्, वधू, स्त्री नानम्, भगवत्, विद्वस्, राजन, भवत्, पुमान्, वेधस्, सरित्, वाच्, दिश् शब्द।

3. अनुवाद – हिन्दी से संस्कृत में।

पाठ्यक्रम की इकाइयाँ

प्रथम इकाई – हितोपदेश का मित्रलाभ

द्वितीय इकाई – लघुसिद्धान्तकौमदी से संज्ञाप्रकरण तथा अच् संधिं

तृतीय इकाई – समास तथा कारक प्रकरण।

चतुर्थ इकाई – शब्द रूपं

पंचम इकाई – अनुवाद (हिन्दी से संस्कृत)

प्रथम खंड

(वस्तुनिष्ठ भाग) **10 अंक**

इस खंड के अन्तर्गत विकल्परहित वस्तुनिष्ठ कुल दस प्रश्न पूछे जायेंगे तथा इनके लिए कुल दस अंक निर्धारित है। प्रश्न पाठ्यपुस्तकों के विस्तृत एवं मुख्य विषयों पर आधारित होंगे अर्थात् किसी एक या दो या तीन स्थान विशेष पर आधारित न होकर पाठ्यक्रम के समग्र भाग पर आधारित होंगे तथा समस्त इकाइयों से समान रूप से सम्बद्ध होंगे।

द्वितीय खण्ड

(व्याख्यात्मक भाग) **50 अंक**

इस खंड के अन्तर्गत शत–प्रतिशत विकल्पों के साथ कुल पांच प्रश्न (व्याख्यासिद्धि) आदि पूछे जायेंगे। प्रत्येक प्रश्न के लिए 10 अंक निर्धारित हैं। इनका पाठ्यक्रमानुसार विभाजन निम्नलिखित प्रकार से होगा –

(क) हितोपदेश में से चार श्लोक देकर किन्हीं दो श्लोकों की व्याख्या पूछी जाएगी। 10 अंक

(ख) लघुसिद्धान्तकौमुदी के संज्ञाप्ररण से चार सूत्र देकर किन्ही दो सूत्रों की उदाहरण सहित सिद्धि और अच्सन्धि प्रकरण से चार शब्द देकर किन्हीं दो की सूत्र निर्देशपूर्वक सिद्धि पूछी जाएगी।

10 अंक

(ग) समास – अव्ययीभाव, तत्पुरूष, कर्मधारय – द्विगु, बहुब्रीहि एवं द्वन्द्व समासों में से प्रत्येक समास में से दो–दो के क्रम से दस समस्त पद देकर किन्हीं पांच का सन्धि विग्रह नाम निर्देशपूर्वक पूछा जाएगा। 10 अंक

(घ) शब्द रूप – पाठ्यक्रम में दिये गये शबद रूपों में से बीस रूप देकर किन्हीं दस रूपों के लिंग–वाचन–विभक्ति पूछी जाएगी। 10 अंक

(ड) इसके अन्तर्गत बीस हिन्दी में वाक्य देकर किन्हीं दस वाक्यों का संस्कृत में अनुवाद पूछा जाएगा। 10 अंक

तृतीय खंड

(विवेचनात्मक भाग) **40 अंक**

1. इस खंड के अन्तर्गत कुल दो विवेचनात्मक प्रश्न (विकलपों के साथ) पूछे जाएंगे।
2. हितोपदेश में वर्णित मुख्य विषय से सम्बद्ध अथवा उसमें वर्णित कथा का सारांश और उससे मिलने वाली शिक्षा, उपदेश, संदेश, महत्व आदि पर आधारित दो प्रश्न देकर एक पूछा जाएगा। 20 अंक
3. कारक – पाठयक्रम में दिये गये सूत्रों में से आठ सूत्र देकर किन्हीं चार सूत्रों की सोदाहरण व्याख्या पूछी जाएगी। 20 अंक

सहायक पुस्तकें

1. लघुसिद्धान्तकौमुदी : (संज्ञा–संधि–कारक–स्त्रीप्रत्यय–समास प्रकरणम्) – डॉ. आद्याप्रसाद मिश्र
2. स्नातकसंस्कृतव्याकरण – डॉ. नेमीचन्द शास्त्री
3. संस्कृत व्याकरणप्रवेशिका – डॉ. बाबूराम सक्सेना
4. स्नातकसंस्कृतरचनानुवादकौमुदी : पं. नन्दकुमार शास्त्री

B.A. First Year

Subject: Geography

Course 8-Paper I - Physical Geography

Paper I - Physical Geography

Unit – I

a) Definition and scope of physical geography.
b) Origin of the earth - Tidal Hypothesis of James Jeans and Big Bang theory.
c) Interior of the earth.
d) Origin of the continent and oceans:- Wegner's theory of Continental drift and Plate tectonics.
e) Theories of mountain building:- Geosynclines Organ theory of Kober and Plate tectonic theory.

Unit – II

a) Isostacy :- Concept and Views of Airy and Pratt.
b) Diastrophism: - Faults & folds.
c) Weathering: - Physical, Chemical and Biological.
d) Drainage pattern and Cycle of erosion :- Davis & Penck.
e) Landforms: - Fluvial, coastal and arid.

Unit – III

a) Composition and structure of the atmosphere.
b) Atmospheric temperature: – Isolation and heat budget.
c) Atmospheric pressure :- Vertical and horizontal distribution of air pressure.
d) Winds: - Planetary, periodic and local winds.
e) Jet stream.

Unit – IV

a) Air masses: - Source region and classification of air masses.
b) Fronts :- Front genesis and frontolysis , Type of fronts.
c) Cyclones :- Tropical and temperate cyclones.
d) Anti cyclones.
e) Climatic classification by Koeppen.

Unit – V

a) Reliefs of the ocean basins - Bottom reliefs of the Indian ocean.
b) Distribution of temperature and Salinity of oceans.
c) Ocean currents : - Atlantic ocean and Pacific ocean currents.
d) Tides :- Type and theory of origin (Progressive wave and Stationary Wave theory.
e) Coral reefs :- Conditions of growth, types and origin according to Darwin and Murray.

Suggested Readings:

1. Dayal, P., A Text book of Geomorphology, Shukla Book Depot, Patna, 1996.
2. Dury, G. H., The Face of the Earth, Penguins, 1980.
3. Ernst, W.G., Earth Systems: Process and Issues, Cambridge University Press 2000.
4. ICSSR, A Survey of Research in Physical Geography, Concept, New Delhi, 1983.
5. Kale, V. and Gupta, A., Elements of Geomorphology, Oxford University Press, Calcutta, 2001.
6. Monkhouse, F. J., Principles of Physical Geography, Hodder and Stoughton, London, 1960.
7. Pitty, A., Introduction to Geomorphology, Methuen, London, 1974.
8. Sharma, H. S., Tropical Geomorphology, Concept, New Delhi, 1987.
9. Singh, S., Geomorphology, Prayag Pustakalaya, Allahabad, 1998.
10. Small, R. J., The Study of Landforms, McGraw Hill, New York, 1985.
11. Sparks, B. W., Geomorphology, Longmans, London, 1960.

12. Steers, J. A., The Unstable Earth: Some Recent Views in Geography, Kalyani Publishers, New Delhi, 1964.
13. Strahler, A. N., Environmental Geo-Science, Hamilton Publishing, Santa Barbara, 1973.
14. Strahler, A. N. and A. H. Strahler, Modern Physical Geography, John Wiley & Sons, 1992.
15. Summerfield, M. A., Global Geomorphology, Longman, 1991
16. Thornbury, W. D., Principles of Geomorphology, Wiley Eastern, l969.
17. Wooldridge, S. W. and R. S. Morgan, The Physical Basis of Geography: An Outline of Geomorphology, Longman Green & Co., London, 1959.
18. Wooldridge, S. W., The Geographer as Scientist, Thomas Nelson and Sons Ltd., London, 1956.
19. Barry, R. G. and R. J. Chorley, Atmosphere, Weather and Climate, Routledge, 1998.
20. Critchfield, H., General Climatology, Prentice-Hall, New York, 1 975.
21. Das, P. K., The Monsoons, National Book Trust, New Delhi, 1968.
22. Lydolph, Paul E., The Climate of the Earth, Rowman and Allanheld, Totowa, N. J., 1985.
23. Mather, J. R., Climatology, McGraw Hill, New York, 1974.
24. Patterson, S., Introduction of Meteorology, McGraw Hill Book Co., London, 1 969.
25. Stringer, E. T., Foundation of Climatology, Surjeet Publications, Delhi, 1982.
26. Trewartha, G. T., An Introduction to Climate, International Students Edition, McGraw Hill, New York, 1980.
27. Anikouchine, W. A. and R. W. Sternberg, The World Oceans: An Introduction to Oceanography, Englewood Cliffs, N. J. 1973.
28. Gerald, S., General Oceanography: An Introduction, John Wiley & Sons, New York, 1980.
29. Garrison, T., Oceanography, Wadsworth Co. USA, 1998.
30. King, C. A. M., Beaches and Coasts, E. Arnold, London, 1972.
31. King, C. A. M., Oceanography for Geographers, E. Arnold, London, 1975.
32. Sharma, R. C. and M. Vatel, Oceanography for Geographers, Chetnya Publishing House, Allahabad, 1970.
33. Shepard, F. P., Submarine Geology, Harper & Sons, New York, 1948.
34. Thurman, H. B., Introductory Oceanography, Charles Webber E. Merril Publishing Co., 1984.
35. Weisberg, J. and Howard, Introductory Oceanography, McGraw Hill Book Co., New York, 1976.
36. सविन्द्रसिंह : भौतिक भूगोल, वसुन्धरा प्रकाशन, गोरखपुर, 1997
37. शर्मा एच.एस. : ''भौतिक भूगोल'' पंचशील प्रकाशन, जयपुर
38. चतुर्भुज मामोरिया एव जैन : भौतिक भूगोल एवं जीव मण्डल, साहित्य भवन आगरा, 1996
39. वीरेन्द्र सिंह चौहान : भौतिक भूगोल, रस्तोगी पब्लिकेशन्स, मेरठ, 1996
40. उपाध्याय एल. एन. : भौतिक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
41. तिक्खा, रामनाथ : भौतिक भूगोल, केदारनाथ रामनाथ, मेरठ
42. तिवारी, ए. के. : जलवायु विज्ञान के मूल तत्व, राज.हिन्दी ग्रन्थ अकादमी, जयपुर
43. नेगी, बी. सी. : जलवायु विज्ञान तथा समुद्र विज्ञान, केदारनाथ रामनाथ, मेरठ

Paper Code : 9306

B.A. First Year

Subject: Geography

Paper: II Human Geography

Unit – I

a) Definition and scope of Human geography.
b) Its relation with other social sciences.
c) Schools of Human geography: - Determinism, Possibilism and Neo – Determinism.
d) Concept of Man – Environment relationship.
e) Fundamental principles of Human geography: Principles of activities, Principle of areal differentiation, Principle of terrestrial unity.

Unit – II

a) Stages of evolution of man
b) Races of mankind: - criteria of classification according to G. Taylor
c) Classification and distribution of races according to G. Taylor
d) Factors of evolution of human races
e) Migration zone theory by Griffith Taylor

Unit – III

a) Distribution of Tribes in the world.
b) Habitat, Occupation & social organization: Pigmies, Badawins, Eskimos and Khirgiz,
c) Distribution of Tribes in India
d) Habitat, economic activities and social organization of Bhil, Naga, Toda and Santhal.
e) Early economic activities of mankind :- Food gathering, Hunting, Fishing & Shifting cultivation.

Unit – IV

a) Distribution of population: world distribution pattern physical, economic and social factors influencing spatial distribution.
b) Concept of over population, under population, optimum population and zero population growth.
c) Demographic transition theory.
d) Migration-internal and international, general laws of Migration
e) Concept of human development and population problems and policy of India.

Unit – V

a) Settlement: origin and types of settlement.
b) Rural settlement-Pattern of rural settlements, house types and building materials, rural settlement in India
c) Urban settlement- origin of towns, patterns of cities.
d) Functional classification of cities, zoning of cities, Christaller's theory
e) Urbanization and problems: slums, town planning, concept and principles.

*Note – Stencils are to be permitted in the examination.

Suggested Readings:

1. Brunhes, J. : Human Geography
2. Huntington, E.: The Principles of Human Geography, John Wiley & Sons, N.Y.
3. Perpillou, A.V. : Human Geography, Longmans, 1965
4. Money, D.C.: An Introduction to Human Geography; U.I.P. London
5. Karan, M.P. : Manav Bhugol ke Siddhant, Kitabghar, Kanpur
6. Mamoria, C.B. : Principles of Human Geography
7. Negi, B.S. : Human Geography- An Ecological Aproach, Kedarnath Ramnath, Meerut,1982
8. Dwivedi, R.L. & Singh, R.L. : Manav Bhugol ki Samiksha
9. Blache Vidal de la : Manav Bhugol ke Siddhant (in Hindi)

Paper Code : 9307

B. A. First Year

Subject: Geography

Practical

Practical: Cartography-I (Scales and presentation of geomorphic and climatic data)

The art and science of cartography; history; techniques and preparation of maps and their classification.

1. Scales: plain, diagonal, comparative, time and Venire's (two exercises of each scale and two scales on each sheet). (10 exercises)
2. Enlargement, reduction and combination of maps (2 exercises)
3. Methods of representation of relief: hachure, form line, contour and layer tint methods. (4 exercises on two sheets)
4. Composite features to be drawn with the help of contours based on topo sheets representing the typical areas of glaciated region, arid region, region and fluvial region (any one of either youth, mature and old stage). (4 exercises)
5. Drawing of profiles: serial (at least four), composite, superimposed and projected. (4 exercises on two sheets)
6. Knowledge of principles and working of weather instruments including self- recording instruments: thermometer, thermograph, barometer, barograph, hygrometer, hygrograph, rain gauge, rainograph, wind wane and cup anemometer.
7. Weather symbols: based on Indian weather maps. (one exercise)
8. Study and interpretation of Indian weather maps: One each of December-January and July August. (2 exercises)
9. Representation and interpretation of climatic data:
10. (a) Rainfall histogram (b) Hyther graph, (c) Climograph, (d) Rainfall variability graph (departure from mean). (4 exercises)

Notes:

1.Candidates will be examined by an External Examiner in consultation with the Internal Examiner.

2. Each exercise should be drawn on 1/4th of a full drawing sheet.

3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.

4. The distribution of marks will be as follows:

a. Paper 36 Marks
b. Record Work* 14 Marks
c. Viva-voce** 10 Marks

* Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

** Viva-voce will be based on the record work and weather instruments.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggested Readings:

1. Monkhouse, F. J., Maps and Diagrams, Methuen & Co. Ltd., London.
2. Robinson, A. R.,Elements of Cartography, Chapman & Hall.
3. Singh, R. L., Elements of Practical Geography, Kalyani Publishers.
4. Raize, E., General Cartography, McGraw Hill Book Co., London.
5. Singh, R. N. and Kanaujia L. R. S., Map Work & Practical Geography, Central Book Depot, Allahabad.
6. Mishra, R. P. and A. Ramesh, Fundamentals of Cartography, Concept Publishers, New Delhi.

7- भार्मा, जे.पी. : प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

8. जैन शेपमल : प्रायोगात्मक भूगोल, साहित्य भवन आगरा

9. भल्ला, एल. आर. : प्रायोगात्मक भूगोल, के.डी. प्रकाशन, अजमेर
10. मामोरिया चतुर्भुज : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, साहित्य भवन, आगरा
11. पंवार, आर. एस. : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, तुलसी प्रकाशन, मेरठ
12. वर्मा, एल एन.व आर. एम लोढा : प्रायोगात्मक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
13. सिंह, एल.आर.; : मानचित्र एवं प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
14. सिंह एवं कन्नोजिया : प्रायोगात्मक भूगोल की रूपरेखा, सेन्ट्रल बुक डिपो, इलाहाबाद

Paper Code : 9308

Course 9-राजस्थानी साहित्य : प्रथम वर्ष, परीक्षा 2017

इस परीक्षा में 100–100 अंकों के दो प्रश्न–पत्र होंगे।

प्रथम प्रश्न–पत्र : आधुनिक गद्य

पाठ्य पुस्तकें

इकाई – प्रथम

1. राजस्थानी एकांकी संग्रह संस्करण, 1989,

सम्पादक : गणपति चन्द्र भण्डारी,

प्रकाशक : राजस्थान साहित्य अकादमी, उदयपुर

इकाई – द्वितीय

2. मांझल रात : लेखिका रानी लक्ष्मी कुमारी चूंडावत

प्रकाशक : साहित्य संस्थान, उदयपुर

इकाई – तृतीय

3. उकरास

सम्पादक : सांवर दइया

प्रकाशक : राजस्थानी भाषा, साहित्य एवं संस्कृति, अकादमी, बीकानेर

(केवल निम्नलिखित दस कहानियाँ)

- अन्नाराम सुदामा सूरज री मौत
- करणीदान बारहठ थे बारै जावो
- बैजनाथ पंवार हिरणी
- मनोहर सिंह राठौड़ सांढ
- माधव नागदा नीलकंठी

- यादवेन्द्र शर्मा चन्द्र कॉच रो चिलको
- राजकुमार ओझा 'बुद्धिजीवी भारमली भाजी कोनी
- रामेश्वर दयाल श्रीमाली कांचली
- विजयदान, देथा राजीनांवों
- सवाईसिंह शेखावत कूंपल

इकाई – चतुर्थ

4. उक्त तीनों पाठ्य पुस्तकों से ससंदर्भ व्याख्यात्मक प्रश्न।

इकाई – पंचम

5. अनुवाद हिन्दी से राजस्थानी

उक्त पांचों इकाईयां तीन खण्डों में विभक्त होंगी जिनमें इस प्रकार अंकों का विभाजन रहेगा–

खण्ड 'अ'

इसमें दस वस्तुनिष्ठ लघुत्तरात्मक प्रश्न होंगे। प्रत्येक इकाई में से दो प्रश्न होंगे। प्रत्येक प्रश्न दो अंकों का होगा। ये दस प्रश्न विकल्प रहित होंगे। प्रत्येक प्रश्न का लघुत्तर लगभग 50 शब्दों से अधिक न हो। (अंक 20)

खण्ड 'ब'

इस भाग में पाठ्यक्रम की प्रत्येक इकाई से दो प्रश्न पूछे जायेंगे। कुल दस प्रश्न होंगे जिनमें विकल्प भी इसी इकाई से होंगे। प्रत्येक प्रश्न दस अंकों का होगा। इन प्रश्नों के उत्तर लगभग 250 शब्दों तक दिये जा सकते है। (अंक 50)

टिप्पणी :–प्रत्येक इकाई पर आलोचनात्मक प्रश्न पुस्तक, विषय–वस्तु इत्यादि पर पूछे जा सकते हैं तथा दो व्याख्याएँ 10–10 अंकों की पूछी जा सकती है।

खण्ड 'स'

इस भाग में पांच विवेचनात्मक प्रश्न पूछे जायेंगे जिन से दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न का उत्तर लगभग 300 शब्दों में देना होगा। प्रत्येक प्रश्न पन्द्रह अंक का होगा। इन प्रश्नों में एक प्रश्न के दो भाग हो सकते हैं। (अंक 30)

Paper Code : 9309

द्वितीय प्रश्न–पत्र – आधुनिक राजस्थानी काव्य पाठय पुस्तकें

इकाई – प्रथम

1. जन नायक प्रताप : लेखक रामसिंह सोलंकी

प्रकाशक : प्रताप शोध प्रतिष्ठान, उदयपुर।

इकाई – द्वितीय

2. राजस्थान के कवि : सम्पादक रावत सारस्वत (राजस्थानी)

प्रकाशक : राजस्थानी भाषा, साहित्य एवं संस्कृति अकादमी, बीकानेर

इकाई – तृतीय

3. कलायण : लेखक नानूराम संस्कर्त्ता

प्रकाशक : राजस्थानी साहित्य एवं संस्कृति जनहित प्रन्यास गंगाशहर रोड़, बीकानेर

इकाई – चतुर्थ

4. उक्त तीनों पाठ्य पुस्तकों से ससंदर्भ व्याख्यात्मक प्रश्न

इकाई – पंचम

5. आधुनिक राजस्थानी काव्य का सामान्य परिचय।उक्त पांचों इकाईयां तीन खण्डों में विभक्त होंगी, जिनमें निम्न प्रकार अंकों का विभाजन रहेगा।

खण्ड 'अ'

इसमें दस वस्तुनिष्ठ लघुत्तरात्मक प्रश्न होंगे। प्रत्येक इकाई में से दो प्रश्न होंगे। प्रत्येक प्रश्न दो अंकों का होगा। ये दस प्रश्न विकल्प रहित होंगे। प्रत्येक प्रश्न का लघुत्तर लगभग 50 शब्दों से अधिक न हो। (अंक 20)

खण्ड 'ब'

इस भाग में पाठ्यक्रम की प्रत्येक इकाई से दो प्रश्न पूछे जायेंगे। कुल दस प्रश्न होंगे जिनमें विकल्प भी इसी इकाई से होंगे। प्रत्येक प्रश्न दस अंकों का होगा। इन प्रश्नों के उत्तर लगभग 250 शब्दों तक दिये जा सकते है। (अंक 50)

टिप्पणी :–प्रत्येक इकाई पर आलोचनात्मक प्रश्न पुस्तक, विषय–वस्तु इत्यादि पर पूछे जा सकते हैं तथा दो व्याख्याएँ 10–10 अंकों की पूछी जा सकती है।

खण्ड 'स'

इस भाग में पांच विवेचनात्मक प्रश्न पूछे जायेंगे जिन से दो प्रश्नों के उत्तर देने होंगे। प्रत्येक प्रश्न का उत्तर लगभग 300 शब्दों में देना होगा। प्रत्येक प्रश्न पन्द्रह अंक का होगा। इन प्रश्नों में एक प्रश्न के दो भाग हो सकते हैं। (अंक 30)

Paper Code : 9310

FIRST YEAR ARTS

Course 10- POLITICAL SCIENCE

Two Papers	Min. Pass Marks:72	Max. Marks: 200
Paper-I	3 hrs. duration	100 Marks
Paper-II	3 hrs. duration	100 Marks

Note : The assessment scheme is divided into two parts: internal and annual assessment. **Internal assessment** comprises of 25 marks: 5 marks for attendance and 20 marks for a mid session class test. **The annual examination** will comprise of 75 marks and will be divided into two parts: part one will contain 45 objective type multiple choice questions, each carrying one mark and part two will contain 5 questions, one from each unit and the examinee will have to answer three questions in a maximum of 500 words. Each question will carry 10 marks.

PAPER-I

FOUNDATIONS OF POLITICAL SCIENCE

Unit-I: Meaning, Scope and Nature of Political Science: Traditional and Contemporary Perspectives; Behaviouralism and Post-Behaviouralism; Interdisciplinary Approach in Political Science.

Unit-II: Concepts: Liberty, Equality, Power, Authority, Legitimacy, Political Development, Political Modernization, Political Culture, Sovereignty and Pluralism.

Unit-III: Democracy and Dictatorship. Parliamentary and Presidential System, Federalism, Political Parties.

Unit-IV: Civil Society and Human Rights; Organs of Government and their Functions (with reference to recent trends); Theory of Separation of Powers and Checks and Balances.

Unit-V: Theories of the Origin of State: Social Contract and Evolutionary Theory. Political Ideologies: Liberalism, Marxism.

Suggested Readings :

1. A. Appadorai: Substance of Politics.
2. A. Ashiravdam: Principles of Political Science.
3. J.C. Johari : Principles of Political Science.
4. M.C. Chagla : The Law and the State.
5. R.G. Gettel : Political Science
6. S.W. Garner : Political Science and Government
7. H.W. Laski : A Grammer of Politics.

8. R.C. Agarwal : A Political Theory

9. L.S. Rathore : In Defence of Political Theory

10 एस. पी. वर्मा : राजनीति शास्त्र के सिद्धान्त

11 पी. के. चढ्ढा : राजनीति विज्ञान के मूल आधार

12 बी. एल. फड़िया : राजनीति विज्ञान के मूल आधार

13 पुखराज जैन : राजनीति विज्ञान के मूल सिद्धान्त

Paper Code : 9311

PAPER-II

INDIAN POLITICAL THINKERS

Unit-I: Manu, Kautilya Shukra

Unit-II: Raja Ram Mohan Roy, Swami Vivekanand, Dyanand Saraswati.

Unit-III: Gopal Krishna Gokhale, Bal Gangadhar Tilak, Sir Saiyad Ahmed Khan.

Unit-IV: M.K.Gandhi, J.L. Nehru and Dr. B.R. Ambedkar.

Unit-V: M.N. Roy, Jai Prakash Narain and Dr. Ram Manohar Lohia.

Suggested Readings:

1. B.A. Saletoro : Ancient Indian Political Thought and Institutions.

2. के. पी. जयसवाल : हिन्दु राजतन्त्र

3 ए. एस. अल्टेकर : प्राचीन भारत में राज्य और शासन

4. J.P. Sood : Main Currents of Indian Political Thought

5. वी. पी. वर्मा आधुनिक भारतीय राजनीतिक और सामाजिक चिन्तन

6 विष्णु भगवान भारतीय राजनीतिक विचारक

7 श्यामलाल पाण्डे भारतीय राजनीति शास्त्र के प्रणेता

8 अवस्थी एवं अवस्थी प्रतिनिधि भारतीय राजनीतिक चिन्तन

9 परमात्मा शरण प्राचीन भारत में राजनीतिक चिन्तन एवं संस्थाएं

10. A. Appadorai : Twentieth Century Political Thought

11 पुखराज जैन : भारतीय राजनीति विचारक

Paper Code : 9312

B.A. PART –I

Course 11-DRAWING AND PAINTING

Ist Paper- Theory

Fundamentals of Visual Art & Indian folk Art.

MM:-40

Unit-I A) Simple study : Definition and Meaning of Art

B) Elements of Painting

1. Line
2. Form
3. Colour
4. Tone
5. Texture
6. Space

Unit- II : Principles of Composition

1. Proportion
2. Rhythm
3. Dominance
4. Harmony
5. Unity
6. Balance

Unit- III : Medium and Techniques

A) Medium

1. **Dry Medium**

Powder Colour

Pastel Colour

2. Wet Medium

Water

Oil

Acrylic

B) Techniques (Traditional, All Prima, Impasto, Mix Media Etc.)

Pastel Colour

Water Colour

Tempera Colour

Oil Colour

Acrylic Colour

Unit-IV : Indian Folk Art

1. Origin
2. Definition
3. Types - Rangoli, Mandna, Alpna, Sanjhi, Apna, Leela, Gudwana , Ahpan

Suggested Readings:

1. Roopankan: G.K. Agarwal
2. Chitrakala Ke Anga: C.L. Jha
3. Chitran Vidhan: Sharma and Kshetriya
4. Roopprada kala ke Mool Aadhar: Sharma & Agarwal
5. Kala Ki Parakh: K.K. Jaiswal
6. Kala ka Darshan: Ramchandra Shukla
7. Kala Vivechana: Kumar Vimal

Paper Code : 9313

B.A. PART -I

DRAWING AND PAINTING

IInd PAPER- PRACTICAL

M.M.:30

This Practical paper should be divided into two units.

Unit-I Creative Designing (Ornamental/ Geometrical/ folk/computer) with minimum one human figure is compulsory.

1.	Size:	9" × 9" Maximum
2.	Duration of Time:	4 Hours
3.	Medium :	Water /poster colour
4.	Submission of Sessional work:	5 Plates
		25 Sketches in Sketch book

Division of Marks

Examination	= 20	
5 Plates and 25 Sketches for submission	= 5 + 5 = 10	Total = 30

OR

Rendering

1.	Size:	Quarter Imperial
2.	Duration of Time:	6 Hours
3.	Medium :	Oil/ Water/Acrylic/Pastel
4.	Submission of Sessional work:	5 Plates
		25 Sketches in Sketch book

Division of Marks

Examination	= 20	
5 Plates and 25 Sketches for submission	= 5 + 5 = 10	Total = 30

Unit II Still Life Painting **M.M. 30**

1.	Size :	Quarter Imperial
2.	Duration of Time:	6 Hours
3.	Medium :	Oil/Water/Acrylic/Pastel colour
4.	Submission of Sessional work:	5 Plates
		25 Sketches in Sketch book

Division of Marks

Examination	= 20	
5 Plates and 25 Sketches for submission	= 5+5= 10	Total =30
Total Practical Marks		=60

INSTRUCTIONS

1. Above mentioned second paper practical's in two units should be treated in two courses and two individual periods should be allotted for every batch. One batch should be constituted of maximum 30 students.
2. Ist paper theory should be allotted another individual period.
3. Art material should be provided from the college for the demonstration for the class to the teacher.
4. Drawing Boards should be provided for each student from the college/Institution.
5. The objects of still life should be purchased by the college for conducting Art classes.

FIRST YEAR ARTS

Course 12-PSYCHOLOGY

General Instructions: will be followed as per university norms*

1. There will be two theory papers of 70 marks each and Practical of 30 marks in each paper. The candidate will be required to pass separately in theory and practical examination.
2. Each theory paper will require four teaching periods of 45 minutes and four practical periods per week per paper. Practical class will consist of a group of 20 students.
3. Scheme : (Scheme will be followed as per university rules)

PAPER – I: BASIC PSYCHOLOGICAL PROCESSES

Unit-I: Nature and Scope of Psychology: Psychology as a science of behavior, scientific methods of Psychology, Fields and application of Psychology.

Unit-II: Response Mechanisms: Peripheral, central and autonomic Nervous system, Endocrine glands, Sensory Process : vision-visual phenomena; structure and function of eye, colour blindness. Audition: Structure and function of ear Perception: Nature, attending and perceiving perceptual organisation.

Unit-III : Learning, Remembering and Thinking: **Learning:** Nature of learning, Factors and methods of learning, procedure of learning. Learning curves. Theories: Trial and Error, conditioning – classical and operant; Learning by Insight. Memory and Forgetting; Nature of remembering, retention, forgetting and factors of forgetting.

Thinking: Nature of thinking, concept formation and problem solving.

Unit-IV: Motivation and Emotion:

Motivation: Meaning and nature of motivation; need, drive, incentive, primary and secondary motives.

Emotions: Meaning, Nature of emotion, Theories of emotion: James-lange and Canon Bard, Physical changes during emotions.

Unit-V: Individual Differences: Intelligence; Meaning and nature, Measurement of Intelligence: Methods and Types of tests, factors affecting Intelligence. Personality: Meaning, Nature and factors affecting personality. Classification of personality, Jung, Kretschmer & Sheldon and Eysneck. Assessment of Personality.

Books Recommended:

10. Morgan, King Robinson — Introduction of Psychology, New Delhi Tata McGraw Hill, 6/C, 1976.
11. Hilgard, & Atkinson — Introduction of Psychology, New Delhi, Oxford & IBH 6/C, 1976.
12. डॉ0 भार्मा, एवं जे.डी. अग्रवाल — सामान्य मनोविज्ञान, लक्ष्मी नारायण, आगरा ।
13. डॉ0 भार्मा, एवं एस.एन. भार्गव — आधुनिक सामान्य मनोविज्ञान, हरप्रसाद, आगरा।
14. डॉ0 प्रीति वर्मा एवं श्रीवास्तव । — आधुनिक सामान्य मनोविज्ञान, विनोद पुस्तक मन्दिर, आगरा
15. डॉ0 अरूण कुमार सिंह — आधुनिक सामान्य मनोविज्ञान, विनोद पुस्तक मन्दिर, आगरा ।

Paper code : 9316

PAPER – II : SOCIAL PSYCHOLOGY

Unit-I: Meaning, nature and scope of social psychology and its relation with social sciences. Methods of social psychology, observation-participant and non-participant, Interview, Field experimentation, sociometry.

Unit-II: Social perception: Its nature and meaning, effects of motive, attitudes and values of social perception. Social norms – Meaning, tradition custom, law and fashion. Socialization – meaning, nature and process of socialization. Agents of Socialization.

Unit-III: Attitude and Social change: Meaning, nature characteristics and methods of measurement of attitude. Thurston and Likert methods, attitude change.

Unit-IV: Prejudice and stereotypes: Meaning, nature; effect on social behavior. Methods of removing prejudices.

Leadership: Meaning, nature characteristics and functions of leader. Types of leader.

Unit-V: Social cognition: Meaning, nature and determinants. Communication-meaning nature, factors and types: Verbal and non-verbal, one way v/s two way, one sided v/s two sides.

Books Recommended:

1. 1. S.S. Mathur — Social Psychology
2. Kretch and Krutchfield — Individual in society. McGraw Hill, 1962.
3. M.C. David J.W. and Harary — Social Psychology, New Delhi Willey Eastern, 1979.
4. Lindgren, G. — An introduction to Social Psychology, New Delhi
5. लाल बच्चन त्रिपाठी — आधुनिक सामाजिक मनोविज्ञान, हरप्रसाद भार्गव, आगरा
6. डॉ0 के.एन. श्रीवास्तव — आधुनिक सामाजिक मनोविज्ञान, हरप्रसाद भार्गव, आगरा
7. सिंह एवं पाण्डे — सामाजिक मनोविज्ञान राजस्थान, हिन्दी ग्रन्थ अकादमी, जयपुर
8. Baron & Byrend — Social Psychology, Pranteci Hall India, New Delhi
9. Paliwal,Murty Suprithy — Social Psychology

PAPER – II : SOCIAL PSYCHOLOGY

Unit-I : Meaning, nature and scope of social psychology and its relation with social sciences. Methods of social psychology, observation-participant and non-participant, Interview, Field experimentation, sociometry.

Unit-II : Social perception: Its nature and meaning, effects of motive, attitudes and values of social perception. Social norms – Meaning, tradition custom, law and fashion. Socialization – meaning, nature and process of socialization. Agents of Socialization.

Unit-III : Attitude and Social change: Meaning, nature characteristics and methods of measurement of attitude. Thurston and Likert methods, attitude change.

Unit-IV : Prejudice and stereotypes: Meaning, nature; effect on social behaviour. Methods of removing prejudices.Leadership: Meaning, nature characteristics and functions of leader. Types of leader.

Unit-V: Social cognition: Meaning, nature and determinants. Communication-meaning nature,factors and types: Verbal and non-verbal, one way v/s two way, one sided v/s two sides.

Books Recommended:

1.	. S.S. Mathur	Social Psychology
2.	Kretch and Krutchfield	Individual in society. McGraw Hill, 1962.
3.	M.C. David J.W. and Harary	Social Psychology, New Delhi Willey Eastern, 1979.
4.	Lindgren, G.	An introduction to Social Psychology, New Delhi
5.	लाल बच्चन त्रिपाठी	आधुनिक सामाजिक मनोविज्ञान, हरप्रसाद भार्गव, आगरा
6.	डॉ0 के.एन. श्रीवास्तव	आधुनिक सामाजिक मनोविज्ञान, हरप्रसाद भार्गव, आगरा
7.	सिंह एवं पाण्डे	सामाजिक मनोविज्ञान राजस्थान, हिन्दी ग्रन्थ अकादमी, जयपुर
8.	Baron & Byrend	Social Psychology, Pranteci Hall India, New Delhi
9.	Paliwal,Murty Suprithy	Social Psychology

Paper code:9317

PSYCHOLOGY PRACTICAL

Note : Students have to complete any six practical of GENERAL PSYCHOLOGY and six practical of SOCIAL PSYCHOLOGY under the supervision of the teacher concentred. Marks in the examination will be awarded on the basis of regularity and conceptual understanding

PAPER-I: GENERAL PSYCHOLOGY

1- Maze Learning

2- Span of attention
3- Methods of Learning (Any two)
4- Intelligence
5- Immediate Memory Span
6- Concept Formation.
7- Knowledge of Results
8- M.P.I.
9- Mirror Drawing
10- Any (teachers" Choice)

PAPER-II: SOCIAL PSYCHOLOGY

1- Test of Values
2- Attitude Measurement
3- One Way v/s Two Way Communication
4- Leadership
5- Sociometry (Formation of Sociogram and Sociometry)
6- Level of Aspiration
7- Use of Observation Methods
8- Study of Family values
9- Stereotypes
10- Any (Teacher"s Choice).

Paper Code : 9318

FIRST YEAR ARTS

Course 13- HISTORY

PAPER I – HISTORY OF INDIA UPTO 1000 A.D.

Unit I

SOCIAL AND CULTURAL PATTERNS

1) Survey of the sources : Literary, Archeological.
2) Prehistoric hunter-gatherers, Paleolithic cultures-sequence and geographical distribution. Mesolithic cultures distribution.
3) Concept of the Neolithic-advent of food production. Neolithic-Chalcolithic cultures.
4) Harappan Civilization-origin, extent, urban planning. Urban decline and the late Harappan Cultures.

Unit II

1) Society, Polity, Economy, Culture & Religion as reflected in Vedic Literature.
2) Social developments Varna, Jati and occupational categories, 16 Sanskaras, and 4 Purusharthas.
3) Rise of new religious movements in north India - Buddhism and Jainism.
4) The Mauryan Empire-Ashoka's Dhamma-its nature and propagation, Mauryan Art and Architecture.
5) Post Mauryan social & cultural developments with special reference to the Kushanas and Satavahanas. Kushana (Mathura & Gandhara) Art and Architecture.

Unit III

1) Sangam Age - Literature, Society and Culture.
2) Developments in the Gupta and post-Gupta times (up to 1000A.D.)
3) North: Society, Art, Architecture, Literature, Philosophy, Science and Technology.
4) South: Bhakti movement, art and architecture.
5) Status of women: Marriage, Property, Rights, Sati and Purdah.
6) Shifts in Varna and Proliferation of Jati.

POLITICAL & ECONOMIC PATTERNS

Unit IV

1) The Harappan Civilization-nature of Political and Economic Organization. Economic Patterns in non-Harappan India.

2) The Mauryas: Administration and Economy.
3) Post Mauryan Period: Sungas, Western Kshatrapas – Nahpan & Rudra Daman, Satavahanas –Gautamiputra Satkarni, Kushanas – Kanishka, Craft Production & Trade.
4) The Gupta Empire, Administration, Agrarian and Revenue systems and Trade.

Unit V

1) Post-Gupta period up to 750 A.D. Pallavas, Chalukyas and Vardhanas – Harsh Vardhana.
2) Polity and Economy: (c.a.d. 750-1000)
3) North India: Gurjara-Pratiharas.
4) Deccan: Rashtrakutas.
5) South India Cholas and their Contemporaries.
6) Invasions of Arabs.

Books Recommended:-

1) Chakrabarti, D.K. Indian an Archaeological History Palaeolithic Beginnings of Early Historic Foundations.

2) Allchin, Bridget & F Raymond : Origins of a Civilization : The Pre History & Early Archaeology of South Asia.
3) Ghoush, N. : Bharat Ka Prachin Itihas.
4) Majumdar, R.C. : Advance History of India Part –I.
5) Tripathi, R.C. : Pracheen Bharat Ka Itihas.
6) Jha D.N. & K.N. Shrimali : Pracheen Bharat.
7) Mahajan V.D. : Ancient India (also in Hindi).
8) Om Prakash : Pracheen Bharat.
9) Agrawal, V.S. : Indian Art Vol I. (also, in Hindi).
10) Champaklakshmi, R. : Trade, Ideology & Urbanisation : South India (300 BC – 1300AD)
11) Mittal A.K. : Pracheen Bharat Ka Rajnitik avem Sanskritik Itihas Vol. I
12) Sastri, K.A.N. : A History of South India (also in Hindi).

Paper Code : 9319

PAPER – II : HISTORY OF INDIA 1000-1707 A.D.

M.M. 100

Unit I

1) Survey of Sources of Medieval Indian History.
2) Ghazanavids and Ghorids and their Impact.

Unit II

1) Foundation and Consolidation of the Sultanate, Causes of the Success of the Turks, Iltutmish, Razia, Balban, The Mongols and the Sultanate.
2) Expansion : -
i. Khaljis – Conquests, Administrative and Economic reforms.
ii. Tughlaqs – Mohammad – bin – Tughlaq and Feroz Shah Tughlaq.
3) Causes of Disintegration of Sultanate.

Unit III

1) Advent of the Mughals.
2) The second Afghan Empire, Administration of Sher Shah Suri.
3) Economy : Trade & Commerce.
4) Religion and culture : Bhakti and Sufi movements.

Unit IV

1) Consolidation and territorial Expansion of Mughals.
2) Mughal Empire – 1707-relation with Rajputs, Sikhs, Deccan Kingdom, Marathas, Persia and central Asia.
3) Mughal Administration and institution, Administrative structure, land revenue system, Mansabdari system.
4) Society & Economy
(i) Agriculture, Trade and Commerce
(ii) Social classes – Ulema, Nobility, Zamindars, Peasantry, Artisans, Agricultural labour.
(iii) Status of Women.
5) Religion and Culture : Religious policies of Akbar and Aurangzeb, Composite culture.

Unit V

(i) Decline and disintegration of the Mughal Empire.

(ii) Bahmani, Vijayanagar, Marathas.
(iii) Administration, Society and Economy.
(iv) Art and Architecture of Mughals.

Books Recommended

1. Pandey Dr. A.B. : Purva Madhya Kaleen Bharat
2. Shrivastava A.L. : Sultanate of Delhi (also in Hindi).
3. Ishwari Prasad : History of Medieval India (also Hindi)
4. Verma Harish Chandra : Madhya Kaleen Bharat Ka Itihas. Vol. I & II
5.
Satish Chandra : : Medieval India, from Sultanate to Mughal
6. Tripathi R.P. : Indo Islamic Architecture.
7. Desai. Z.A. : Indo Islamic Architecture.
8. Rizvi S.A.A. : The Wonder that was India. Vol. II.
9. Sastri K.A.N. : History of South India
10. Satish Chandra : Parties and Politics in Mughal Court.
11. Sarkar J.N. : Fall of Mughal Empire
12. Desai G.S. : New History of Maratha People (Vol I & II.)

Paper Code : 9320

Course14- PUBLIC ADMINISTRATION SCHEME

Two Papers Min. Pass Marks 72 Max. Marks 200
Paper-I 3 hrs. Duration 100 Marks
Paper-II 3 hrs. Duration 100 Marks

परीक्षक के लिए निदेर्श ा :

(खण्ड–अ)

इस भाग मे ं दस वस्तुनिष्ठ/लघुत्तरात्मक पश्र न होगं े। प्रत्यके इकाइ र् मे ं से दो पश्र न होगं े। पर् यके पश्र न एक अंक का होगा। ये दस प्रश्न विकल्प रहित होगं े। लधु उत्तर लगभग 20 शब्दो ं में होगा। (10 अकं)

(खण्ड–ब)

इस भाग में पाठ्यक्रम की पर् येक इकाइ र् से दो प्रश्न पूछे जायेगं े। कुल दस प्रश्न होगं े, जिनमे ं से पाँच प्रश्न करने होगं े। जिनके विकल्प भी इसी इकाइ र् से होगं े। पर् येक पश्र न 10 अकं का होगा। इन पश्र नों के उत्तर लगभग 250 शब्दो ं तक दिये जा सकते हैं। (50 अंक)

(खण्ड–स)

इस भाग मे ं चार विवेचनात्मक पश्र न सम्पूर्ण पाठ्यक्रम मे ं से बनाये जाएँगे, जिनमे ं से दो पश्र नो ं के उत्तर देने होगं े। पर् येक प्रश्न का उत्तर लगभग 500 शब्दो ं मे ं देना होगा। पर् येक प्रश्न बीस अंक का होगा। इन प्रश्नों में से एक प्रश्न के दो भाग भी हो सकते हैं। (40 अंक)

(2)

PAPER-I

ELEMENTS OF PUBLIC ADMINISTRATION

UNIT-I

Meaning, Nature and Scope of Public Administration, Importance of Public administration in Modern Society, Public and Private Administration. Evolution of the study of the Public Administration.

UNIT-II

Public Administration as a Social Science and its Relationship with Political Science, Economics, Sociology and Law.

Approaches to the study of Public Administration : Classical and

Humanistic.

UNIT-III

Principles of Organization : Formal and Informal Organization, Hierarchy, Unity of Command, Span of Control, Coordination, Centralisation-Decentralisation.

UNIT-IV

Chief Executive, Line and Staff, Supervision, Delegation, Leadership, Communication, Decision-Making.

UNIT-V

Personnel Administration : Civil Service and its Role in a Developing Society; classification, Recruitment, Training and Promotion.

Books Recommended:

1. John pfiffner and Robert presthus, Public Administration.
2. Dimock and Dimock, Public Administration.
3. Torrfy, Principles of Management.
4. Jhon, D. Millat, Management in Public Services
5. E.N. Goledden, Essentials of Public Administration.
6. M.P. Sharma, Principles and Practice of Public Administration (Allahabad, Kitab Mahal)
7. D.R. Sachdeva and Meena Sogani, Public Administration, Concepts and Application (New Delhi Associated Publishing House, 1981)
8. A. Awasthi, S.R. Maheshwari, Public Administration (Agra, Laxmi Narain Agarwal, 1987)
(3)
9. C.P. Bhambri, Public Administration (Meerut, Jai Prakash Nath & Co. 1987)
10. A.R. Tyagi: Public Administration (Meerut, Jai Prakash Nath & Co. 1987)
11. Vishnu Bhagwan & Vidya Bushan, Public Administration
12. Avasthi and Maheshwari, Lok Prakashan
13. C.P. Bhambri, Lok Prakashan.
14. Harish Chandra Sharma, Lok Prakashan Ke Adhaar
15. Vishnu Bhagwan and Vidhya Bhushan, Lok Prakashan
16. B.L. Fadia, Lok Prakashan
17. Ravindra Sharma, Lok Prakashan Ke Tatwa
18. Surendra Kataria : Lok Prashasan Ke Tatwa

Paper Code : 9321

PAPER-II
PUBLIC ADMINISTRATION IN INDIA

UNIT-I

Historical background of Indian Administration with special reference to influence of British period, Salient features of Indian Administration since independence.

UNIT-II

The Union Executive : The President, Prime Minister and Council of Ministers, The Organisation and working of Central Secretariat, Cabinet Secretariat, Prime Minister's Office, Ministry of Home and Ministry of Personnel, Pension and Public Grievances.

UNIT-III

Major Forms of Public Enterprises in India: Departments, Corporations, Companies, Parliamentary Committee on public undertakings.

UNIT-IV

Financial Administration : Budget : Formulation, Approval and Execution,

Comptroller and Auditor General of India, Parliamentary Committees : Public Accounts, Estimates Committee, Control Over Administration : Legislative, Executive & Judicial.

UNIT-V

Personnel Administration—Classification, Recruitment and Training of All India Services, Problems of Indian Administration. Corruption & Administrative Reforms with special reference to Administrative Reforms Commission and Sarkaria Commission.

Books Recommended :

1. S.R. Maheshwari : Indian Administration
2. C.P. Bhambhri : Public Administration in India
3. P. Sharan : Public Administration in India
4. D.D. Basu : An Introduction to the Constitution of India
5. K.V. Rao : Parliamentary Democracy in India
6. Laxmi Narain : Principles and Practice of Public Enterprises Managements
7. B.B. Mishra : Administrative History of India
(5)
8. Ramesh Arora : Indian Public Administration
9. V.M. Sinha : Personnel Administration
10. P.D. Sharma & B.M. Sharma : Bhartiya Prashashan
11. Saroj Chopra : Bharat Mein Lok Prashashan
12. R.S. Darda : Bharat Mein Lok Prashashan
13. B.L. Fadia : Bharat Mein Lok Prashashan
14. Avasthi & Avasthi : Indian Administration (In Hindi also)

Paper Code : 9322

Course 15-बी.ए. प्रथम वर्ष, हिन्दी साहित्य

प्रथम प्रश्न–पत्र काव्य

पाठ्य पुस्तक –

1. आधुनिक काव्य सोपान – सम्पादक : डॉ. सत्येन्द्र पारीक प्रकाशक : पुनीत प्रकाशन, ए–3 कांतिनगर, जयपुर

पाठ्यविषय पाँच इकाइयों में विभक्त होगा।

इकाई – I

4ण अयोध्यासिंह उपाध्याय 'हरिऔध' का संकलित अंश 'श्याम–संदेश' की व्याख्या एवं आलोचनात्मक प्रश्न।

5ण मैथिलीशरण गुप्त का संकलित अंश 'चित्रकूट में राजसभा' की व्याख्या एवं आलोचनात्मक प्रश्न।

इकाई – II

– जयशंकर प्रसाद का संकलित अंश 'वरुणा की कछार', 'वे दिन' और 'बीती विभावरी',

'पेशोला की प्रतिध्वनि' से व्याख्या एवं आलोचनात्मक प्रश्न।

– सुमित्रानन्दन पंत का संकलित अंश 'पर्वत प्रदेश में पावस, 'मौन निमंत्रण','नौका विहार',

'द्रुत झरो', 'बापू के प्रति' और 'ताज' से व्याख्या एवं आलोचनात्मक प्रश्न।

इकाई – III

– महादेवी वर्मा का संकलित अंश 'वसंत–रजनी, 'जीवन विरह का जलजात', 'बीन भी हूँ मैं

तुम्हारी रागिनी भी हूँ','रूपसि तेरा घन–केश–पास!', 'मैं नीर भरी दुख की बदली', और

'मदिर का दीप' से व्याख्या एवं आलोचनात्मक प्रश्न।

– सूर्यकांत त्रिपाठी 'निराला' का संकलित अंश 'जागो फिर एक बार', 'संध्या सुंदरी', 'बादल

राग', 'विधवा', 'गहन है यह अंधकार' और 'स्नेह निर्झर बह गया है' से व्याख्या एवं आलोचनात्मक प्रश्न।

इकाई– IV

– रामधारी सिंह 'दिनकर' का संकलित अंश 'अनल–किरीट', 'नारी', 'प्रतिशोध', से व्याख्या और आलोचनात्मक प्रश्न।

– सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय' का संकलित अंश 'बावरा अहेरी', 'नदी के द्वीप' से व्याख्या और आलोचनात्मक प्रश्न।

– 'हरी घास पर क्षण भर', 'कलगी बाजरे की' से व्याख्या और आलोचनात्मक प्रश्न।

इकाई – v

– हिन्दी साहित्य के इतिहास का सामान्य परिचय।

आधुनिक हिन्दी कविता के सोपान – भारतेन्दु युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद, नयी कविता।

– छंद ज्ञान – दोहा, चौपाई, सोरठा, रोला, उल्लाला, गीतिका, हरिगीतिका, कवित्त, सवैया, छप्पय, कुण्डलिया, मंदाक्रांता, वसंत तिलका, वंशस्थ, द्रुतविलंबित के लक्षण और उदाहरण।

– अलंकार ज्ञान – अनुप्रास, यमक, वक्रोक्ति, उपमा, रूपक, उत्प्रेक्षा, तिशयोक्ति, भ्रांतिमान, संदेह, दृष्टांत, उदाहरण, अर्थान्तरन्यास, तद्‌गुण, मीलित, ब्याज–स्तुति के लक्षण और उदाहरण।

Paper Code : 9323

बी.ए. प्रथम वर्ष,

हिन्दी साहित्य

द्वितीय **प्रश्न–पत्र**

गद्य

पाठ्य पुस्तकें –

1. अलख आजादी की – लेखक : सुशील कुमार सिंह

   प्रकाशक : वाणी प्रकाशन, 21–ए, दरियागंज, नई दिल्ली

2. आधुनिक निबंध – संपादक : डॉ. विश्वनाथ प्रसाद तिवारी तथा डॉ. कृष्णचंद्र लाल।

   प्रकाशक : ज्ञान भारती, 4/14, रूप नगर, दिल्ली

   पाठ्य विषय पाँच इकाइयों में विभक्त होगा।

इकाई – I

'अलख आजादी की' नाटक से व्याख्या एवं आलोचनात्मक प्रश्न

इकाई – II

'आधुनिक निबंध' में संकलित 'बनाम आस्था', 'छायावाद', 'देवदारू', 'गिलहरी', लार्ड कर्जन', 'करुणा', 'साहित्यकार की निबंधों से व्याख्या एवं आलोचनात्मक प्रश्न।

इकाई – III

'आधुनिक निबंध' में संकलित 'साहित्य में आत्माभिव्यक्ति', 'तुलसी के सामाजिक मूल्य', 'एक लम्बी कविता का अंत', 'अस्ति की पुकार – हिमालय', 'हरी–हरी दूब और लाचार क्रोध' से व्याख्या एवं आलोचनात्मक प्रश्न।

इकाई – IV

हिन्दी नाटक और रंगमंच का विकास

इकाई – V

हिन्दी निबंध का विकास।

Paper Code : 9324

Course 16-HOME SCIENE

	Duration of Exam.	M.M.	Min. M.	Total No. of Hours/ Week
Paper-I: Human Physiology	3 Hrs.	75	27	3
Paper-II: Family Resource Management	3 Hrs.	75	27	3
PRACTICALS				
Prac. II: First-aid and Home Nursing	3 Hrs.	25	09	2
Prac. II: Family Resource Management and Interior Designing	3 Hrs.	25	09	2

Paper – I

Human Physiology

Max. M. 75

(An Elementary Knowledge of the subject is expected)

Unit I

1. Structure, functions and division of a cell. Tissues of the body, General characteristics and functions.
2. Blood: composition, functions, Blood clotting, Blood groups and Blood transfusion.
   Heart : Structure and functions simple Structure of Blood Vessels. Blood Pressure and Pulse rate.

Unit II

3. Skeleton system: a) Main Bones of the Body

   Functions of bones

   Classification of Joints

15. Skeleton system Joints: a) Structure & functions of Respiration

    a. Mechanism of respiration

    b. Tissue Respiration

Unit III

5.	Digestive system:	Purpose of digestion. Structure and functions of digestive organs Mechanism of digestion and absorption of Proteins, Fats and Carbohydrates
6.	Excretory system:	Structure and functions of Urinary Tract System, composition of Urine, Abnormal constituents of Urine

Unit IV

7.	Nervous system:	a) The central nervous system (Brain and spinal cord) b) Peripheral nervous system (Types of nerves) c) Autonomous nervous system d) Reflex arc

Unit V

8.	Endocrine system:	Ductless glands of the body. Hormones definition and their roles. Effect of over and under activity of hormones.

16. Sense Organ:

Eye	:	Structure and function
Ear	:	Structure and function
Tongue	:	Structure and function
Nose	:	Structure and function
Skin	:	a) Structure b) Function as sensory organs and Excretory Organs

References:

1.	Evelyn Pearce	:	Anatomy and Physiology for Nurses
2.	Ross and Smity	:	Anatomy and Physiology for Nurses
3.	Taylor	:	The Living Body

4ण कोर्थरन आर्म स्ट्रांग : शरीर सम्बन्धी ज्ञान

5ण शीला एवं जैकसम एवं : शरीर के लिए शरीर सम्बन्धी ज्ञान डॉ. लक्ष्मीकान्त

6ण इवलिंग पियर्स : शरीर और शरीर क्रिया विज्ञान

7ण वृन्दासिंह : मानव शरीर एवं क्रिया विज्ञान

8ण संध्या वर्मा : शरीर क्रिया विज्ञान

Paper Code : 9325

Paper – II

Family Resource Management and Interior Designing

Unit I

Family Resource Management : Concept and Importance

Management Process : Planning, Controlling and Evaluation

Family : Meaning, Function, Types – Nuclear and Joint and Stages of family life cycle

Family wants : Importance, characteristics, Types and Factors affecting

Unit II

Family Resources: : Importance, characteristics, Types, Factors affecting use of resources

(A) Motivating factors of Management: Goals, values and Standards – Their meaning, classification and characteristics.

Decision making as crux of Management, Types and steps in decision making.

Time Management:

a. Tools in Time Management: Time costs, Time norms and Time patterns
b. Peak loads
c. Work curves
d. Rest periods: Length and frequency
e. Management process applied to time management

Unit III

Energy Management:

f. Nature and characteristics of work

g. Work analysis and body mechanics

h. Work simplification

i. Fatigue – Concept and Types: Physiological and Psychological

Utility Analysis:

j. Marginal utility

k. Diminishing marginal utility

l. Principles of substitution and Law of equimarginal utility

Time and Labour saving equipments: Concept and Important of Household equipments.

Unit IV

Money Management:

Types of family income

Family expenditure

Budget and Family accounts

Saving systems and Investments

Consumer Economics:

Market: Types and Problems faced in market

Consumer problems: Rights and Responsibility

Government Aids and Protection to consumer

Unit V

House Planning:

(A) Advantages and Disadvantage of owned and Rented house.

(B) Selection of site for own house. Different activity areas of the house.

(C) Preliminary knowledge of household materials for construction.

Principles of Design and Elements of Arts.

Selection and Care of Furniture, Furnishing and Accessories.

Books Recommended:

1.	Naglini Ogale, Varghese	:	Home Management
2.	Bharathi	:	Home and Resource Management
3.	Dr. (Mrs.) Bela Bhargava	:	Family Resource Management
4.	डॉ (श्रीमती) बेला भार्गव	:	पारिवारिक साधन व्यवस्था एवं आंतरिक सज्जा
5.	डॉ (श्रीमती) आशा पारीख	:	गृह प्रबन्ध एवं गृह व्यवस्था
6.	कान्ति पाण्डे एवं प्रमिला वर्मा	:	गृह प्रबन्ध
7.	डॉ वृन्दा सिंह	:	गृह प्रबन्ध एवं आन्तरिक सज्जा

Paper Code:9326

FIRST YEAR T.D.C. ARTS
HOME SCIENCE
Practical – I
First Aid and Home Nursing

Max. M. 25

First Aid:

1. Aims, Scope and Rules of First Aid.
2. Household measures or First Aid in common accidents:

(A) Burns and Scalds
(B) Wounds and Haemarrhages (External)
(C) Sprains, Fractures and Dislocations
(D) Common Poisoning
(E) Dog bite
(F) Simple Unconsciousness
(G) Epilepsy
(H) Foreign bodies in the Eye, Ear, Nose and Throat
(I) Heat stroke
(J) Gas leakage

3. Techniques of Artificial Respiration
4. First Aid Box

Home Nursing:

1. Room for the sick: Bed making for Non confined and confined to Bed patient.
2. Essential items for the sick room: Bedpan, Urinal, Hot water bottle, Ice-cap, Back rest, Air ring, Eye glass, Spittoon, Measuring glass, Feeding cup, Thermometer and Disposable Enema.
3. Demonstration of B.P. instrument, Catheter; Glucometer and Inhaler.
7
4. Basic knowledge about the following:
(A) Measurement and Recording of Temperature and Pulse rate.
(B) Application of Triangular, Roller Bandages and Readymade bandage.

Distribution of Marks:

1. Internal Assessment (Sessional)
Files and First-Aid Box 08 (3+5)
2. Home Nursing:
(a) Bed Making 03
(b) Bandaging 03
(c) Spoting 03
3. Viva-Voce on First-aid 08

Total 25

References:

1. First Aid St. John's Ambulance Association. I Red Cross Road.
2. Home Nursing St. John's Ambulance Association.
3. Where there is no doctor. Vahi Publication.
4. प्राथमिक चिकित्सा एवं गृह परिचर्या – डॉ. मनोरमा वैद।

Paper Code:9327

FIRST YEAR T.D.C. ARTS
HOME SCIENCE
Practical – II
Family Resource Management and Interior Designing

Max. M. 25

1. Floor Decoration – Alpana and Rangoli.
2. Preparation of any one article from Waste material.
3. Arrangement of Rooms: Drawing room, Bedroom, Living room, Children's room and kitchen through application of Elements of Arts and Principles of Designs.
4. Decoration for Birthday party and one Festival.
5. Time and Labour saving equipments:
Principles, use and care of the following equipments: Toaster, Oven, Pressure cooker, Mixer grinder and Juicer, Gas stove, Microwave, Solar cooker, Iron, Room cooler. Refrigerator, Geyser, Washing machine, Vacuum cleaner, Gas chimneys, Water purifiers (Aqua guard and Reverse Osmosis) and Air conditioner.
6. Table setting for formal and informal occasions.
7. Fixing fuse, Repair of Electric plugs, Regulator fixing on Gas cylinder.

Duration for Practical 3 hrs

Max Marks : 25
Min. Marks : 09
1. Internal assessment sessional 08
2. Arrangement of Room/ Decoration for occasion 04

3. Rangoli/ Alpana 04
4. Cleaning of metal 04
5. Viva 05

Paper Code : 9328

Course 17-FIRST YEAR SOCIOLOGY,

There will be TWO Theory papers of 100 Marks each.

M.M:- 100

Paper – I : INTRODUCTION TO SOCIOLOGY (1681)

Paper – II : SOCIETY IN INDIA : STRUCTURE AND CHANGE (1682)

Detailed contents of papers :-

PAPER I : INTRODUCTION TO SOCIOLOGY (1681)

UNIT A

Sociology and Sociological Perspective :
-The meaning and subject matter of sociology. The sociological perspective, Relationship between sociology and other social sciences. Sociological Methods : Historical and Functional.

UNIT B

Basic Concepts :
Society , Community , Institution , Association, Culture.

UNIT C

Basic Concepts:
Social Structure : concept and characteristics, Social Group : concept and types, Status and Role : concept and types, Norms and Values : concept,classification of social norms.

UNIT D

The Individual and Society :
Socialization :Concept, stages, agencies and theories.
Social Control: concept,forms and agencies.
Social Stratification : concept, characteristics and basis.

UNIT E

Social Change :

1. Concept and factors
2. Theories of social change : Ogburn, Sorokin and Veblen.
3. Concept : Evolution, Revolution, Progress and Development

Essential readings:

Bottomore, T.B. 1972 Sociology: A guide to problems and literature. Bombay: George Allen and Unwin (India) .

Harlambos, M.1998. Sociology: Themes and Perspectives. New Delhi: Oxford University Press. Inkeles, Alex. 1987. What is Sociology? New Delhi: Prentice Hall of India.

Jayaram N. 1988. Introductory Sociology . Madras: Macmillan India. J.P. Singh.1999.Sociology: Concept and Theories, Prentice Hall of India.

Johnson, Harry M. 1995. Sociology: A systematic introduction. New Delhi: Allied Publishers. Schaefer, Richard T and Robert P.Lamm. 1999 Sociology . New Delhi: Tata- McGraw Hill.

B.K. Nagla and S. B. Singh : Introduction Sociology. New Delhi: NCERT 2002 (Both in English & Hindi language).
N.K. Singhi and V. Goshwami , Samaj Shrastra Vivechan (In Hindi) Jaipur, Raj. Hindi Granth Academi, 2000 (Rev. Edition.) Doshi, S.L. and Jain P.C. Samajshastra Ki Nai Disayen (in Hindi) National Pub. 2002

Pedagogy :

While introducing sociology as a social science emphasis should be laid on the distinctiveness of its perspective rather than on its substantive themes of study.

For effective teaching and meaningful learning, illustrations may be drawn from relevant empirical studies.

Throughout the course, conscious effort should be made to drive home the relevance and significance of sociology for understanding society and in attempting to solve its problems.

Paper Code : 9329

FIRST YEAR SOCIOLOGY

Paper- II : SOCIETY IN INDIA: STRUTURE AND CHANGE (1682)

M.M:- 100

UNIT A

1. The Textual and the Field views of Indian Society: Textual Views, G.S. Ghurye, Radha Kamal
   Mukherjee and Louis Dumont.
2. Field Views - M.N. Srinivas, S.C. Dube, K.M. Kapadia.

UNIT B

The Structure and Composition of Indian Society: Villages, Towns, Cities. Weaker Sections: SC, ST, Women and Minorities.

UNIT C

Cultural and Ethnic Diversity : Unity in Diversity, Cultural Diversities: Regional, Linguistic and Religious. Population Profile and Related Issues.

UNIT D

Basic Institutions of Indian Society: Caste, Family, Hindu Marriage, Changing Dimensions.

Kinship : concept, categories and behaviour.

UNIT E

Processes of Social Change : Sanskritization, Urbanization, Westernization, Modernization, Globalization.

Essential readings:

4. Bose, N.K. 1967, Culture and Society in India. Bombay: Asia Publishing House.

5. Bose, N.K. 1975: Structure of Hindu Society. New Delhi

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9. Karve, Irawati, 1961 : Hindu Society : An Interpretation, Poona:Deccan College.
10. Mandelbaum, D.G. 1970 Society in India, Bombay : Popular Prakashan.

11. Srinivas, M.N. 1980 : India : Social Structure, New Delhi : Hindustan Publishing Corporation.

12. Srinivas M.N. 1963: Social Change in Modern India. California Berkeley: University of California Press.

13. Singh Yogendra 1973 : Modernization of Indian Tradition, Delhi: Thomson Press.

14. Uberoi, Patricia, 1993: Family, kinship and Marriage in India, New Delhi: Oxford University Press.

15. Ahuja Ram: Indian Social System, Jaipur : Rawat Prakashan, 1998

16. Sharma,K.L.: Indian Society, in Hindi & Elglish both, NCERT : 1998

17. Srinivas, M.N., Field and Field Worker (ed.) A.M. Shah's latest edition.

Pedagogy :

The use of audio – visual media should be a necessary and important component of instruction.

The participation and involvement of students should be ensured through formal and informal discussions in the class room and field visits. They should be encouraged to write short essays on the local situation and local issues under the guidance of the teacher.

Wherever possible, illustrations should be drawn from the local situation.

Paper Code : 9330

Course 18-First Year English Language & Literature

(Pass Course)

The pattern of question paper will be as follows:

Section A **(10 Marks)**

Ten very short type questions of one mark each from all sections

Section B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper – I: Drama, Poetry and Grammar **M.M. 100**

Unit –A

Shakespeare: *As You Like It*

Unit – B

The following poems from *The Poet's Pen* Selected and annotated by P. E. and Homi Dustoor, Oxford University Press.

Shakespeare	:	When to the Sessions
		Like as the Waves
	:	When the Assault was Intended to the
Milton		City
A. Pope	:	From "An Essay on Man"
Blake	:	The Tiger
Cowper	:	On the Receipt of My Mother's Picture
Wordsworth	:	She was a Phantom of Delight
Shelley	:	The Cloud
Tennyson	:	Ulysses

The following poems from Golden Treasury of Indo – Anglian Poetry, ed. by Vinayak Krishna Gokak, Sahitya Akademi.

Henry Derozio	:	Song of the Hindustani Minstrel
Michael Madhusudan Dutt	:	King Porus- A Legend of Old
		The Queen of Delhi's Dream
Toru Dutt	:	The Lotus Lakshman

Unit C- Grammar

Basic Sentence Pattern (15 Marks)

Clauses (5 Marks)

Paper Code : 9331

First Year English Language & Literature

(Pass Course)

The pattern of question papers will be as follows:

Section A **(10 Marks)**

Ten very short type questions of one mark each from all Units.

Section B **(50 Marks)**

Five short type questions / explanations (250-300 words) with internal choice covering all Units.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper - II **Prose and Fiction** **M.M. 100**

Unit-A

The following essays from *The Art of the Essayist* ed. by C.H. Lockitt, Orient Longman.

Bacon	:	Of Youth and Age
Steele	:	The Spectator Club
Addison	:	Meditations in Westminster Abbey
Goldsmith	:	Beau Tibbs at Home
Lamb	:	Detached Thoughts on Books and Readings

Lucas	:	Third Thoughts
Chesterton	:	On the Pleasures of No Longer Being Very Young
Lynd	:	The Student

Unit – B

The following short Stories from *Spectrum - An Anthology of Short Stories* Edited by J. Sasikumar and Paul Gunashekhar, Orient Longman.

Chinua Achebe	:	Marriage is a Private Affair
O. Henry	:	The Ransom of Red Chief
K.A. Abbas	:	Sparrows
Maxim Gorky	:	The Mother of a Traitor
W.Somerset Maugham	:	The Verger

Unit – C

Thomas Hardy: *The Mayor of Casterbridge*

SECOND YEAR

Course No.	Nomenclature
Course 19	**Learni ng & Teaching**
Course 20	**Pedagogy of School Subject I**
Course 21	**Pedagogy of School Subject II**
Course 20 & 21	**1. Pedagogy of Economics**
	2. Pedagogy of Sanskrit
	3. Pedagogy of Geography
	4. Pedagogy of Rajasthani
	5. Pedagogy of Political Science
	6. Pedagogy of Arts
	7. Pedagogy of Psychology
	8. Pedagogy of History
	9. Pedagogy of Public Administration
	10. Pedagogy of Hindi
	11. Pedagogy of Home Science
	12. Pedagogy of Social science
	13. Pedagogy of English
Course 22	**Pre-Practice Teaching (Internal Assessment)**
	a) Practicing teaching Skill
	b) T.L.M. Workshop in each Subject
	c) Simulated teaching
Course 23	**Open Air Session / SUPW Camp (Internal Assessment)**
Course 24	**Core Subject***
	Elementry Computer Application
	Practical
Course 25	**Economics I**
	Economics II
Course 26	**Sanskrit I**
	Sanskrit II

Course 27	**Geography I**
	Geography II
	Geography Practical
Course 28	**Rajasthani I**
	Rajasthani II
Course 29	**Political Science I**
	Political Science II
Course 30	**Drawing I**
	Drawing II
	Submission Work
Course 31	**Psychology I**
	Psychology II
	Psychology Practical
Course 32	**History I**
	History II
Course 33	**Public Administration I**
	Public Administration II
Course 34	**Hindi I**
	Hindi II
Course 35	**Home Science I**
	Home Science II
	Home Science Practical I
	Home Science Practical II
Course 36	**Sociology I**
	Sociology II
Course 37	**English I**
	English II

Course 19-LEARNING AND TEACHING

Objectives:- After completing this course, the student-teachers will be able to :

1. Understand the process of learning and different approaches to the teaching learning process.
2. Apply psychological principles in the teaching learning process.
3. Understand the concept of motivation and strategies to develop motivation and use the motivational devices during teaching learning process.
4. Apply transfer of learning to foster maximum positive transfer.
5. Identify and cater to the educational needs of children with learning difficulties.
6. Develop an understanding of cognitive processes.
7. Understand various factors that influence learning.
8. Understand the concept, principles of teaching and models of teaching.
9. Develop an understanding of various approaches of teaching.
10. Understand the management of teaching.
11. Understand the role of professional organizations in professional development of teachers.

COURSE CONTENT

UNIT-I Learning and Motivation

1. Learning- Concept and Factors Affecting Learning.
2. (a) Approaches to Learning:
   Cognitive : Gestalt (Werthimier, Kofka, Kohler)
   Behaviorist : (Pavlov, Thorndike, Skinner)
   Social Cognitive: Bandura
   (b) Relevance and the applications of the above approaches to learning.
3. Transfer of Learning – Meaning, Types of Transfer and Teaching for Transfer.
4. Motivation– Concept and Significance, Types of Motivation (Intrinsic and Extrinsic), Maslow's Hierarchy of Needs and Motivational Devices for Classroom Teaching.

UNIT- II Individual Differences and Cognitive Processes

1. Individual differences – Nature, Types, Causes, Accommodating individual differences in classroom.
2. Understanding differences based on cognitive abilities in children with learning difficulties (for instance, slow learner, dyslexic).
3. Cognitive Processes-Sensation, Perception, Attention, Memory, Concept formation and Problem Solving in Learning.

UNIT- III Teaching and Teaching Process

1. Teaching:

1. Concept and Nature of Teaching.
2. Relationship between Teaching and Learning.
3. Principles of Teaching.
4. Levels and phases of teaching.
5. Components of Teaching: Teacher, Student, Teaching-Learning material and Classroom climate.

6. Interrelatedness of objectives, teaching learning experiences and evaluations.
7. Content analysis and Task analysis.

2. Teaching Process:

1. Teaching Technology: Concept, Assumptions, Characteristics and Components – Planning, Organisation and Evaluation.
2. Approaches to teaching- Participatory, Child Centered, Constructivist and Investigatory – Their meaning, characteristics and use in teaching.
3. Criterion of effective teaching, Methods of assessment of teaching (Classroom observation, Peer assessment, Self reporting and Evaluation by a supervisor).
4. Teacher behaviour during Teaching: Flander's Interaction Analysis System.

UNIT- IV Models of Teaching

1. Concept of models of teaching.
2. Elements of Models of Teaching.
3. Families of Models of Teaching.
4. Types of Models of Teaching - Richard Suchman's Inquiry Training Model, Glaser's Basic Teaching Model, Information Processing Model and Concept Attainment Model

UNIT-V Teaching as a Profession

1. Definition and characteristics of a profession.
2. Teaching as a Profession: why and how.
3. Professional Ethics for Teachers.
4. Strengthening Teaching Profession

a) Role of Teachers Organizations at state and national level.

b) Role of Educational Organizations in the professional development of teachers (UGC, NCTE, NCERT, Universities and SIERT)

c) Role of Teacher Education Institution in the professional development of teachers.

d) Role of School and Community in enriching Teaching Profession

5. Balancing personal aspirations and professional obligations by teachers.

SESSIONAL WORK

The student teachers shall undertake any two of the following activities (one from each section)

I –Section-A

1. Preparing a teaching plan based on constructivist approach / child centered approach / activity based learning.
2. Case study of a child with learning difficulties.
3. A comparative study of learning of children belonging to different socio-cultural background.

II-Section-B:

1. Study and report on pressures on school teachers.
2. Observation of one student-teacher's behavior during one teaching period (using Flander's Interaction Analysis System).
3. Collection of few success stories of teachers.
4. A case study of a professional organisation of teachers.

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2. मिश्रा मंजू (2008), अधिगमकर्ता का विकास एवं ि ाक्षण अधिगम प्रक्रिया, जयपुर यूनिवर्सिटी बुक हाऊस

3. राजोरिया, अरूण कुमार, अरोड़ा प्रीति (2007), अधिगमकर्ता का विकास एवं ि ाक्षण अधिगम प्रक्रिया, जयपुर : कविता प्रका ान
4. कुलश्रेष्ठ, एस.पी. (1988) : शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा
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15. Bagley, Classroom Management, New York: Macmillan
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29. Passi, B. K. (1976) Becoming Better Teacher, Micro teaching Approach, Sahitya Mudranalya, Ahmedabad.
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39. Verma, Rampal Singh .Adhigam avam Vikas Ke Mano-Samajik Adha, Agra: Vinod Pustak Mandir.
40. Veeraraghavan,Vimla (2006), Behavioural Problems in Children and Adolescents, New Delhi : Northern Book Centre.

Course 20&21 - PEDAGOGY OF ECONOMICS

Objectives: After completion of the course, the student teachers will be able to -

1. Understand the nature of the discipline of Social Science and Economics.
2. Understand Origin and Development of Economics.
3. Understand the contributions of western and Indian Economists such as Marshal, Pigou, Robinson, Chanakay, Amartaya Sen.
4. Understand Need and importance of Economic in School Curriculum.
5. Develop an understanding of the relationship of Economics with other subjects.
6. Develop an understanding of aims and objectives of Economics.
7. Develop an understanding of Pedagogy of Economics.
8. Develop ability to preparing Annual Plan, Unit Plan and Daily Teaching plan in Economics.
9. Understand and use different strategies for teaching Economics.
10. Develop an ability to construct an achievement test, Diagnostic and Remedial measures.

COURSE CONTENT

UNIT -I Nature of Discipline

1. Nature of Social Science, NCF 2005 position paper of Social science.
2. Meaning, Nature, Scope and importance of Economics
3. Origin and Development of Economics.
4. Methods of study in Economics-Economic Survey, Observation, Case Study and interview
5. Contribution of eminent economists

a) Western - Thomas Malthus, Alfred Marshall, Adam Smith.

b) Indian- Chanakay, Amartaya Sen.

6. Human Values and Economics.

UNIT–II Economics as a Subject in School Curriculum.

1. Need and importance of Economics at secondary level.
2. Correlation of Economics with other subjects: Commerce, Geography, Mathematics, Statistics,

History, Civics etc.

3. Scope of Economics- Economic institutions such as Banking, Small Industry etc. Economic relationlocal, national and international level, Economical structure of a financial sector.

UNIT- III Pedagogy of Economics.

1. Aims and Objectives of Teaching Economics.
2. Pedagogical Analysis of the following topics of Economics -

a) Budget

b) Supply and Demand

c) Inflation and Deflation

d) Indian Marketing System

e) Money and Credit

f) Indian Economic Policy

g) Planning

h) Consumer Rights

i) Globalization with reference to Indian economics

UNIT -IV Planning and Strategies

1. Annual Plan, Unit Plan, Daily Teaching Plan–Concepts and features.

2. General principles and maxims of economics teaching.

3. Methods of teaching Economics –

a) Inductive and Deductive method

b) Problem solving method

c) Project method

d) Discussion Method

e) Constructivism

4. Selection of appropriate techniques at secondary level in Economics Teaching

a) Illustration with examples

b) Questioning Technique

c) Data Representation and Interpretation

d) Computer Assisted Instruction(CAI)

UNIT -V Evaluation in Economics

1. Concept of Evaluation

2. Different Evaluation tools and techniques –Observation, Written Test, Open Book Test.

3. Achievement Test in Economics: Concept, Need and Steps for constructing achievement test.

4. Diagnostic testing and Remedial Teaching.

5. Continuous and Comprehensive Evaluation (CCE).

PRACTICUM/SESSIONAL WORK

Any Two of the following:

1) Preparation of a scrapbook related to any current issue of Economics.

2) A power point presentation related to any one topic of Economics.

3) Preparing a Radio or T.V. Script related to a current Economic issue.

4) Abstracts of two published papers related to Economics in reputed journals.

5) Market survey related to a product/economic activity.

6) Life sketch of an eminent economist.

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26- पाण्डेय, कामता प्रसाद : अर्थ ाास्त्र ि ाक्षण, मेरठ

27- सिंह हरनारायण एवं सिंह राजेन्द्र : अर्थ ाास्त्र ि ाक्षण, प्रका ान–लक्ष्मीनारायण अग्रवाल – आगरा

INTERNET RESOURCES

Online! A Reference Guide to Using Internet Resources.

Wikipedia – online encyclopedia website - http://www.wikipedia.org/

E learning India Website - http://elearning-india.com/

Constructive approach -

http://en.wikipedia.org/w/index.php?title=Constructivist_teaching_methods&oldid=436907250

Course 20 & 21 - संस्कृत का शिक्षण शास्त्र

उद्दे य– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1ण् भाशा की विभिन्न भूमिकाओं को समझ सकेंगे।

2ण् भारत में संस्कृत भाशा की स्थिति एवं महत्व को समझ सकेंगे।

3ण् संस्कृत भाशा के तत्वों का प्रत्यास्मरण कर सकेंगे और उनका सही प्रयोग कर सकेंगे।

4ण् संस्कृत ि ाक्षण के सिद्वान्त, सूत्र, सामान्य एवं वि ि ाश्ट उद्धे यों को समझ सकेंगे।

5ण् मूलभूत भाशा कौ ालों, जैसे– श्रवण, भाशण, वाचन एवं लेखन के सम्प्रत्यय, महत्व एवं विकास को समझ सकेंगे।

6ण् संस्कृत ि ाक्षण की विभिन्न विधियों एंव उपागमों का प्रत्यास्मरण कर सकेंगे और इनका समुचित प्रयोग कर सकेंगे।

7ण् संस्कृत साहित्य की विधाएॅ,जैसे– गद्य, पद्य, कथा, नाटक आदि का सम्प्रत्यय, महत्त्व, ि ाक्षण प्रणालियों व सोपानों को समझ सकेंगे और इनमें इकाई योजनाओं एवं पाठयोजनाओं का निर्माण कर सकेंगे।

8ण् संस्कृत ि ाक्षण को रोचक एवं प्रभावी बनाने के लिए उचित ि ाक्षण सहायक साम्रगी एवं साधनों का चयन निर्माण एवं उपयोग कर सकेंगे।

9ण् संस्कृत ि ाक्षण में विभिन्न प्रकार के प्र नों की रचना कर सकेंगे।

10ण् माध्यमिक ि ाक्षा बोर्ड, राजस्थान के नमूने (पेटर्न) के आधार पर संस्कृत पाठ्यपुस्तक पर प्र न पत्र तैयार कर सकेंगे।

11ण् संस्कृत के प्र नपत्रों का वि लेशण कर सकेंगे।

पाठ्यक्रम

इकाई –ए भाशा की भूमिका, संस्कृत भाशा की स्थिति, महत्त्व एवं तत्व

1. भाशा की भूमिका, भाशा एवं समाज, भाशा एवं लिंग, भाशा एवं पहचान (अस्मिता), भाशा एवं भाक्ति।

2. घर की भाशा एवं विद्यालय की भाशा, अधिगम में संस्कृत की केन्द्रितता

3. भारत में संस्कृत भाशा की स्थिति

द्ध भाशा ि ाक्षा सम्बन्धी संवैधानिक प्रावधान (धारा 343–351,350 अ)

इद्ध संस्कृत भाशा संबधी नीतियां –संस्कृत आयोग (1956–57),कोठारी आयोग (1964–66)

राश्ट्रीय ि ाक्षा नीति (छच्न्द्ध. 1986ए क्रियान्वयन कार्यक्रम (च्.ब्द्ध. 1992

राश्ट्रीय पाठ्यचर्या रूपरेखा–2005(भाशा ि ाक्षा) – संस्कृत की स्थिति

4. संस्कृत भाशा का महत्त्व, संस्कृत भाशा एवं साहित्य, संस्कृत भाशा एवं भारतीय भाशाएं, संस्कृत भाशा का संरचनात्मक, सांस्कृतिक एवं सामाजिक महत्त्व, आधुनिक भारतीय भाशा के रूप में संस्कृत का महत्त्व, विद्यालय स्तर पर संस्कृत ि ाक्षण से सम्बन्धित अनुभूत समस्याएं

5. संस्कृत भाशा के तत्व भाब्दरूप, लिड्ग–ज्ञान, धातु रूप (द ा लकार), सर्वनाम रूप, वि ोशण रूप, अव्यय, उपसर्ग, प्रत्यय, सन्धि, समास, विभक्ति (कारक), वाक्य संरचना एवं वाच्य परिवर्तन का ज्ञान एवं प्रयोग

इकाई –ब् संस्कृत भाशा ि ाक्षण के सिद्वान्त, सूत्र एवं उद्दे य

1. संस्कृत भाशा ि ाक्षण के सिद्धान्त, कक्षा ि ाक्षण के सामान्य सिद्धान्त, बोलने व लिखने में अनुरूपता का सिद्धान्त, अभ्यास का सिद्धान्त आदि ।

2. संस्कृत भाशा ि ाक्षण के सूत्र

3. संस्कृत ि ाक्षण के उद्दे य

द्ध सामान्य एवं वि ि ाश्ट उद्दे यों में अन्तर

इद्ध विभिन्न स्तर पर संस्कृत ि ाक्षण के उद्दे य (उच्च प्राथमिक, माध्यमिक एवं उच्च माध्यमिक)

बद्ध वि ि ाश्ट उद्दे यों का व्यवहारगत भाब्दावली में निर्धारण

इकाई –ठ् संस्कृत भाशा ि ाक्षण कौ ाल, विधियां एवं उपागम

1. संस्कृत भाशा ि ाक्षण कौ ाल श्रवण, भाशण, वाचन एवं लेखन कौ ालों का सम्प्रत्यय, महत्त्व एवं विकास, भाशायी ि ाक्षण कौ ालों को विकसित करने की पाठ्यसहगामी गतिविधियां भलोकपाठ, संस्कृत गीत पाठ, अनुच्छेद लेखन, कथा लेखन, पत्र लेखन, कक्षा पत्रिका, भित्ति पत्रिका, विद्यालय पत्रिका, अन्त्याक्षरी, कवि दरबार, समस्यापूर्ति, प्र नोतरी, सृजनात्मक लेखन, भाशायी खेल।

2. संस्कृत भाशा ि ाक्षण की विधियां, पाठ ाला विधि, पाठ्यपुस्तक विधि, व्याकरण–अनुवाद विधि, प्रत्यक्ष विधि, द्विभाशा विधि।

3. संस्कृत भाशा ि ाक्षण के उपागम, मौखिक उपागम, संग्रन्थन उपागम एवं सम्प्रेक्षण उपागम।

इकाई –ब्ट संस्कृत साहित्य की विभिन्न विधाएं, पाठ नियोजन, ि ाक्षण एवं अधिगम सामग्री

1. संस्कृत साहित्य की विभिन्न विधाएं जैसे – गद्य, पद्य, कथा, नाटक, व्याकरण एवं रचना के सम्प्रत्यय, महत्त्व, ि ाक्षण प्रणालियां एवं सोपान

2. इकाई योजना एवं पाठ योजना का नियोजन।

इकाई योजना का सम्प्रत्यय, महत्त्व एवं सोपान।

पाठयोजना का सम्प्रत्यय, महत्त्व एवं सोपान।
इकाई योजना एवं पाठयोजनाओं का निर्माण एवं ि ाक्षण।
3. ि ाक्षण एवं अधिगम सामग्री और साधन
प्रिन्ट मीड़िया व अन्य वाचन–सामग्री जैसे – अधिगमकों द्वारा चयनित पुस्तकें, पत्रिकाएं, समाचार पत्र, कक्षा पुस्तकालय इत्यादि।
दृ य–श्रव्य साधन जैसे–वस्तु, चित्र, रेखाचित्र, मानचित्र, प्रतिकृति, भयाम पट्ट, फ्ले ा कार्ड, टेप रिकार्डर, पारद र्ी, रेडियो, कम्प्यूटर एवं सीड़ी इत्यादि।

इकाई–ट संस्कृत में आकलन
संस्कृत में विभिन्न प्रकार के प्र नों का निर्माण –
1 वस्तुनिश्ठ प्र न – रिक्त स्थान पूर्ति प्र न, बहु विकल्पीप्र न, सुमेलन पद प्र न, सत्य– असत्य प्र न,
2 अतिलघूत्तरात्मक एवं लघूत्तरात्मक प्र न,
3 निबंधात्मक प्र न, समस्या–समाधान, सृजनात्मक,
आलोचनात्मक सोच को विकसित करने वाले, कल्पना को जीवित करने वाले एवं परिवे ाीय सजगता के प्र न।
द्ध भाशा विकास की प्रगति का आकलन सतत् एवं समग्र आकलन की तकनीक, मौखिक, लिखित,स्व आकलन, भालाका आकलन, सहपाठी आकलन एवं समूह आकलन
इद्ध विभिन्न तालिकाओं सहित नीलपत्र का निर्माण, प्र नपत्र का निर्माण, उत्तर एवं अंकयोजना, पद वि लेशण

सत्रीय कार्य

निम्नाकित में से किन्ही दो गतिविधियों का चयन कर प्रतिवेदन तैयार करना।
1. रा.मा.ि ा.बोर्ड द्वारा कक्षा 10 के संस्कृत छात्रों के लिए निर्मित प्र नपत्र का वि ाि श्ट उद्दे य एवं भाशा भाुद्वता को ध्यान में रखकर वि लेशण करना।
2. कक्षा 8 के संस्कृत छात्रों के लिए विभिन्न तालिकाओं सहित नीलपत्र बनाकर एक आद र्ा प्र नपत्र संस्कृत में तैयार करना।
3. माध्यमिक स्तर की संस्कृत पाठ्यपुस्तक में प्रयुक्त किसी एक पर–अव्यय, उपसर्ग, प्रत्यय, विभक्ति, सन्धि, समास, लकार और वाक्य में से कक्षा ि ाक्षण संव्यूहन तैयार करना।
4. ि ाक्षण प्रद ान की चर्चा कर और उपर्युक्त सुझाव देकर एक प्रतिवेदन तैयार करना।
5. संस्कृत की किसी कथा से संबधित चित्रों की पारद र्ी अथवा स्लाइड्स तैयार करना।

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Course 20 & 21 - PEDAGOGY OF GEOGRAPHY

Objective: After completing the course the student teacher will be able to:

1. Develop understanding about social science as discipline
2. Understand the contribution of different schools of geography
3. Understand the characteristics of geography as a discipline.
4. Develop understanding about meaning, nature, scope and objectives of geography education.
5. Understand basic concepts of geography.
6. Understand the importance of geography education in schools.
7. Develop skills in planning and involving learner in inside and outside classroom activities.
8. Employ various techniques of 'Transaction of Geography'
9. Construct appropriate tools for evaluating geography teaching
10. Develop skills in organizing practical activities in geography.

COURSE CONTENT

UNIT-I Nature of Social science as a discipline

Nature of Social Sciences as a discipline. Position of Geography in social sciences, correlation of

geography with other disciplines, salients features of NCF (2005) Position Paper on Social Sciences.

UNIT-II Geography as a subject in schools

1. Meaning and Nature of Geography, Modern concept and main branches, Contribution of different schools in development of geography-determinist, possibilist & neo determinist, place of geography in school curriculum, Importance of geography in daily life. Correlation of geography with other school subjects.
2. Aims and Objectives of Teaching geography at Secondary and Senior Secondary Level. Role of geography teaching in developing international understanding. Geogrpahy teaching in the light of sustainable future.

UNIT-III Pedagogy of geography

1. Basic concepts of geography

a. Geosphere

b. Physical, human and regional geography

c. Cultural appraisal of the earth

d. Spatial distribution and interaction

2. Pedagogical analysis of the following

a. Temperature zones of the earth

b. Weather, climate and season

c. Maps as tools in geography learning

d. Indian Monsoon

e. Latitude and longitudes

UNIT-IV Planning for Teaching Geography

1. Analysis and organization of subject matter
2. Planning for teaching and learning-annual plan, unit plan and daily plans.
3. Important skills for classroom teaching – Lecture and narration questioning, discussion, dialogue, demonstration.
4. Interactive, constructivist, critical pedagogies in geography.
5. Development of different skills – Observation, oral, practical and cartographical.
6. Planning outdoor activities and geographical excursions.
7. Study of Local geography
8. Geography club.

UNIT-V Assessment in Geography

1. Evaluation in Geography - Need and importance
2. Continues and comprehensive evaluation in Geography.
3. Construction of Blue Print and achievement Test, Essay, Short Answer and objective type test.
4. Diagnoses of Learning difficulties and Organization of remedial teaching in geography.

SESSIONAL WORK/PRACTICUM

Any two out of the following

1. Preparation of a plan to study local geography
2. Construction of an achievement test in geography
3. Preparing a project report/field visit report related to geography.
4. Preparing a scrapbook related to some geographical issue.
5. Preparation of PPP slides on a topic of geography
6. Geographical interpretation of a toposheet.
7. Study of the activities of a geography club of a school.
8. Critical Analysis of RBSE Question Paper of Geography of Senior Secondary Examination.

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Course 20 & 21 . राजस्थानी का शिक्षण शास्त्र

उद्दे यः– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1ण राजस्थानी भाषा के स्वरूप को जान सकेंगे।

2ण राजस्थानी भाषा की अलग–अलग भूमिकाओं को जान सकेंगे।

3ण राजस्थानी सीखने के तरीके एवं प्रक्रिया को जान सकेंगे।

4ण भाषायी अभिव्यक्ति के प्रकारों को जान सकेंगे।

5ण अनुवाद के महत्व एवं भूमिका को समझना सकेंगे।

6ण विद्यार्थियों की भाषायी सृजनात्मक क्षमता को पहचानना सकेंगे तथा विकसित कर सकेंगे।

7ण साहित्य व भाषा के सम्बन्ध को समझ सकेंगे।

8ण राजस्थानी शिक्षण के उद्देश्यों को जान सकेंगे एवं उपयोग में ले सकेंगे।

9ण राजस्थानी शिक्षण के महत्व को समझ सकेंगे।

10ण विद्यालय में राजस्थानी भाषा सम्बन्धी गतिविधियों के संचालन की योग्यता विकसित कर सकेंगे।

11ण राजस्थानी शिक्षण में अनुभूत समस्याओं के निराकरण हेतु लघु प्रायोजनाएँ, क्रियात्मक अनुसंधान आदि उपायों को काम में लेने की प्रक्रिया को जान सकेंगे।

12ण राजस्थानी शिक्षण में दृश्य–श्रृव्य सामग्री तथा भाषा प्रयोगशाला का उपयोग जान सकेंगे।

पाठ्यक्रम–विषयवस्तु

ध इकाई प्रथम–राजस्थानी का अर्थ, महत्व, भाषिक समस्या तथा शिक्षण उद्देश्य

(1) राजस्थानी का अर्थ, महत्व तथा मातृभाषा एवं मानक भाषा की समझ।

(2) संविधान और शिक्षा समितियों के प्रतिवेदनों में भाषा की स्थिति।

(3) भारत की भाषिक समस्या, त्रिभाषा सूत्र तथा गाँधी जी द्वारा भाषा के सम्बन्ध में व्यक्त किये विचार।

(4) राजस्थानी शिक्षण के उद्देश्य एवं व्यवहारगत परिवर्तन।

(5) राजस्थानी साहित्य का सम्प्रत्यय एवं विधाएँ तथा पाठ्यक्रम में साहित्य को पढ़ना, पढ़ाना एवं अनुवाद करना।

(6) पाठ्यक्रम में मीडिया की भूमिका, महत्व, उद्देश्य एवं प्रासंगिकता।

ध्र इकाई दो–राजस्थानी भाषा का वैज्ञानिक स्वरूप तथा भाषायी व्यवहार के विविध पहलू

(1) राजस्थानी भाषा का वैज्ञानिक स्वरूप (वर्ण विचार, शब्द विचार एवं वाक्य विचार की दृष्टि से)

(2) राजस्थानी भाषा कौशलों के विकास हेतु मौखिक, लिखित एवं सृजनात्मक अभिव्यक्ति का विकास

(3) राजस्थानी भाषा अर्जन एवं अधिगम का दार्शनिक, सामाजिक तथा मनौवैज्ञानिक आधार

(4) राजस्थानी भाषा सीखने–सिखाने की बहुभाषिक दृष्टि।

(5) भाषायी व्यवहार के विविध पहलू (विभिन्न बोलियां, क्षेत्रीय भाषा एवं मानक भाषा)

ध्रध्र इकाई तृतीय–राजस्थानी शिक्षण के आधारभूत कौशल, सूत्र तथा अन्य विषयों से सम्बन्ध

(1) राजस्थानी शिक्षण के आधारभूत कौशल– सुनना, बोलना, पढ़ना व लिखना एवं भाषा के माध्यम से सृजनात्मकता का विकास

(2) राजस्थानी शिक्षण के सूत्र एवं सिद्धान्त

(3) राजस्थानी भाषा का अन्य विषयों से सम्बन्ध

(4) राजस्थानी शिक्षण में चुनौतियाँ

ध्ट इकाई चार–राजस्थानी शिक्षण की विभिन्न विधाएँ

(1) गद्य शिक्षण–उद्देश्य, विधियाँ एवं पाठ योजना।

(2) पद्य शिक्षण– बोध पाठ, रस पाठ एवं उपयोजना पाठ। (बोध पाठ व रस पाठ का मिश्रित रूप)

(3) नाटक एवं एकांकी शिक्षण–अभिनयात्मक पाठ–मंचीय विधि।

(4) व्याकरण एवं रचना शिक्षण।

(5) इकाई एवं वार्षिक इकाई, दैनिक शिक्षण योजना, इकाई जॉच पत्र तथा नील पत्र का निर्माण।

ट इकाई पाँच– राजस्थानी शिक्षण में सहायक सामग्री एवं नवाचार

(1) दृश्य–श्रृव्य सामग्री (रेडियो, टेलीविजन, ओ.एच.पी., लिग्वा फोन, चित्रकथा, टेपरिकॉर्डर आदि।

(2) भाषा प्रयोगशाला।

(3) सह–संज्ञात्मक गतिविधियों की रूपरेखा (चर्चा, वाद–विवाद, अन्त्याक्षरी, निबन्ध, नाटक, एकांकी, समूह कार्य)

(4) राजस्थानी शिक्षण में नवाचार (अभिनयीकरण, समस्या पूर्ति, काल्पनिक लेख आदि)

(5) निदानात्मक परीक्षण एवं उपचारात्मक शिक्षण।

सत्रीय कार्य–निम्नांकित में से– (कोई दो)

1. विद्यालय की किसी एक साहित्यिक गतिविधि की योजना निर्माण, क्रियान्विति करना तथा प्रतिवेदन तैयार करना।
2. राजस्थानी भाषायी कौशल (सुनना, बोलना, पढ़ना, लिखना) के सीखने सम्बन्धित चार–चार गतिविधियाँ तैयार कर प्रतिवेदन प्रस्तुत करना।
3. राजस्थानी भाषा में प्रयुक्त अन्य भाषाओं के शब्दों का संकलन, अध्ययन एवं व्याकरण की प्रकृति के अनुसार वर्गीकरण।
4. राजस्थानी शिक्षण के दारै ान आन` वाली समस्याओं पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।

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Course 20 & 21 - PEDAGOGY OF POLITICAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Understand the nature of the discipline of Social Science.
2. Understand the nature, need and importance of Political Science in School curriculum.
3. Develop an understanding of relationship of Political Science with other school subjects.
4. Develop an understanding of aims and objectives of Political Science teaching.
5. Understand and adopt proper methods and techniques of teaching various topics of Political Science.
6. Understand the contributions of Indian and western Political Thinkers such as Kautilya, Mahatma Gandhi, Bhimrao Ramjee Ambedkar, Plato, Aristotle, Rousseau, Marx.
7. Prepare Annual Plan, Unit plan and daily teaching plan in Political Science.
8. Conduct Pedagogical analysis of content for teaching in the classroom.
9. Develop the concept and skill needed for Diagnostic and Remedial Teaching.

COURSE CONTENT

UNIT- I Nature of Social Science as a Discipline –

1. Nature of Social Science as a discipline, NCF (2005) position paper of Social Science.
2. Importance of Political Science in school curriculum.

UNIT-II Political Science as a School subject –

1. Nature and scope of political science.
2. Importance of political science in school curriculum.
3. Developmental Perspectives of Political Science.
4. Contribution of eminent Political Thinkers

a) Indian –Kautilya, Mahamta Gandhi, Bhimrao Ramjee Ambedkar

b) Western-Plato, Aristotle, Rousseau.

5. Aims and objectives of teaching of Political Science.
6. Co-relation of Political Science with other School Subjects.

UNIT –III Planning and strategies -

1. Annual plan, Unit plan, Daily Teaching Plan- Concepts and features.

1. Methods of Teaching Political Science

a) Lecture –cum demonstration method.

b) Project Method.

c) Problem Solving method.

d) Socialized Recitation method.

e) Discussion method.

2. Techniques and Devices of teaching Political Science.

a) Questioning Technique.

b) Interview Technique.

c) Illustration with example.

d) Role Playing Technique.

UNIT-IV Pedagogical Analysis and mode of Learning engagement –

1. Pedagogical analysis of the Units with reference to concepts, learning outcomes, activities and

learning experiences and evaluation techniques of following content at Secondary and Sr. Secondary level.

a) Liberty

b) Equality

c) Social Justice

d) Rights

e) Secularism

f) Nationalism

g) Citizenship

h) Peace

UNIT-V Assessment and evaluation in Political Science.

1. Purpose and concept of evaluation.

2. Preparation of an achievement test in Political Science along with Blue Print, Content analysis,

Scoring key and marking scheme.

3. Diagnostic testing and Remedial Programme.

4. Concept and advantages of continuous and comprehensive evaluation (CCE).

SESSIONAL WORK

Any two of the following:-

1. Make a Scrap Book on any National Political issue.

2. Construction of an achievement test with Blue Print, content analysis, marking scheme and scoring key, its administration and interpretation.

3. A Power Point presentation related to any topic of Political Science.

4. Abstracts of two published papers related to Political issue.

5. To present a report of functioning of the institutions like municipal council/ gram panchayat/ coopertative society.

6. Life sketch and contribution of any one prominent Indian Political Thinker.

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Course 20 & 21 - PEDAGOGY OF ART

Objectives: After completion of the course the student-teachers will be able to:

1. Understand the nature of Art as a discipline.
2. Get acquainted with the origin and evolution of various Forms of Art.
3. Understand the place of Art in general education.
4. Understand the concept and basics of different art forms (visual and performing arts);
5. Develop the ability to use visual art processes to generate new knowledge, understanding and perception of the world;
6. Understand the significant implications of art to nurture children's creativity and aesthetic sensibilities through genuine exploration, experience and free expression;
7. Get acquainted with the strategies of classroom teaching of art.
8. Prepare Yearly plan, Unit-plan and teaching-plan for teaching art.
9. Prepare and use suitable teaching aids in the classroom effectively.
10. Understand the creative aspect of the Teaching of child art.
11. Understand the strategies of developing appreciation of beauty of nature and the basic elements of art forms among the students;
12. Understand the strategies of developing ability to appreciate the inherent rhythm, beauty and harmony in visual art forms: specifically regional, traditional and classical art forms among the students.

COURSE CONTENT

UNIT-I Concept, Nature, and Scope of art as a Discipline:

1. Meaning and Etymology of word 'Art' (Indian and Western context)
2. Various forms of Visual Art: Art of Painting; Sculpture; and Architecture;
3. Concept of Art or Aesthetics (Indian and Western context)
4. Classifications of art:

a) Visual, Performing and Literary arts;

b) Classical, Traditional and Folk arts.

5. Appreciation of Art.

a) Elements of Art (Shadang ("kM+kax) - 6 elements of Indian Painting)

b) Principles of Aesthetic Order (Principles used in composing art work)

c) Language of Art (Special reference to Indian Art)

6. Art and Education:

a) Modern concept of Integrated Art or Aesthetic Education

b) The Changing status of art in general Education

c) Systematic study in Art-education.

d) Educational values of art and its relations with other school subjects.

7. Aims and objectives of teaching Art at secondary/senior secondary level.

UNIT-II Meaning and Nature of Visual Arts:

1. Meaning and concept of Visual Arts.

2. Evolution of various forms of Visual Arts.

3. Nature of Visual Arts:

I. Two dimensional Techniques of Visual Arts:

a. Drawing and Painting: Water colour, Oil colour and other mediums.

b. Collage, Mosaics, Print arts (Stencils, Lino-cut, Wood-cut, Colograph and Etching etc.).

c. Rajasthani Folk and Traditional Visual Arts – Mandana, Alpana, Rangoli, Phad and Kawad Paintings, Murals, Rajasthani miniature and Pichwai Paintings etc

II. Three dimensional Techniques of Visual Arts:

a. Clay work, Paper mashie work, Creation with waste material, Mask making, Puppet making etc.

b. Rajasthani Kathputli, Terracotta sculptures (Molela)

UNIT-III Nurturing Creative Expression and Aesthetic Sensibilities of Child through Art activities:

1. Art and Creativity :

a) Concept and importance of creativity in human life

b) Art and creativity

c) Developing Self Expression through Creative art activities;

d) Role of Art in developing the child's creative personality;

e) Importance of creative art activities at various stages of school education.

f) Characteristics of the Child Art.

g) The Child as creative Artist.

h) Different developmental stages of child's creative expression:

i) The Scribbling Stage (Beginning of Self-Expression)

j) The Pre-Schematic Stage (The stage of first representational attempts).

k) The Schematic Stage (The stage of achievement of form concept).

l) The stage of Dawning Realism (The Gang age).

m) The Pseudo-realistic stage. (The stage of Adolescent)

n) The stage of reasoning. (The Final stage of decision making).

2. Art and Aesthetics:

a) Concept and importance of Aesthetic Sensibility in human life.

b) Art and Aesthetics (Indian and Western context).

c) Developing Aesthetic values and Aesthetic Sensibilities through Art Teaching.

d) Developing harmonious personality of child through teaching of Art;

UNIT – IV Planning and Instructional Support System in Art:

1. Principles of classroom teaching of Art.

2. Planning of teaching Art:

a) Need and Importance of Planning in Teaching Art activity

b) Analysis and organization of Creative Art Activities.

c) Planning of Yearly, Unit and Daily teaching Plan in Teaching of various Creative Art activities.

3. Classroom, its management and organization.

4. The methods of teaching in art:

a) Traditional method of teaching Art : Copy and Dictated method

b) Method of Free-Expression

c) Method of Assigned topic

d) Demonstration method.

e) Media Method

5. Innovative Practices in Teaching Art

a) Constructivist Approach

b) Group Teaching

6. Life history of eminent artists and their contribution-

UNIT – V Evaluation in Teaching of Art:

1. Purpose and Concept of Evaluation in Teaching of art.

2. Continuous and Comprehensive Evaluation

3. Techniques of Evaluation:

a) Teacher made test

b) Designing examination paper and Blue – Print

c) Development of test items- Various types of test questions (Essay, short answer, and objective

Types) and their uses.

d) Progress assessment of development of art activities through:

e) Self evaluation;

f) Peer assessment;

g) Group evaluation.

h) Criteria-based checklist.

i) Self-reflection

j) Respond to the work of others

k) Portfolio

l) Evidence of learning: art works, performances, presentations, photographs, videos etc.

m) Preparation of achievement test - its administration, analysis and reporting.

SESSIONAL WORK

Any two of the following:

1. Prepare at least two innovative activity plans in either Collage; Mosaics or Print media.

2. Documentation of the processes of any one Visual Art form with the pedagogical basis such as Oil Painting, Murals, Collage, Mosaics and Print making etc.

3. Prepare a scrap-book on the one of the great Tradition of Indian Painting, Sculptures and Architectures with a write-up on its introduction, location and art works of the period with all types of photographs and illustrations of the paintings, sculptures, and architectural monuments.

4. Life and contribution of any one eminent artist/Sculptor.

5. Submission of any two self prepared art works by the student teacher.

6. A critical review of any school of art (Indian or Western classical/ traditional/folk ar schools).

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17. कुसुम भार्मा : कला ि ाक्षा।
18. राम चन्द्र शुक्लः कला का द र्ान; कॉरोना आर्ट पब्लि ार्स, जीमखानाए मेरठ उ.प्र.
19. राम चन्द्र भाुक्लः ‘नवीन भारतीय चित्रकला ि ाक्षण; किताब महल प्रा. लि. इलाहबाद
20. राय कृष्णदासः ‘भारत की चित्रकला’; भारती भण्डार, लीडर प्रेस, इलाहबाद
21. डॉ. अविना ा बहादुर वर्माः भारतीय चित्रकला का इतिहास; प्रका ा बुक डिपो, बरेली
22. ई. कुमारिल स्वामीः ‘भारतीय चित्रकला और कलाकार’; प्रका ान विभाग, सूचना और प्रसारण मंत्रालय भारत सरकार, पटियाला हयाला हाउस, नई दिल्ली
23. डॉ. ि ावकुमार भार्मा एवं डॉ. रामावतार अग्रवालः ‘रुपप्रद कला के मूलाधार’ लायल बुक डिपो, निकट गवर्नमेण्ट कॉलेज मेरठ, उ.प्र.
24. ‘भारतीय चित्रकला का आलोचनात्मक इतिहास’ ललित कला प्रका ान 27–ए, साकेत कॉलानी, अलीगढ़

Course 20 & 21 - PEDAGOGY OF PSYCHOLOGY

Objectives: After completion of the course the student teachers will be able to

1. Develop an understanding of the Nature of Psychology.
2. Knows the place, aims and objectives of teaching psychology.
3. Acquires the knowledge of current higher secondary school syllabus of psychology.
4. Develop an understanding of the importance of Psychology in daily life and its correlation with other subjects.
5. Understand the Historical perspective and development of Psychology.
6. Gets acquainted him with different methods and approaches of teaching psychology at the higher secondary level.
7. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
8. Develop an understanding of continuous and comprehensive evaluation in psychology Teaching.
9. Applies the valuation procedures to assess the achievements of the pupils in psychology.
10. Develops various skills for the use of different audiovisual aids, administration, scoring and interpretation of teaching the subject.
11. Identifies the weaknesses of pupils by using various tests and takes remedial measures.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Concept, Nature, Branches and Importance of psychology.
2. Subject matter of Psychology
3. Historical perspective of psychology.
4. Place of Psychology in modern life (a brief and general account)
5. Contributions of Psychology in the various personal, familial, social, educational, occupational and clinical aspects of human life
6. Eminent Psychologist : B. F. Skinner, Sigmund Freud, Albert Bandura, Jean Piaget, Carl Rogers, William James, Erik Erikson, Ivan Pavlov, Kurt Lewin

UNIT – II Psychology as a Subject in School Curriculum-

1. Need and Importance of Psychology in the school curriculum – its unique nature and place in human life, its importance in developing understanding about self and other people
2. Relation of Psychology with Education, Sociology, Physiology and other biological science, Anthropology, Management, Mathematics, Media sciences and Cybernetics (general)
3. Scope and utility of psychology in various human field.

UNIT-III Pedagogy of Psychology

1. Aims and objectives of teaching Psychology.
2. Pedagogical analysis of the following topics of Psychology

a) Intelligence

b) Ego and Personality

c) Mental Disorder

d) Sensation and Perception

e) Motivation and Emotion

f) Memory Process

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan- Concept, Need and current Features.

2. Basic Teaching strategies

3. Class – room based lecture, discussion, seminar, workshop, modelling

4. Laboratory based – experimental studies

5. Field based – survey, project, field visit of various form

6. Observation

7. Clinical – case study

8. Methods of teaching Psychology:

a) Lecture cum demonstration method,

b) Inductive-Deductive Method

c) Project method,

d) Story Telling,

e) Role Playing,

f) Source Method,

g) Dramatization.

9. Various Approaches to teach Psychology –

a) Constructivist approach,

b) Investigatory or Inquiry approach,

c) Computer assisted instruction,

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.

2. Concept and advantages of Continuous and Comprehensive Evaluation.

3. Different types of questions, Blue print and Construction of Achievement Test.

4. Importance and construction of Diagnostic test and Remedial teaching.

5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

PRACTICUM/SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to Psychology in NPC Journals.

2. Identify the Special Needy students Psychology diagnose their difficulties and suggest appropriate remedial measures.

3. Preparation of a scrap book related to the Psychological Disorder.

4. Term paper on any one Topic/ Issues related to Psychological Problem in Adolescent.

5. Preparing a presentation related to Psychological issue at Se. Secondary level.

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12. http://www.naopindia.org/

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Course 20 & 21 - PEDAGOGY OF HISTORY

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Social Science and History.
2. Develop an understanding of the importance of History and its correlation with other subjects.
3. Develop an understanding of aims and objectives of teaching History.
4. Develop an understanding of pedagogy of History.
5. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
6. Develop an understanding of various methods and approaches of teaching History at Senior Secondary level.
7. Develop an understanding of continuous and comprehensive evaluation.
8. Develop an ability to construct an achievement test, diagnostic test and remedial teaching.

COURSE CONTENT

UNIT-I Nature of Discipline-

1. Nature of Social Science, NCF 2005 position paper of Social Science.
2. Concept, Nature, Philosophy, Scope, Importance of History and Historical development of History as a discipline.
3. Contribution of Eminent Historians–Herodotus, Rake, Croche, Collingwood, Col.Todd, Bipin Chandra, Satish Chandra, Sardesai, P.K. Basu, R.C Majumdar, Jadugar Sarkar

UNIT – II History as a Subject in School Curriculum-

1. Need and Importance of History at Senior Secondary level.
2. Correlation of History with other subjects – Geography, Political science, Economics, Social science, Art& Literature, Mathematics.
3. Scope of History – Development of human civilization, History of development of - Society, Cities and Urban Centers,
4. Renaissance
5. Industrial Revolution.

UNIT-III Pedagogy of History –

1. Aims and objectives of teaching History.
2. Pedagogical analysis of the following topics of History

a) Changing cultural traditions.
b) Confrontation of cultures.
c) Paths to modernization.
d) The industrial revolution.
e) Issues in Social History :Caste, Class, Kinship and Gender.

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan, Concept and Features.
2. Historical Survey, Observation, Case Study.

3. Methods of teaching History : Lecture cum demonstration method, Project method, Story Telling, Role Playing, Supervised Study, Source Method, Discovery and Socialized Recitation Method.

4. Constructivist approach, Investigatory approach, Computer assisted instruction.

5. Field Trips

6. Historical Sourses (Primary and secondary) and their critical Evaluation.

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.

2. Concept and advantages of Continuous and Comprehensive Evaluation.

3. Different types of questions, Blue print and Construction of Achievement Test.

4. Importance and construction of Diagnostic test and Remedial teaching.

5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

PRACTICUM/ SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to History in reputed Journals.

2. Identify the students with less than 60% marks in History, diagnose their difficulties and suggest appropriate remedial measures.

3. Preparationof a scrap book related to the current issues of History.

4. A study of any one aspect of current Historical issue and preparation of report.

5. Life sketch of a prominent historian.

6. Preparation of a report on local heritage.

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Course 20 & 21 . हिन्दी का शिक्षण भाास्त्र

उद्दे य– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. भाषा के स्वरूप को जान सकेंगे।
2. भाषा की अलग–अलग भूमिकाओं को जान सकेंगे।
3. भाषा सीखने के तरीके एवं प्रक्रिया को जान सकेंगे।
4. भाषायी अभिव्यक्ति के प्रकारों को जान सकेंगे।
5. अनुवाद के महत्व एवं भूमिका को समझना सकेंगे।
6. विद्यार्थियों की भाषायी सृजनात्मक क्षमता को पहचानना सकेंगे तथा विकसित कर सकेंगे।
7. साहित्य व भाषा के सम्बन्ध को समझ सकेंगे।
8. हिन्दी शिक्षण के उद्देश्यों को जान सकेंगे एवं उपयोग में ले सकेंगे।
9. हिन्दी शिक्षण के महत्व को समझ सकेंगे।
10. विद्यालय में हिन्दी भाषा सम्बन्धी गतिविधियों के संचालन की योग्यता विकसित कर सकेंगे।
11. हिन्दी शिक्षण में अनुभूत समस्याओं के निराकरण हेतु लघु प्रायोजनाएँ, क्रियात्मक अनुसंधान आदि उपायों को काम में लेने की प्रक्रिया को जान सकेंगे।
12. हिन्दी शिक्षण में दृश्य–श्रृव्य सामग्री तथा भाषा प्रयोगशाला का उपयोग जान सकेंगे।

पाठ्यक्रम–विषयवस्तु

इकाई– ध भाषा का अर्थ, महत्व, भाषिक समस्या तथा शिक्षण उद्देश्य

(1) भाषा का अर्थ, महत्व तथा मातृभाषा एवं मानक भाषा की समझ।
(2) संविधान और शिक्षा समितियों के प्रतिवेदनों में भाषा की स्थिति।
(3) भारत की भाषिक समस्या, त्रिभाषा सूत्र तथा गाँधी जी द्वारा भाषा के सम्बन्ध में व्यक्त किये विचार।
(4) भाषा शिक्षण के उद्देश्य एवं व्यवहारगत परिवर्तन।
(5) बाल साहित्य का अर्थ एवं विधाएँ तथा पाठ्यक्रम में साहित्य को पढ़ना, पढ़ाना एवं अनुवाद करना।
(6) पाठ्यक्रम में मीडिया की भूमिका, महत्व, उद्देश्य एवं प्रासंगिकता।

इकाई–ध्र भाषा का वैज्ञानिक स्वरूप तथा भाषायी व्यवहार के विविध पहलू

(1) भाषा का वैज्ञानिक स्वरूप (वर्ण विचार, शब्द विचार एवं वाक्य विचार की दृष्टि से)
(2) भाषा कौशलों के विकास हेतु मौखिक, लिखित एवं सृजनात्मक अभिव्यक्ति का विकास
(3) भाषा अर्जन एवं अधिगम का दार्शनिक, सामाजिक तथा मनौवैज्ञानिक आधार
(4) भाषा सीखने–सिखाने की बहुभाषिक दृष्टि।
(5) भाषायी व्यवहार के विविध पहलू (विभिन्न बोलियां, क्षेत्रीय भाषा एवं मानक भाषा)

इकाई–ध्र हिन्दी शिक्षण के आधारभूत कौशल, सूत्र तथा अन्य विषयों से सम्बन्ध

(1) हिन्दी के आधारभूत कौशल– सुनना, बोलना, पढ़ना व लिखना एवं भाषा के माध्यम से सृजनात्मकता का विकास
(2) हिन्दी शिक्षण के सूत्र एवं सिद्धान्त
(3) हिन्दी भाषा का अन्य विषयों से सम्बन्ध
(4) हिन्दी शिक्षण में चुनौतियाँ

इकाई– ध्ट हिन्दी शिक्षण की विभिन्न विधाएँ

(1) गद्य शिक्षण–उद्देश्य, विधियाँ एवं पाठ योजना।
(2) पद्य शिक्षण– बोध पाठ, रस पाठ एवं उपयोजना पाठ। (बोध पाठ व रस पाठ का मिश्रित रूप)
(3) नाटक एवं एकांकी शिक्षण–अभिनयात्मक पाठ–मंचीय विधि।
(4) व्याकरण एवं रचना शिक्षण्ज्ञं

(5) इकाई एवं वार्षिक इकाई, दैनिक शिक्षण योजना, इकाई जॉच पत्र तथा नील पत्र का निर्माण।

इकाई– ट हिन्दी शिक्षण में सहायक सामग्री एवं नवाचार

(1) दृश्य–श्रृव्य सामग्री (रेडियो, टेलीविजन, ओ. एच.पी., लिग्वा फोन, चित्रकथा, टेपरिकॉर्डर आदि।
(2) भाषा प्रयोगशाला।
(3) सह–संज्ञात्मक गतिविधियों की रूपरेखा (चर्चा, वाद–विवाद, अन्त्याक्षरी, निबन्ध, नाटक, एकांकी, समूह कार्य)
(4) भाषा शिक्षण में नवाचार (अभिनयीकरण, समस्या पूर्ति, काल्पनिक लेख आदि)
(5) निदानात्मक परीक्षण एवं उपचारात्मक शिक्षण।

सत्रीय कार्य

निम्नांकित में से कोई दो

1. विद्यालय की किसी एक साहित्यिक गतिविधि की योजना निर्माण, क्रियान्विति करना तथा प्रतिवेदन तैयार करना।
2. भाषायी कौशलों (सुनना, बोलना, पढ़ना, लिखना) के सीखने सम्बन्धित चार–चार गतिविधियाँ तैयार कर प्रतिवेदन प्रस्तुत करना।
3. हिन्दी भाषा में प्रयुक्त अन्य भाषाओं के शब्दों का संकलन, अध्ययन एवं व्याकरण की प्रकृति के अनुसार वर्गीकरण।
4. भाषा शिक्षण के दौरान आने वाली समस्याओं पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।:–

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14. गुरू, कामता प्रसाद (2009) ''हिन्दी व्याकरण'' साहित्यगार, जयपुर।
15. गुरू कामता प्रसाद (2009) ''वृहद हिन्दी व्याकरण'', साहित्यगार, जयपुर।
16. नागदा, भंवरलाल (2011) ''हिन्दी भाषा त्रुटियां एवं उपचार'', क्लासिकल पब्लिशिंग कम्पनी, नई दिल्ली।
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Course 20 & 21 - PEDAGOGY OF HOME SCIENCE

Objectives : After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Science and Home Science.
2. Develop an understanding of the importance of Home Science and its correlation with other subjects.
3. Develop skills related to teaching of Home Science such as Observation, Demonstration, Experimentation, Handling appliances used in Home Science Laboratory etc.
4. Develop scientific attitude, scientific temper and creativity among students.
5. Develop an understanding of aims and objectives of teaching Home Science.
6. Develop an understanding of pedagogy of Home Science.
7. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
8. Develop an understanding of various methods and approaches of teaching Home Science at Senior Secondary level.
9. Develop an understanding of continuous and comprehensive evaluation.
10. Develop an ability to construct an achievement test, diagnostic test and remedial measures.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Nature of Science, NCF 2005 position paper of Science.
2. Concept, Nature, and Scope of Home Science.
3. Developmental perspective of Home Science.
4. Process skills in Home Science such as :- Observation, Demonstration, Experimentation, Handling appliances used in Home Science Laboratory etc.
5. Development of Scientific attitude, Scientific Temper, and Fostering Creativity through Home Science.
6. Contribution of Eminent Indian Home Scientists – Dr. Rajammal P. Devadas, Dr. Hansa ben J.

Mehta, Dr. Durga bai Deulkar, Dr. Anupa Siddhu and Dr. S. Ananda Lakshmy.

UNIT –II Home Science as a Subject in School Curriculum

1. Essential Characteristics of Home Science as a subject.
2. Importance of Home Science in school curriculum.
3. Correlation of Home Science with other subjects.
4. Home Science teaching in the context of family and community.

UNIT-III Pedagogy of Home Science

1. Aims and objectives of teaching Home Science.
2. Content cum Pedagogical analysis of the following topics of Home Science-

(a) Fabric finishing (Dyeing and Printing).

(b) Cleansing material and Stain removal.

(c) Problems of adolescence and its Management.

(d) Common childhood diseases and immunization.

(e) Consumer problems and consumer protection.

(f) Savings and investment.

(g) Food groups, Balanced diet and Malnutrition.

(h) Food preservation.

3. Methods of cooking.

UNIT-IV Planning and Strategies

1. Annual plan, unit plan, daily teaching plan, Concept and Features.

2. Methods of teaching Home Science: Lecture cum demonstration method, Laboratory method, Project method, Panel discussion, Problem solving, , Role play, Brain storming.

3. Constructivist approach, Investigatory approach, Computer assisted instruction, Collaborative learning.

UNIT-V Assessment and Evaluation

1. Concept of Evaluation.

2. Concept and advantages of Continuous and Comprehensive Evaluation.

3. Different types of questions, Blue print and Construction of Achievement Test.

4. Importance and construction of Diagnostic test and Remedial measures.

5. Evaluation of practical work in Home Science.

6. Home assignment-Planning and Evaluation.

PRACTICUM/ SESSIONAL WORK

Any two of the following –

1. Life sketch of an eminent Home Scientist.

2. Abstract of two published papers related to Home Science in reputed Journals.

3. Any hand made preparation of stitching / embroidery, painting, tie and dye and batik etc.

4. Identify weak students of Home Science and plan a diagnostic and remedial programme for them

5. Staging a short play (drama) on any current social or family issue and drafting a report. (The student teachers shall have to submit the script of the short play)

6. Prepare a scrap book on current issues highlighted by media related to Home Science.

7. Any two Best out of waste' preparation and submission.

REFERENCES

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2- शर्मा आर.सी. (2005) : विज्ञान ि ाक्षण, नई दिल्ली, धनपतराय प्रका ान कम्पनी प्रा.लि.।

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5- शर्मा शकुन्तला (2007) : गृह विज्ञान ि ाक्षण, जयपुर, अपोलो प्रका ान ।

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7- सुखिया एस.पी. एवं महरोत्रा पी.वी. (1976), गृह विज्ञान ि ाक्षण, चंडीगढ़ , हरियाणा हिन्दी ग्रन्थ अकादमी।

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10- .कुमारी, डॉ. विमले ा (2007) 'गृह विज्ञान ि ाक्षण',नई दिल्ली, डिस्कवरी पब्लि िंग हाउस, ।

11- शर्मा, श्रीमती राजकुमारी व तिवारी, श्रीमती अंजना (2006) गृह विज्ञान ि ाक्षण, आगरा, राधा प्रका ान मन्दिर,

12- वाजपेयी, गोलवलकर एवं अन्य (2007) : विज्ञान ि ाक्षण, इलाहाबाद, शारदा पुस्तक भण्डार।

13- Dale Edgar (1962) Audio Visual Methods in Teaching, New York, Revised edition Hold Rivehart and Winston.

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16- Mangal S.K. (1996), Science Teaching, New Delhi, Arya Book Depot.

17- Sharma R.C. (2005), Science Teaching, New Delhi, Dhanpat Rai Publishing Co. Pvt. Ltd.

18- Sood J.K. (1987), Teaching Life Sciences, Chandigarh, Kohli Publishers.

Course 20 & 21 - PEDAGOGY OF SOCIAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Social Science.
2. Develop an understanding of the importance of Social Science and its correlation with other subjects.
3. Understand the origin and development of Social Science.
4. Develop an understanding of aims and objectives of teaching Social Science.
5. Develop an understanding of pedagogy of Social Science.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop an understanding of various methods and approaches of teaching Social Science at Secondary level.
8. Develop an understanding of continuous and comprehensive evaluation.
9. Develop an ability to construct an achievement test, diagnostic test and remedial teaching.

COURSE CONTENT

UNIT-I Nature of Discipline-

1. Nature of Social Science, NCF (2005.) position paper of social science.l
2. Concept, Nature, Scope and Importance of Social Science.
3. Developmental perspective of Social Science.
4. Eminent Social reformists: Raja Ram Mohan Rai, Swami DayanandSaraswati, VinobaBhave, Abraham Linkon and Nelson Mandela.

UNIT – II Social Science as a Subject in School Curriculum-

1. Need and Importance of Social Science at secondary level.
2. Correlation of Social Science with other subjects – History, Geography, Political science, Economics, Art, Literature, Science and Mathematics.
1. Scope of Social Science – Social Culture, Social Identity, Resource and Development.

UNIT-III Pedagogy of Social Science –

1. Aims and objectives of teaching Social Science.
2. Pedagogical analysis of the following topics of Social Science

a) World war and Liberation Struggle.
b) Khilafat and Non-Cooperation Movement.
c) Movements of peasants, workers and tribals.
d) Patterns of Urbanization.
e) Migration and the growth of towns.
f) Social change and urban life.

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan, Concept and Features.
2. Social Survey, Observation, Case Study.

3. Methods of teaching Social Science: Lecture cum demonstration method, Project method, Story Telling, Role Playing, Supervised Study, Source Method, Discovery and Socialized Recitation Method, Dramatization, Field Trips.

4. Constructivist approach, Investigatory approach, Computer assisted instruction,

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.

2. Concept and advantages of Continuous and Comprehensive Evaluation.

3. Different types of questions, Blue print and Construction of Achievement Test.

4. Importance and construction of Diagnostic test and Remedial teaching.

5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

PRACTICUM/ SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to Social Science in reputed Journals.

2. Identify the students with less than 60% marks in Social Science, diagnose their difficulties and

suggest appropriate remedial measures.

3. Preparationof a scrap book related to the current issues of Social Science.

4. Term paper on any one Topic/ Issues related to Social Science.

5. Preparing a Radio or TV script related to current Social Science issue.

REFERENCES

1- जैन, अमीचन्द (1983) : सामाजिक ज्ञान ि ाक्षण, जयपुर राजस्थान हिन्दी ग्रन्थ अकादमी।

2- शर्मा, बी.एल. माहे वरी (2003) : सामाजिक ज्ञान ि ाक्षण, मेरठ आर. लाल बुक डिपो।

3- शर्मा आर. ए. (2003): सामाजिक ज्ञान ि ाक्षण, मेरठ आर. लाल बुक डिपो।

4- सिंह कर्ण (2004): सामाजिक विज्ञान ि ाक्षण, खिमपुर गोवीन्द प्रका ान।

5- त्यागी, गुरू ारणदास (1985) : सामाजिक विज्ञान ि ाक्षण, आगरा, विनोद पुस्तक मन्दिर।

6- Aggrawal, J.C. (1994); Teaching of Social Study, New Delhi :VikasPublishing House Pvt.Ltd.

7. Aggrawal, J.C. (1989); Teaching of Social Study, New Delhi : (A Practical Approach)Vikas Publishing House Pvt.Ltd.

8. Bening&Bening (1952) : Teaching the Social Studies in Secondary Schools, Bombay, Tata Mekgra hills Publishing Company.

9. Bhattacharya, S. and D.R. Darji (1966); Teaching of Social Studies in Indian Schools. Baroda:

Acharya Book Depo.

10. Hemming, James; The Teaching of Social Studies in Secondary School. New York: London Longmans Green and Co.

11. Jarolimek, John; (1977) Social Studies High School Education. New York: Mc. Millan Co.

12. Kochhar, S.L.; The Teaching of Social Studies. New Delhi: Sterling publishers Ltd. -16.

13. Moffat, M.P. (2004). Social Studies Instruction. New York: Prentice – Hall Inc.

Course 20 & 21 - PEDAGOGY OF ENGLISH

Objectives: After completion the course, the student teacher will be able to-

1. Understand concept, nature, and scope of language teaching.
2. Know about the aims and objectives of teaching English.
3. Understand future perspectives of English language teaching.
4. Prepare unit plan and daily teaching plan.
5. Develop creativity among learners.
6. Understand the role and importance of translation.
7. Understand the use of language in context, such as grammar and vocabulary.
8. Use multilingualism as a strategy in the classroom.
9. Develop activities and tasks for learners.
10. Examine authentic literary and non literary texts and develop insight and appreciation.

COURSE CONTENT

UNIT -I Nature of language as a Discipline.

1. Nature of language as a discipline.
2. Importance of studying English as a subject in the context of changing global scenario.
3. Nature and Concept of English as a language.
4. Development of English in India
5. Constitutional provisions and policies of language education: Position of languages in India; Articles 343-351, 350A; Kothari Commission(1964-66); NPE-1986; POA-1992; NCF-2005
6. Aspect of Linguistic Behaviour: Language as a rule governed behaviour and linguistic variability; Pronunciation, linguistic diversity and its impact on Urdu pedagogical implication; Speech and Writing.
7. Linguistic System: The organization of sound; The structure of sentences; The concept of universal grammar; Nature and structure of meaning; Basic concept in phonology, morphology, syntax and semantics; Discourse

UNIT-II English as a School subject

1. Aims and objectives of teaching English at secondary and senior secondary level
2. English as a language of knowledge; English as first, second and third language; English as mother tongue; English as communicative language; English as Media language
3. Importance and functions of English Language
4. Role of English language in promoting national integration.
5. Role of English language in Indian Independence movement
6. Position of English in Pre-and post-partition of India.
7. Present position of English in our country.
8. Position of English language in the present educational system as prevalent in the state of

Rajasthan.

9. Suggestions for a better place of English language in syllabi.

10. Different forms of English (Formal, Informal, Written and Spoken)

11. Correlation of English with other school subjects.

12. difference between language as a school- subject and language as a means of learning and communication

13. Multilingual classroom; multicultural awareness and language teaching.

UNIT-III Teaching of english language skills

(a) *listening:*

1. Concept of listening in second language

2. The phonetic elements involved in listening at the receptive level (Monopthongs, diphthongs, consonants, pause, juncture, stress, accent, beat, intonation, rhythm)

3. Listening skills and their sub-skills

4. Techniques of teaching listening

5. Role of teaching aids in teaching listening skills

6. Difference between hearing and listening

7. Note-taking.

(b) Speaking:

1. Concept of speaking in English as a second language.

2. Phonetic transcription

3. The stress system

4. Use of pronouncing dictionary

5. The phonetic elements involved in speaking at the receptive level

6. Technique of teaching speaking skills and pronunciation practice and

7. Drills – Ear Training, Repetition, Dialogues and conversation:

8. Role of A.V. aids in teaching speaking skills.

(c) Reading skills:

1. Concept of reading in second language

2. Mechanics of reading (Eye span, pause, Fixations, Regression and speed)

3. Types of reading: Skimming, Scanning, Silent reading, reading aloud, Intensive reading, Extensive reading, genuine reading comprehension

4. Relating teaching of reading to listening and speaking skills

5. Role of text book

6. Cloze procedure, Maze method Use of dictionary in teaching reading skills.

(d) Writing Skills:

1. Concept of writing in first language and the second language

2. Types of composition- oral, written, controlled, guided, contextualized and integrated composition

3. Teaching the following items keeping in view their style, ingredients and mechanics; Letters (Formal and informal), essay, report, telegram, e-mail, notice, précis, paragraph, developing stories, note making.

4. Correction of Written Work.

UNIT-IV Pedagogical analysis and mode of learning in english

(a) Approaches, methods and techniques

1. Maxims and principles of teaching English.

2. Difference between approach, method and technique Study the approaches & methods mentioned below in the light of -Psychological factors affecting second language learning, Nature of English language, Classroom environment and conditions and Language functions:

3. Whole language approach, Structural-Situational approach, communicative approach, task based approach, eclectic approach

4. Direct method, Bilingual Method, PPP (Prestation, Practice, Production) method, ESA (Engage, Study, Activate) method, audio- lingual method

5. CALL (computer assisted language learning) and CALT (Computer assisted language teaching)

6. Role play, simulation, group work and drill technique.

(b) Planning of English language teaching- Pedagogical analysis (with reference to Identification of concepts involved, Learning behavioral outcomes, Teaching Learning experiences, Evaluation techniques) of the following topics of senior secondary course prescribed by RBSE/CBSE-

1. Preparing Annual plan, unit plan and daily lesson plan

2. *Prose lessons*-Content analysis; Planning for teaching the content and skills in the following order:- New lexical items; New structural items; Reading comprehension; Textual exercises; Composition

3. *Poetry lessons*- Components of poetry; The place of poetry teaching in school curriculum; Concept, aims and objectives of teaching poetry in second language; Difference between prose and poetry teaching (in the light of their aims,objectives, content and teaching procedure) Steps of preparing a lesson plan on poetry.

UNIT–V Evaluation &Assessment of Student Performance in English:

1. Importance and concept of evaluation.

2. Various devices of testing and their need.

3. Preparation of Achievement test along with blue print, content analysis, scoring key and marking scheme.

4. Qualities of good test.

5. Diagnostic Test and remedial programs

6. Continuous and comprehensive evaluation.

7. Testing language skills, lexical and structural items, prose and poetry.

PRACTICUM / SESSIONAL WORK

Any two of the following:

1. Take a few passages from science, Social science and maths textbooks of classes VI to XII and analyse:

a) How have the different registers of language been introduced?

b) Does the language clearly convey the meaning of the topic being discussed?

c) Is the language learner-friendly?

d) Is the language too technical?

e) Does it help in language learning?

2. Prepare a report on the status of languages given in the constitution of India and language policies given in the Kothari commission, NPE-1986, POA-1992 and NCF-2005

3. On the basis of the English Textbooks (VI to XII) prepare a list of topics and activities given on:

a) Language and Gender

b) Language and peace. Write a report on their reflection in the textbooks.

4. Prepare a questionnaire. Interview ten people and write a report on “English Language in India”.

5. An action research report on comparison of effectiveness of two teaching plans on different methods.

6. Analysis of advertisements in media.with reference to language and gender.

7. Life sketch of any eminent literary figure of English Language.

REFERENCE

1. Agnihotri, R.K. (1995). Multilingualism as a classroom resourse. In K. Heugh, A Siegruhn, & P.

Pluddemann (Eds.) Multilingual education for South Africa 9pp. 3-&) Heinemann Educational books.

2. Anderson, R.C. (1984). Role of the Reader’s Schema in comprehension, learning and memory. In R.C. Anderson, J. Osborn, & R.J. Tierney (Eds.) Learning to read in American school: Basad readers and content texts. Psychology Press.

3. Eller, R.G. (1989). Johnny can’t talk, either: The perpetuation of the deficit theory in classroom: The Reaing Teacher, 670-674.

4. Erlwanger, S.H. (1973). Benny’s conception of rules and answers in IPI mathematics. Journal of children’s mathematical behavior, 1 (2), 7-26

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6. Ladson-Billings. G. (1995). Toward a theory of culturally Relevant Pedagogy. American Educational research journal. 32(3), 465-491.
7. NCERT. (2006d) Position paper National Focus Group on teaching of Indian language (NCF-2005). New Delhi: NCERT.
8. Thwaite, A. & Rivalland, J. (2009) How can analysis of classroom taks help teachers reflect on their practices? Australian Journal of Language and Literacy, the 32(1)38.

Course 23- OPEN AIR SESSION / SUPW CAMP

Every college will organize 5 days camp in the first year of B.Ed. Course. Participation in such camp will
be compulsory for all students.
Performance of students will be evaluated internally.
Objectives of the camp will be as follows:-
1. To develop understanding about local environment and Community for connecting classroom teaching with outside world.
2. To develop sensitivity towards self, society and environment.
3. To develop feeling of togetherness and working collaboratively.
4. To develop organizational skills and leadership abilities.
5. To develop skill of conducting surveys.
6. To develop an understanding about sustainable future.
7. To develop dignity of labour through community service.

Suggested activities for Open Air Session/SUPW Camp
1. Study of the local environment/ socio cultural issues through survey.
2. Community awareness performance – cleanliness campaigns, plantation, value education, etc.
3. Participation in Health and Spiritual activities like morning Assembly, Yoga, P.T., Meditation, Silence hour.
4. Participation in Aesthetic and recreational activities.
5. Documentation and organization of exhibition for local community.
6. Productive and creative craft activities.

Note : Student teachers will participate in the above mentioned activities in collaborative manner (to
develop the feeling of working and living together)

Guideline for assessment Max Marks 50

S. No.	Activity	Marks
1.	Participation in preparation of Camp	5
2.	Presentation of report of survey/ creative work	20
3.	Participation in Community Awareness Programme	15
4.	Participation in organizational process/community living/cultural and aesthetic activities	10
	Total Marks	50

Course 24-Elementary Computer applications

Common for Arts, Science & Commerce Faculties

1. **Information concepts and processing:**
   Definition of information, need quality and value of information, categories of information in business organisation level of information, storage and retrieval of data, comparison of manual and electronic storage of data, organisation of data as files ,data processing in govt. ,large business, multinational and private organisation.

2. **Elements of Computer Inter Processing System:**
   The electronic digital computer, the number systems (binary, digital, octal and hexadecimal and their conversions),character code(ASCII and EBCDIC),concept of hardware and software, the architecture of a computer system, CPU, memory and input/output devices, magnetic storage devices, optical device, printers and monitors, categories of software, system software, application software, packages.

3. Classification of Computers and Generation of Computers, parallel processing and component, RISC and CISC machines, development of Intel family processors.

4. **Operating System Concept:**
   The need of an OS(operating system),OS as resource processor and memory Manager, the various types of operating system, MS-DOS,WINDOWS 95/98,WINDOWS 2000,UNIX operating system.

5. **Computer and Communication:**
   Need for data transmission over distances, communication channels: twisted pair coaxial cable, microwave, radio wave, optical fiber and satellite: digital and analog transmission, 15 serial and parallel data transmission, Moderns, Networking of computers, LAN, WAN concepts.

6. **Programming Language:**
   Machine, Assembly and high level language, generation of language, 3 GL and 4 GL language, and graphics User Interfaces.

7. **Personal Computer Software**:
   Word processing packages, Spreadsheet Packages and Database Management Packages, Desktop Publishing, Computer Animation Packages introduction to MS-Office.

8. **Internet Technology:**
   Concept and how it wok, Email service, Internet Surfing, browsers and search engines, World Wide Web, Web Programming, HTML and JAVA Programming Concepts.

9. **E-Commerce:**
   What is e-commerce and growth of e-commerce electronic payment systems security considerations, digital currencies, Credit cards, Cybercast, E-cash, smart card, supply chain management.

10. Benefits of electronic forms of data processing and management in education, commerce public delivery systems banking and other financial transactions, new developments in these areas.

Laboratory: **Paper Code-9604**

The laboratory exercise will be designed to help in the understanding of the concepts of computer and the utilization in the areas outlined in the theory syllabus. The emphasis should be on practical uses rather than on theoretical concepts only.

Paper – I **Paper Code-9401**

Course -25 MACRO ECONOMICS

UNIT – I

Definition, Nature, Scope and Importance of Macro Economics, Concepts and Measurement of National Income, Income, Expenditure and Value-Added Method, Circular Flow of National Income, National Income Identities with Government and International Trade, Concept of Green Accounting, National Income and Welfare.

UNIT – II

Classical Theory of Employment, Keynes's Objection to the Classical Theory, Keynesian Theory of Income and Employment, Consumption Function – Average and Marginal Propensity to Consume, Keynes's Psychological Law of Consumption, Basic Concepts of Multiplier.

UNIT – III

Investment – Autonomous and Induced Investment, Gross and Net Investment, Concept of Marginal Efficiency of Capital (MEC), The Marginal Efficiency of Investment (ME1), Relation between MEC and MEI, Factors Affecting Investment, The Acceleration Principle, Savings and Investment – Ex-ante and Ex-post Concepts.

UNIT – IV

Theories of Interest – The Classical Theory of Interest, The Loanable Fund Theory, Keynesian Liquidity Preference Theory of Interest, Modern (IS-LM) Theory of Interest.

UNIT – V

Business cycle – Meaning, Characteristics and Phases of Business Cycles, Theories of Business Cycles- Hawtray's Monetary Theory, Hayek's over Investment Theory, Keynes View on Trade

Cycle, Measures to Control Business Cycles and Relative Effectiveness of Monetary and Fiscal Policy in Controlling Business Cycles.

Basic Reading List

6. Shapiro, E. – Macro Economic Analysis. Galgotia Publications, New Delhi.
7. Jhingan, M.L. – Macro Economics, Vrinda Publications, New Delhi.
8. Allen, R.G.D. – Macro Economic Theory-A Mathematical Treatment, Macmillan Press, London.
9. Schaum's Series – Macro Economic Theory, McGrall Hill, Singapore.
10. Vaish, M.C. – Macro Economic Theory, Vikas Publishing House, Pvt. Ltd., New Delhi.
11. Mithani, D.M. – Macro Economics, Himalaya Publishing Company, New Delhi.

12ण आहूजा, एच.एल. – उच्चतर समष्टि अर्थशास्त्र, एस. चन्द एण्ड कम्पनी लि., नई दिल्ली।

13ण झिंगन, एम.एल. – समष्टि अर्थशास्त्र, वृंदा पब्लिकेशन्स, नई दिल्ली।

14ण सेठी, टी.टी. – समष्टि अर्थशास्त्र, लक्ष्मी नारायण अग्रवाल, आगरा।

15ण ओझा, बी. एल. – समष्टि अर्थशास्त्र, आदर्श प्रकाशन जयपुर।

16ण वैश्य, एम.सी. – समष्टि अर्थशास्त्र, विकास पब्लिशिंग हाऊस, नई दिल्ली।

17ण राणा, के.सी. एवं के.एन. वर्मा – समष्टि आर्थिक विश्लेषण, विशाल पब्लिशिंग कम्पनी, जालंधर।

Second Year

Paper – II **Paper Code-9402**

FINANCIAL ECONOMICS

UNIT – I

Money – Meaning, Functions and Classification; Importance of Money, Gresham's Law; Main Components of Money Supply, Concept of Money Multiplier, Electromagnetic Card – Debit, Credit, Smart and Member Cards.

UNIT – II

Quantity Theory of Money – Cash Transaction, Cash Balance and Keynesian Approach.

Inflation – Types, Causes and Effects of Inflation, Demand Pull and Cost Push Inflation, Measures to Control Inflation, Trade off between Inflation and Unemployment (Phillip's curve).

Deflation, Reflation and Stagflation – Causes, Effects and Measures to control it.

UNIT – III

Commercial Banks – Meaning, Types and Functions, The Process of Credit Creation, Limitation to Credit Creation; Liabilities and Assets of Banks. Introduction to Retail Banking.

Functions of Central Bank, Quantitative and Qualitative Methods of Credit Control, Bank Rate Policy, Open Market Operations, Variable Reserve Ratio and Selective Methods Role and Functions of the Reserve Bank of India.

UNIT – IV

Public Finance – Meaning and Scope, Distinction between Private and Public Finance, Public Goods v/s Private Goods, Public Expenditure, Meaning, Classification, Principles and Effects.

Sources of Public Revenue; Taxation – Meaning, Canons and Classification of Taxes, Impact and Incidence of Taxes, Effects of Taxation, Sources of Public Borrowings and Effects Methods of Debt Redemption; Basic Concept and Components of Budget, Objectives and Importance of Fiscal Policy.

UNIT – V

Components, Functions and Importance of Money Market and Capital Market, Sources of Long Term and Short Term Finance.

Types and Objectives, Role and Functions of SEBI, Concept of Bombay Stock Exchange and National Stock Exchange of India.

Basic Reading List

18. Sengupta, A.K. and Agarwal, M.K. – Money Market Operations in India, Skylark Publication, New Delhi.

19. Vinaya Kumar, N. – A Profile of Indian Capital Market, K.P.S. Publication, New Delhi.

20. Seema, Vaid – Mutual Fund Operation in India, Rishi Publication, Varanasi.

21. Rao, S.L. – Economic Reform and Indian Markets, A.H. Wheeler, Mumbai.

22. Mithani, D.M. – Money, Banking and Public Finance, Himalaya Publishing House, New Delhi.

23. Vaish, M.C. – Money Banking Trade and Public Finance, New Age International, New Delhi.

24. Singh, A.K. – Finance Budget in India, Gyan Books, New Delhi.

25ण वैश्य, एम.सी. एवं सुदामा सिंह – अन्तर्राष्ट्रीय अर्थशास्त्र, ऑक्सफोर्ड एण्ड आई.बी.एच. पब्लिशिंग कम्पनी लि., नई दिल्ली।

10ण सेठ, एम.एल. – मुद्रा एवं बैंकिंग, लक्ष्मीनारायण अग्रवाल, आगरा।

11ण सेठी, टी.टी. – मुद्रा, बैंकिंग एवं अन्तर्राष्ट्रीय व्यापार, लक्ष्मीनारायण अग्रवाल, आगरा।

12ण ओझा, बी.एल. – मुद्रा बैंकिंग एवं राजस्व, रमेश बुक डिपो, जयपुर।

B.A. Second Year
Subject: Geography Paper Code-9405
Course-27 Paper I: World Regional Geography

UNIT I: Japan (Asia)

a) Geographical Location and Importance of Japan in Asia
b) Physical Division, Drainage and Climate
c) Population Distribution and Urbanization
d) Horticulture and Natural Resources: Vegetation and Major Minerals
e) Industrial Regions of Japan

UNIT II: Egypt (Africa)

a) Geographical Location and Importance of Egypt in Africa
b) Physical Division, Drainage and Climate
c) Population Distribution and Natural Resources: Vegetation and Major Minerals
d) Agricultural Development in Nile Valley: Aswan Project & Irrigation
e) Industrial Development

UNIT III: United State of America (North America)

a) Geographical Location and Importance of USA in North America
b) Physical Division, Drainage and Climate
c) Population Distribution and Development of Megalopolis (East Coast)
d) Agricultural Belts: Wheat, Corn and Cotton
e) Industrials Regions: Iron-Steel and Engineering Industry

UNIT IV: Brazil (South America)

a) Geographical Location and Importance of Brazil in South America
b) Physical Division, Drainage and Climate
c) Population Distribution and Natural Resources: Vegetation and Major Minerals
d) Agricultural Development: Coffee & Sugarcane: Distribution and Production
e) Industrial development and Urbanization

UNIT V: France (Europe) & New Zealand (Oceania)

a) Geographical Location and Importance of France in Europe
b) Physical Division, Drainage and Climate of France
c) Population Distribution and Urbanization:Agriculture, Industrial Regions, Transportation
d) Geographical Location, Physical Division and Climate of New Zealand
e) Population Distribution and Dairy Farming,Urbanization

References:

1. Cole, J., A Geography of the World's Major Regions, Routledge, London, 1996.
2. Cole, J. P., Latin America - Economic and Social Geography, Butterworth, USA, 1975.
3. Cole, M. M., South Africa, Dutton, New York, 1961.
4. de Blij, H. J., Geography: Regions and Concepts, John Wiley & Sons Inc., New York, 1994.
5. Dickenson, J. P. et al., The Geography of the Third World, Routledge, London, 1996.
6. Gourou, R., The Tropical World, Longman, London, 1980.
7. Jackson, R. H. and L. E. Hudman, World Regional Geography: Issues for Today, John
8. Kolb, A., East Asia: Geography of a Cultural Region, Methuen, London, 1977.

9. Minshull, G. N., Western Europe, Hoddard & Stoughton, New York, 1984.
10. Patterson, J. H., Geography of Canada and the United States, Oxford University Press, 1985.
11. Songquiao, Z., Geography of China, John Wiley & Sons Inc., New York, 1994.
12. Ward, R. W. and A. Miller, World Regional Geography: A Question of Place, John Wiley &Sons Inc., New York, 1989.
13. वर्मा, लक्ष्मी नारायण, प्रादेशिक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
14, हुसैन, माजिद, विश्व का भूगोल, रावत पब्लिकेशनस,जयपुर नई दिल्ली
15, मिश्र, निरंजन, क्षैत्रीय भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

B. A. SECOND YEAR **Paper Code-9406**

SUBJECT: GEOGRAPHY

Paper-II: Economic & Resource Geography

Unit – I

a) Definition, nature and scope of economic geography
b) Recent trends in economic geography; its relation with economics, and allied subjects.
c) Classification of economies and spatial organization.
d) Sectors of economy: primary, secondary and tertiary.
e) Impact of economic activities on environment.

Unit – II

a) Natural resources: meaning; Classification of resources.
b) Conservation of resources; Water and forest resource conservation.
c) Changing nature of economic activities: Mining and forestry,
d) Changing nature of economic activities: Agriculture and industry.
e) Changing nature of economic activities: Trade and transport.

Unit – III

a) Agricultural types and classification.
b) Agriculture: physical, social, cultural environment influencing crop production.
c) Spatial distribution, production and international trade of rice and wheat
d) Spatial distribution, production and international trade of cotton and rubber.
e) Spatial distribution, production and international trade of coffee and tea.

Unit – IV

a) Classification of minerals; distribution, production and trade of iron ore and bauxite.
b) Distribution and production of coal, petroleum and hydroelectricity.
c) Factors of localization of industries; iron and steel industry.
d) Chemical and cement industries.
e) Textile and ship building industries.

Unit – V

a) Trade and transport: geographical factors in their development.
b) Major water, land and air transport routes.
c) Internal and international trade.
d) World Trade Organization (WTO) and globalisation.
e) Impact of WTO and globalisation on developing countries of the world.

Suggested Readings:

1. Bengston, N. A. and V. L. Royen, Fundamental of Economic Geography, Prentice Hall, New York.
2. Boesch, H., A Geography of World Economy, D. Van-Nostrand Co., New York, 1964.
3. Chapman, J. D., Geography and Energy, Longman, London, 1989.
4. Gregor, H. F., Geography of Agriculture, Prentice Hall, New Jersey, USA, 1970.
5. Griggs, D. B., The Agricultural Systems of the World, Cambridge University Press, New York, 1974.
6. Hartshorne, T. N. and J. W. Alexander, Economic Geography, Prentice Hall, New Delhi, 1988.
7. Jones, C. F. and G. G. Darkenwald, Economic Geography, McMillan Co., New York. 1975.
8. Millar E., Geography of Manufacturing, Prentice Hall, New York, 1962.
9. Pickes, L. D., The Wealth of The World, Dan & Co., London.
10. Raza. M. and Y. Agrawal, Transport Geography of India, Concept, New Delhi, 1986.
11. Robinson, H., Economic Geography, Longmans.
12. Smith, D. M., Industrial Location - An Economic Geographical Analysis, John Wiley, New York, 1971.
13. Stamp, L. D., A Commercial Geography, Longmans.
14. Thomas, R. S., The Geography of Economic Activities, McGraw Hill, New York 1962.
15. UNO, Statistical Year Book (Latest Edition).
16. दास, गुप्ता एवं कपूर: आर्थिक और वाणिज्य भूगोल, एस चांद एण्ड कम्पनी, दिल्ली
17. दुबे रामनाथ :आर्थिक–वाणिज्य भूगोल, किताब महल, इलाहाबाद
18. नेगी :संसाधन भूगोल
19. नेगी :मानव तथा आर्थिक भूगोल
20. जैन, पी. :आर्थिक भूगोल की समीक्षा
21. कौशिक, एस. डी. :आर्थिक भूगोल की समीक्षा
22. कौशिक, एस. डी. :संसाधन भूगोल

B.A. Second Year Paper Code-9407

Subject: Geography

Practical: Cartography-II (Projections and Presentation of socio-economic data)

Map projections:

1. Meridians and parallels: definition, and characteristics.
2. Map projections: meaning, compromises, classification,
3. Characteristics, use and graphical construction along with outline map of the following projections:
   - i. Zenithal projections: orthographic, stereographic and gnomonic (both polar and equatorial cases) (6 exercises)
   - ii. Conical projections: Bonne's and polyconic (2 exercises)
   - iii. Mercator's projections (1 exercise)
   - iv. Globular projection (1 exercise)
   - v. Gall's projection (1 exercise)
   - vi. Mollweide's projection (1 exercise)
   - vii. Sinusoidal projection (1 exercise)

Presentation socio-economic data:

1. Thematic maps: Elements and characteristics of thematic maps.
2. Drawing and use of dot, choroschematic, chorochromatic, choropleth and isopleth maps (6 exercises)
3. Diagrams: elements and characteristics of diagrams.
4. Drawing of diagrams along with appropriate scales:
   i. One dimensional (2 exercises)
   ii. Two dimensional (3 exercises)
   iii. Three dimensional (3 exercises)
   iv. Traffic flow diagram (1 exercise)
5. Graphs: elements and characteristics of graphs.
6. Drawing of poly, band, and triangular graphs. (3 exercises)

Basic statistical methods:

1. Frequency distribution and its presentation.
2. Measures of central tendency: Arithmetic mean, mode and median.
3. Measures of dispersion: Standard deviation and coefficient of variation.
4. Measures of correlation: Rank correlation and product moment correlation.

Notes:

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on $1/4^{th}$ of a full drawing sheet.
3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.
4. The distribution of marks will be as follows:

   a. Paper 36 Marks
   b. Record Work* 14 Marks
   c. Viva-voce** 10 Marks

   * Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

   ** Viva-voce will be based on the record work.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggested Readings:

1. Ahmed, K. S., Simple Map Projection, Friends Book House, Aligarh.
2. Bygott, J., An Introduction to Map Work and Practical Geography, University Tutorial Press, London.
3. Meux, A. H., Reading Topographical Maps, University of London Press.

4. Mishra, R. P. and A. Ramesh, Fundamentals of Cartography, Concept Publishers, New Delhi.
5. Monkhouse, F. J., Maps and Diagrams, Methuen & Co. Ltd., London.
6. Raize, E., General Cartography, McGraw Hill Book Co., London.
7. Robinson, A. R., Elements of Cartography, Chapman & Hall.
8. Singh, R. L. and P. K. Dutt, Elements of Practical Geography, Student Friends, Allahabad
9. Singh, R. L., Elements of Practical Geography, Kalyani Publishers.
10. Singh, R. N. and L. R. S. Kanaujia, Map Work & Practical Geography, Central Book Depot, Allahabad.
11. Tamaskar E. G. and V. M. Deshmukh, Geographical Interpretation of Indian Topographical Maps, Orient Longman.
12. भार्मा, जे. पी. : प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
13. जैन शेपमल : प्रायोगात्मक भूगोल, साहित्य भवन आगरा
14. भल्ला, एल. आर. : प्रायोगात्मक भूगोल, के.डी. प्रकाशन, अजमेर
15. मामोरिया चतुर्भुज : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, साहित्य भवन, आगरा
16. पंवार, आर. एस. : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, तुलसी प्रकाशन, मेरठ
17. वर्मा, एल एन.व आर. एम लोढा : प्रायोगात्मक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
18. सिंह, एल.आर.; : मानचित्र एवं प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
19. सिंह एवं कन्नोजिया : प्रायोगात्मक भूगोल की रूपरेखा, सेन्ट्रल बुक डिपो, इलाहाबाद

SECOND YEAR **Paper Code-9410**

Course-29 POLITICAL SCIENCE

Two Papers	Min. Pass marks: 72	Max. Marks 200
Paper-I	3 hrs. duration	M.M. 100
Paper-II	3 hrs. duration	M.M. 100

Note: The assessment scheme is divided into two parts: internal and annual assessment. **Internal assessment** comprises of 25 marks: 5 marks for attendance and 20 marks for a mid session class test. **The annual examination** will comprise of 75 marks and will be divided into two parts: part one will contain 45 objective type multiple choice questions, each carrying one mark and part two will contain 5 questions, one from each unit and the examinee will have to answer three questions in a maximum of 500 words. Each question will carry 10 marks.

PAPER-I: MODERN CONSTITUTIONS

Unit-I: Constitution: Meaning, western and non western; types of constitutions - flexible and rigid, written and unwritten constitution; Constitutionalism: meaning and characteristics.

Unit-II: Constitution of U.S.A.: Salient features, the principles of Separation of powers and checks and balances; Federalism, President, Congress, Supreme Court, Judicial Review and Party System.

Unit-III: Constitution of Japan: Salient features, Emperor, Prime Minister and Council of Ministers, Diet, Rights and Duties of Citizens and Political Parties.

Unit-IV: Constitution of U.K.: Salient features, Conventions, Rule of law, Crown, Prime Minister and Cabinet, Parliament, Delegated Legislation and Party system.

Unit-V: Constitution of Switzerland: Salient features, Federalism, Federal Assembly, Federal Council, Federal Judiciary and Direct Democracy.

Suggested Readings :

1.	Ogg & Zink	:	Modern Foreign Governments
2.	B.M. Sharma	:	Modern Government
3.	A.C. Kapoor	:	Select Constitutions (Hindi & English)
4.	Ogg & Ray	:	American Government
5.	V.N. Khanna	:	Comparative study of Governments and Politics
6.	वी. पी. सिंह	:	विश्व के प्रमुख संविधान
7	गुप्ता एवं दरड़ा	:	विश्व की प्रमुख शासन प्रणाली
8	बी. एल. फड़िया	:	विश्व के प्रमुख संविधान
9	आर. सी. अग्रवाल	:	विश्व के प्रमुख संविधान
10	इकबाल नारायण	:	विश्व के प्रमुख संविधान
11	पी. के. चढ्ढा	:	प्रमुख राजनीतिक व्यवस्थाएं

Paper Code-9411

PAPER-II: INDIAN POLITICAL SYSTEM

Unit-I: Main Trends of Indian National Movement, Moderates and Extremists, Contribution of Gandhi in National Movement. Rajasthan's contribution in National Movement. (Bijolia Movement, Bhil Movement and Praja Mandal will be studied).

Unit-II: Constitutional Development: Background to constitutional development with special reference to Act of 1919 (Salient Features and Dyarchy), Act of 1935 (Salient features, Provincial autonomy and federal system), Constituent Assembly: Composition and Functioning; Indian Constitution: Salient features, Fundamental Rights and Duties, Directive Principles of State Policy.

Unit-III: Union Government: President, Parliament, Cabinet, Supreme Court and Judicial Review, State Government: Role of Governor and the Chief Minister.

Unit-IV: Center-State Relations; Electoral Politics and Coalition Government at the national level; Major national political parties: their Organization and programme.

Unit-V: Nature and Determinants of Indian Politics: Problems of Regionalism and regional political parties; Casteism, Communalism; National Integration in India.

Suggested Readings :

1.	S.V. Sarkar	:	Modern India
2.	N.D. Palmer	:	The Indian Political System
3.	J.C. Johari	:	Indian Government and Politics
4.	R.C. Agarwal	:	Indian National Movement and Constitutional Development (Hindi & English)
5.	M.V. Pylee	:	India's Constitution
6.	V.D. Mahajan	:	The National Movement of India and its Leaders.

7. एस. एल. जैन : भारतीय संविधान और राजनीति

8 के. एस. सक्सेना : राजस्थान में राजनीतिक जन–जागरण

9- डॉ. आर. एस. दरड़ा : भारतीय संविधान का स्वरुप एवं व्यवहार

Course -31 PSYCHOLOGY

General Instructions:

26. There will be two theory papers of 70 marks each and Practical of 30 marks in each paper. The candidate will be required to pass separately in theory and practical examination.

27. Each theory paper will require four teaching periods of 45 minutes and four practical periods per week per paper. Practical class will consist of a group of 20 students.

28. Each paper will have three sections (As per University Norms)

PAPER – I : PSYCHOLOGICAL STATISTICS AND RESEARCH METHODOLOGY

Unit-I : Frequency distribution, Histogram, Polygon, Measures of Central tendency: Mean, Median, Mode.

Unit-II : Measures of Variability: Range, Quartile-deviation, Average deviation, Standard deviation.

Unit-III : Testing of significance of difference: Standard error of mean. Correlation: Meaning, Rank Difference Method and Product Moment Method.

Unit-IV : RESEARCH PROBLEM AND HYPOTHESIS: Research problem; meaning, manifestation of problem and criteria of good problem. Hypothesis : Meaning, types, criteria of good hypothesis and formulation of hypothesis.

Unit-V: VARIABLES: Variables : Meaning, types of variable Independent, Dependent, Intervening and Extraneous variables.

EXPERIMENTATION : Meaning of Experiment, Types of experiment, experimental Method, Experimental control and techniques of control.

Books Recommended:

1. Garrett, H.E. Statistics in psychology and Education, Mumbai.

Vakil Retner Siemins.

2. Townsend, T.C. Introduction to an Experimental Method.
3. Mc Guigan Experimental Psychology.
4. श्रीवास्तव, डी. एन. ि ाक्षा और मनोविज्ञान में सांख्यिकी
5. क्पिल, एच. के. ि ाक्षा और मनोविज्ञान में सांख्यिकी
6. Srivastava, D.N. Elementary Statistics in Psychology and Education. Harprasad Bhargava, Kachari Ghat, Agra.
7. जैन, मधु ि ाक्षा और मनोविज्ञान में सांख्यिकी
8. वर्मा, प्रिति एवं डी.एन. श्रीवास्तव ि ाक्षा और मनोविज्ञान में सांख्यिकी

PAPER CODE : 9416

PAPER – II : PSYCHOPATHOLOGY

Unit-I : Concept and Criteria of Abnormal Behaviour. Causes of Abnormal Behaviour – Biological, Psycho-social and Socio-cultural.

Unit-II : Motivation and adjustment : Motives, Adjustment Process and Stress Reactions – Mental mechanisms, General Adaptational Syndrome.

Psycho neuroses : Hysteria, Anxiety disorders, obsessive – compulsive state.

Unit-III : Psychoses : Types of schizophrenia,

Manic – Depressive Psychosis and paranoia, Mental Retardation; Its types, causes and treatment

Unit-IV : Psycho-physiological disorders : systems and dynamics of respiratory cardiovascular, gastro-Intestinal, Genito-Urinary Therapies, Psychotherapy and Behaviour Therapy, Assumptions and types

Unit-V: Psychological Assessment : MPI, TAT, SCT, Rating Scale psychological, case history Mental health; Meaning – importance and organized effort : Prevention ,

Primary, Secondary; Tertiary.

Books Recommended:

1.	Mangal	Abnormal Psychology, Harprasad, Bhargava, Agra.
2.	Page, J.D.	Psycho-dynamics of Abnormal behaviour.
3.	Coleman	Abnormal psychology & Modern Life.
4.	अरूण कुमार सिंह	असामान्य मनोविज्ञान, बनारसीदास प्रका ान– 2001
5.	Maslow, A.H. and Mittleman, B.B.	Principles of Abnormal Psychology
6.	Shnumugam, T.E.	Abnormal Psychology
7.	लाभ सिंह एवं डॉव गोविन्द तिवारी	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
8.	जयगोपाल त्रिपाठी	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
9.	डॉ0 आर. के. ओझा	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
10.	डॉ0 एच. के. कपिल	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
11.	मखिजा	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
12.	रस्तोगी घन यामदास	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा
13.	डी. एन. श्रीवास्तव	असामान्य मनोविज्ञान, हरप्रसाद भार्गव, कचहरी घाट, आगरा

SECOND YEAR

HISTORY

SCHEME

Two Papers	Min. Pass marks : 2	Max. Marks 200
Paper – I	3 hrs. Duration	M.M. 100
Paper – II	3 hrs. Duration	M.M. 100

Note :

Each question paper will be divided into three sections. Section A will contain 10 compulsory questions 2 from each unit of 1 mark each. Answer will have to be given upto a limit of 25 words. Section B will contain 10 questions, 2 from each unit of 10 marks each. Candidates will have to answer 5 questions picking from each unit with a word limit of upto 250 word Section C will contain 4 questions out of which candidates will have to answer any 2. Each question will be of 20 marks and the word limit is upto 500 words.

Sections	No. o q estions	Marks	Wor i it
Section A	10 (Compulsory)	10 Marks (1 mark each)	25 words
Section B	5 (One from each unit)	50 Marks (10 marks each)	250 words
Section C	Any 2 from 4	40 Marks (20 marks each)	500 words

SECOND YEAR Paper Code-9418

Course-32 HISTORY (PASS COURSE)

PAPER-I

HISTORY OF INDIA FROM A.D. (1707-1884)

Unit I

Advent of European power : Portuguese, French and English, Understanding the mid – eighteenth century, Political, Economic and Cultural trends, expansion and consolidation of British Empire.

Unit II

Tools of expansion: War and Diplomacy, Bengal, Mysore, Maratha, North East, Awadh, Central

India. Sindh and Punjab.

Unit III

Subsidiary alliance and Treaties of 1818 with Rajputana states, Doctrine of Lapse. Growth of Colonial apparatus, Ideological influences, Central, Provincial, District and Judicial administration.

Unit IV

Land Revenue Settlements : Permanent settlement, Ryotwari and Mahalwari, Nature of colonial
economy, Condition of peasants, Rural indebtedness and Recurrent famines, Commercialization
of agriculture and De-industrialization. Rise of modern Industry.

Unit V

Spread of Western education. Rise of Professional Classes and Emerging intelligentsia, Growth
of English & Vernacular press. Indian Renaissance. Socio Cultural movements, Status of Women. Popular Resistance of company's Rule : Peasant and Tribal movements, Revolt of 1857,
Causes Nature and Results. Proclamation of queen Victoria, Administrative works of Lord Lytton, Lord Ripon.

Books Recommended:

1. Tara Chand : History of Freedom movement (Vols. I to IV)
2. Majumdar R.C. : An advanced History of India
3. Chandra Bipin : Modern India
4. Singh Ayodhaya : Bharat Ka Mukti Sangram
5. Mathur L.P. : Adhunik Bharat Ka Itihas
6. Grover B.L. : Adhunik Bharat
7. Jain M.S. : Adhunik Bharat
8. Mahajan V.D. : Adhunik Bharat Ka Itihas
9. Rai Satya : Bharat Me Upniveshvad
10. Pandey R.P. : Bhartiya Samajik Vicharak
11. Shukla R.L. : Adunik Bharat Ka Itihas
12. IGNOU Course Material
(English & Hindi)
: (1757 to 1857 A.D.)

PAPER-II **Paper Code-9419**

HISTORY O INDIA (1885-1950) A.D.

M.M. 100

Unit I

National Movement: Emergence of organi ed nationalism, political association and the Indian national Congress, Moderates, Extremists, Home rule league and the Revolutionaries in India and abroad, emerging communal trends in the early nationalist movement.

Unit II

Gandhian Era: Rise of Gandhi and the nature of the Gandhian movement's. Non-cooperation movement, Civil disobedience movement uit India movement, Swaraj Party, Revolutionary left wing movements, Congress Socialist party and the Communist party of India. Peasant and Trade union movements.

Unit III

Working of the Congress ministries, Subhash Chandra Bose and the Indian national army, Royal Indian Navy mutiny, Communal Triangle and partition.

Unit IV

Constitutional Development Constitutional development up to 1 1 , Impact of the first world war, Government of India act 1 35, Simon

commission, Nehru report, Communal award, Poona pact, August offer, cripps mission, wavell plan, Cabinet mission, Mountabatten plan.

Unit V

India 1 4 1 50

Princely states: accession and integration of the Indian states, making of the Indian constitution, salient features of Indian Constitution social economic and literacy trends of the era.

Books Recoen e

1. Mathur L. P. : Adhunik Bharat Ka Itihas
2. Sharma Ram : Bharat Main Angreji Raj Bhag 1 2
3. Bipin Chandra : Bharat Main Svatantratra Sangharsh
4. Jain M.S. : Adhunik Bharat
5. Desai A.R. : Bhartiya Rashtravad ki Samajik Prashtabhumi
6. Menon V. K. : Autobiography
7. Sarkar Sumit : History of Modern India
8. Rai Satya : Bharat Main Rashtravad

9. Grover B.L. : Swatantrata Sangram Ka Samvedhanik Itihas
10. Ram Gopal : Bharat ka Swatantrata SangrFam
11. Gaur Meena : Adhunik Bharat ka Itihas

SECOND YEAR
Course-33 PUBLIC ADMINISTRATION SCHEME
Two Papers Min. Pass Marks 72 Max. Marks 200

Paper-I 3 hrs. Duration 100 Marks
Paper-II 3 hrs. Duration 100 Marks

परीक्षक के लिए निदेर्श ा :

(खण्ड–अ)

इस भाग मे ं दस वस्तुनिष्ठ/लघुत्तरात्मक पश्र न होगं े। प्रत्यके इकाइ र् मे ं से दो पश्र न होगं े।

पर्र यके पश्र न एक अंक का होगा। ये दस प्रश्न विकल्प रहित होगं े। लधु उत्तर लगभग 20 शब्दो ं में होगा। (10 अकं)

(खण्ड–ब)

इस भाग में पाठ्यक्रम की पर्र येक इकाइ र् से दो प्रश्न पूछे जायेगं े। कुल दस प्रश्न होगं े, जिनमे ं से पाँच प्रश्न करने होगं े। जिनके विकल्प भी इसी इकाइ र् से होगं े। पर्र येक पश्र न 10 अकं का होगा। इन पश्र नों के उत्तर लगभग 250 शब्दो ं तक दिये जा सकते हैं। (50 अंक)

(खण्ड–स)

इस भाग मे ं चार विवेचनात्मक पश्र न सम्पूर्ण पाठ्यक्रम मे ं से बनाये जाएँगे, जिनमे ं से दो पश्र नो ं के उत्तर देने होगं े। पर्र येक प्रश्न का उत्तर लगभग 500 शब्दो ं मे ं देना होगा। पर्र येक प्रश्न बीस अंक का होगा। इन प्रश्नों में से एक प्रश्न के दो भाग भी हो सकते हैं। (40 अंक)

PAPER-I Paper Code-9420
ADMINISTRATIVE INSTITUTIONS

UNIT-I

Administrative Institutions in a Democratic and socialist society. The concepts of Leissez faire, welfare state and Administrative state.

UNIT-II

Organisation of Government :

Legislature : Its role in modern government, decline of legislature.

Executive : Types and Relationship with legislature, its growing importance. (7)

Judiciary : Functions and Role with Special reference to the power of judicial review.

UNIT-III

Democracy and Administration : Features of a Democratic Administration. Political parties and Pressure groups : their role and interactions in a democratic society.

Bureaucracy : Nature and concept, recent trends and types of Bureaucracy. Neutrality, anonymity and representative character of Bureaucracy.

UNIT-IV

Organisation and function of following Institutions :

a. Finance Commission of India
b. Planing commission of India.
c. National Development council
d. Reserve Bank of India.

UNIT-V

a. Election Commission
b. University Grants Commission
c. Union Public Service Commission
d. Central Social Welfare Board
e. Railway Board.

Books Recommended :

1. Waldo : Administrative state
2. Field : Government in modern society
3. Pranjape : Government in modern society
4. M.G. Gupta : Modern Government
5. I.I.P.A. : Organisation of the Govt. of India.
6. Ernest B. Schulze : Essentials of Govt.
7. Renney : Government of Man.
8. Sait : Political Institution A Preface
9. अशोक शर्मा : प्रशासनिक संस्थाएँ
10. बी.एल. फड़िया : प्रशासनिक संस्थाएँ

PAPER-II Paper Code-9421

STATE ADMINISTRATION IN INDIA

UNIT-I

General Background of State Administration in India. Growing importance of State Administration.

The office of the Governor, Office of Chief Minister, the Council of ministers and their inter-relationship.

UNIT-II

Organisation and Function of State Secretariat : Chief Secretary- Role & position. Administrative organisation of a Department, organisation & working of the Department of Home, Finance in Rajasthan. Secretariat-Directorate Relationship in Rajasthan.

UNIT-III

Organisation and working of following Boards, Commissions, Directorates in the state of Rajasthan.

a. Revenue Board
b. Rajasthan State Human Rights Commssion

(9)

c. Directorate of College Education

d. Directorate of Agriculture

UNIT-IV

Office of Divisional Commissioner — position, power and functions.

District Collector : position, Powers and functions.

UNIT-V

Role of the state civil services in State Administration. Recruitment, Training and Promotion of state civil services in Rajasthan, Role of Rajasthan Public Service commission.

Removal of Public Grievances, Lokayukta, Administrative Reforms and Innovation in state Administration.

Books Recommended :

1. A.P. Padhi : State Administration in India (Two Volume)
2. S.R. Maheshwari : State Government in India
3. S.S. Khera : District Administration
4. Mohan Mukherjee : Administrative Innovations in (Ed.) Rajasthan
5. B. Mehta : Dynamics of state Administration.
6. G.D. Shukla : State and District Administration
7. रविन्द्र शर्मा : राज्य प्रशासन
8. सिंह, शर्मा, गोयल : राजस्थान मे ं राज्य प्रशासन
9. सुरेन्द्र कटारिया : राज्य प्रशासन
10. रमेश अरोड़ा : राज्य प्रशासन

Course-34 हिन्दी साहित्य

प्रथम प्रश्न–पत्र : काव्य

पाठ्य पुस्तक –

1. रीति काव्य सुमन – संपादक : डॉ. रामकृष्ण शर्मा
प्रकाशक : माया प्रकाशन मंदिर, त्रिपोलिया बाजार, जयपुर
पाठ्य विषय पाँच इकाइयो ं में विभक्त होगा।

इकाई–I

केशवदास के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
मतिराम के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
भिखारीदास के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न

इकाई– II

सेनापति के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
पद्माकर के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न

इकाई – III

भूषण के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
घनानंद के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न

इकाई – IV

देव के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
बिहारी के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न
जगन्नाथदास 'रत्नाकर' के संकलित अंश की व्याख्या एवं आलोचनात्मक प्रश्न

इकाई – V

रीतिकालीन काव्य की प्रवृत्तियाँ, काव्य धाराएँ और उनकी विशेषताएँ
रस, काव्य–गुण और काव्य–दोष परिचय
अंक योजना – प्रश्न–पत्र 100 अंक का होगा, जो तीन खण्ड – 'अ', 'ब', 'स' में विभक्त होगा,
जिसका अंक विभाजन इस प्रकार रहेगा –

द्वितीय प्रश्न–पत्र :: गद्य

पाठ्य पुस्तके ं –

1. आधुनिक गद्य की विविध विधाएँ – संपादक : डॉ. उदयभानु सिंह
प्रकाशक : वाणी प्रकाशन, 21 ए दरियागंज, नई दिल्ली
2. कथा भारती – संपादक : डॉ. लक्ष्मीनारायण लाल
प्रकाशक : नेशनल पब्लिशिंग हाउस, 2/35, अंसारीरोड, दरियागंज, नई दिल्ली
पाठ्य विषय : पाँच इकाइयो ं में विभक्त होगा।

इकाई – **I**

आधुनिक गद्य की विविध विधाएँ में संकलित 'पंचपरमेश्वर', 'हार की जीत', 'बनारसी एक्का' की
व्याख्या एवं आलोचना।

इकाई – **II**

'आधुनिक गद्य की विविध विधाएँ' में संकलित 'मेरी जन्म भूमि', 'कबीर साहब से भेटं ', 'सीमा रखे ा'
तथा 'यात्रा का रोमांस' की व्याख्या एवं आलोचना।

इकाई – **III**

'कथा भारती' मे ं संकलित 'कफन' 'आकाश–दीप', 'दुखवा मैं कासे कहूँ मोरी सजनी', 'खुदाराम', 'रेल
की बात', 'पराया सुख' कहानियो ं की व्याख्या और आलोचना।

इकाई – **IV**

'कथा भारती' मे ं संकलित 'पाजेब', 'शरणदाता', 'गदल', 'तीसरी कसम', 'अंधेरे मे' , 'आर्द्रा'
कहानियो ं की व्याख्या और आलोचना।

इकाई – **V**

हिन्दी गद्य की विविध विधाओ ं का परिचय और विकास।
हिन्दी कहानी का विकास

SECOND YEAR

Course – 35 HOME SCIENE

	Duration of Exam.	M.M.	Min. M.	Total No. of Hours/ Week
Paper-I: Food and Nutrition	3 Hrs.	75	27	3
Paper-II: Family Health and Community Welfare	3 Hrs.	75	27	3
PRACTICALS				
Pract. I: Basic Food Preparation	3 Hrs.	25	09	02
Pract II: Meal Management & Preparation of audio visual	3 Hrs.	25	09	02

Course-35 HOME SCIENCE Paper Code-9424

Paper – I

Food and Nutrition

Unit I

Definition of terms – Foods, Nutrition, Nutrients, Nutritional Status, Balanced Diet and Dietetics.
Basic Foods groups, Functions of Foods.

Study of common Foods – Cereals, Pulses, Nuts and oil seeds, Fruits and Vegetables, meat, fish, milk and milk products, spices and condiments.

Different methods of food preparation – merits and demerits, methods used to conserve and enhance the nutritive value of foods.

Unit II

Proximate Principles (Protein, Carbohydrates Fats), Composition, Classification, food sources, functions and deficiency.

Energy metabolism – Unit of energy. Total energy expenditure, physical activity and specific dynamic action. Basal metabolism. Factors affecting basal metabolic rate.

Unit III

- Minerals – Calcium, Phosphorous, Iron, Iodine, Sodium, Fluorine – food source functions, deficiency and recommended dietary allowances.
- Vitamins – Food sources, functions, deficiency, recommended dietary allowances.
- Role of Fibre in daily diet.
- Water – Distribution in the body, functions, sources and water balance.

Unit IV

- Malnutrition – Definition, Concept, Causes and Prevention.

6. Meal Planning:

Principles and Factors affecting meal planning.

Recommended dietary allowances for different age, sex, occupation and physical condition.

7. Food spoilage – causes.

8. Food Preservation – Principles and Methods.

Unit V

14. Therapeutic Nutrition – Causes symptoms and dietary modification for:

(A) Fever

(B) Peptic Ulcer

(C) Constipation and Diarrhea

(D) Over weight and under weight

(E) Diabetes

(F) Liver diseases

(G) Cardiovascular disease

References:

Rose: Foundation of Nutrition Macmillan & Co.

F.T. Proudfit and H.C. Robinson: Nutrition of Diet Therapy.

W.R. Arkryod: Human Nutrition and Diet.

Davidson Passmore: Human Nutrition of Dietetics.

सुधा नारायण – आहार विज्ञान।

उषा मिश्रा, अलका अग्रवाल – आहार एवं पोषण विज्ञान।

मुक्ता अग्रवाल – भोजन एवं पोषण।

सुधा नारायण – आहार नियोजन।

डॉ. वृन्दा सिंह – आहार विज्ञान एवं पोषण।।

Paper Code: 9425

HOME SCIENCE

Paper – II

Community Health and Family Welfare

Unit I

29. Health – Concept of Health, Community Health, School Health, Determinates of health, factors affecting health, common causes of health problems.

30. Hygiene: (a) Personal Hygiene

Food Hygiene – Public Health Hazards due to contaminated food.

Disposal of waste – Methods (household waste)

31. Health Education – Concept, Objectives and Principles of Health Education.

Unit II

13. Community - Definition, qualities and skills of community worker. Role of community worker in welfare of a society.

14. Programmes for Development of women and children. DWCRA, TRYSEM, ICDS, Mid Day Meal Programme, W.D.P.

15. National and International Agencies involved in family welfare.

WHO

UNICEF

Unit III

- Disease – Causes, Mode of transmission, incubations, period, sign and symptoms, causes and prevention, Diphtheria, Whooping cough, poliomyelitis, Tetanus, cholera, Malaria, Tuberculosis, Acquired Immune Deficiency Syndrome (AIDS).

- Immunity – Classification and Immunization schedule.
- Health services available for Public Health.

  Primary Health Centre (PHC)

  Hospital

  Red Cross Society

Unit IV

- Reproductive System: a) Structure and Functions

  Menstrual cycle

  Fertilization
- Changes during pregnancy.
- Common ailments during pregnancy and their management – Morning sickness, heat burn, indigestion, constipation, piles, leg cramps, sleeplessness, frequency of micturition, oedema and varicose veins.
- Toxaemia of Pregnancy – Symptoms, detection and care.

14. Antenatal Care:
    a) Diet, dress, personal hygiene, exercise, rest, sleep, bowl regulation and breast care
    b) Antenatal clinics and their importance

Unit V

9. Preparation of Confinement.

16. Postnatal:
    a) Retention of Urine, rest, exercise, sleep, care of Breast

(H) Puerperal seps – Causes, Prevention and treatment

(I) Breast Infection – Cracked nipples, abscess retracted nipples

Abortions and miscarriage – symptoms, types and care.

Family planning – Importance and methods.

References:

1. J.E. Park and K. Park: Text Book of Social Medicine Bhanot Publishers.
2. Y.P. Bedi: Social and Preventive Medicine Nama Ram and Sons.
3. B.N. Ghose: A treatise on hygiene and Public Health.
4. Dr. (Mrs.) Bela Bhargava: Family Health and Social Welfare.
5. डॉ. (श्रीमती) बेला भार्गवः पारिवारिक स्वास्थ्य एवं सामाजिक कल्याण।
6. डॉ. केथरीन एस. सिंहः मातृकला, शिशु पालन एवं बाल विकास।
7. डॉ. वृन्दासिंहः जन स्वास्थ्य एवं परिवार कल्याण।
8. डॉ. बी.डी. हरपलानीः प्रसार शिक्षा।

HOME SCIENCE Paper Code-9426

Practical – I

Max. M. 25

Basic Food Preparation

1. Introduction to Food Lab, Cooking Terms, Weight and Measurement and equipments.
2. Preparation from cereals, Pulses, nuts and oil seeds, Vegetables, milk and milk products, Egg and their combinations.
3. Nutritional Value addition of common Indian Recipes.
4. Preparation of Beverages and soups.
5. Salad – Decorative and Nutritious.
6. Food Preservation – Sauce, Jam, Pickle and squashes.
7. Preparation for special occasions.

Distribution of Marks: Max. M. 25

1. Sessional and file 08
2. Preparation of Two Recipes 7+7=14
(one basic recipe and one value addition)
3. Table Serving 03

Total 25

HOME SCIENCE Paper Code-9427

Practical – II

Meal Management and Preparation of Audio Visual Aids

1. Planning of meals for different age, sex, income groups, Pregnant and lactating mother.
2. Diets during constipation, diarrhoea, Over Weight, Under Weight, diabetes, hypertension and Jaundice.
3. Preparation of Audio Visual aids – Charts, Posters, Folders and Flash Cards.
4. Use of Audio Visual aids in communication

Distribution of Marks: Max. M. 25

1. Sessional and file 08
2. Meal Planning 10
3. Preparation and Presentation of Audio Visual Aids 07

Total 25

Course-36 SECOND YEAR SOCIOLOGY

There will be Two Theory papers of 100 marks each .

M.M:- 100

Paper – I : Social Research Methods (2681)

Paper – II : Issues and Problems in Indian Society(2682)

Detailed contents of Papers:

Paper – I : Social Research Methods Paper Code-9428

M.M:- 100

UNIT A

32. Meaning, and Types of Social Research.

33. Scientific Methods : Objectivity and Empiricism.

34. Steps of Social Research.

UNIT B

16. Formulation of Problems.
17. Hypothesis: Concept, Sources and Importance.
18. Logic: Meaning and Types.

UNIT C

- Data: Primary and Secondary.
- Sampling Methods: Meaning and Types.

UNIT D

- Methods of Research: Qualitative Method - Ethnography, Observation, Case Study and Content Analysis.
- Quantative Methods - Questionnaire, Schedule and Interview.

UNIT E

10. Classification and Tabulation of Data.

11. Measures of Central Tendency- Mean, Median and Mode.
12. Statistical Analysis of Correlation, Correlation of Coefficient (r and Rho).

Essential Readings:

- Bajaj and Gupta. 1972. Elements of Statistics. New Delhi: R Chand and Co.

- Beteille, A and T. N. Madan. 1975. Encounter and Experience, Personal Accounts of Fieldwork. New Delhi: Vikas Publishing House.

- Bryman, Alan. 1988. Quality and Quantity in Social Research. London: Unwin Hyman.

- Garrett, Henry. 1981. Statistics in Psychology and Education. David Mckay. Indian Publication – Mrs. A.F. Sheikh for Vakils, Bombay. Tenth Reprint.

- Jayaram, N. 1989 Sociology: Methods and Theory. Madras : MacMillian.

- Kothari, C.R. 1989. Research Methodology : Methods and Techniques, Bangalore, Wiley Eastern.

- Rawat, H.C. , Samajik Anusandhan Ki Padhatiya (Hindi) : Rawat Publication.

- Sharma, C.L. 1999: Samajik Anusandhan – Survekshana Ki Unveshan Padhatiya (In Hindi) Raj. Hindi Granth Acd. ,Jaipur

- Punch, Keith, 1996 Introduction to Social Research. London: Sage.

- Shipman, Martin. 1988 The Limitations of Social Research. London Sage

- Srinivas, M.N. and A.M. Shah. 1979 Fieldworker and the Field. Delhi Oxford.

- Young, P.V. 1988 Scientific Social Surveys and Research New Delhi Prentice Hall.

Pedagogy :

The uses of techniques and methods have to be understood along with the perspective that governs research. An effort should be made to distinguish between techniques and methods. Moreover, the teachers may convey the message to the students that the social context of research and its methods is fundamental to their understanding and application.

The purpose of the course is to train students as good researches and investigators. For this reason, understanding of social reality, especially the local context, is imperative. Therefore, examples and illustrations may be drawn from local/ regional contexts for effective teaching and meaningful learning.

The main effort may be devoted to making students do exercises in the class and, if possible, in the field. This will also make the course interesting and give students the necessary practice to apply the techniques and methods in the field situations as well as for data analysis.

Students may also be familiarized with published source material especially the census reports. Use of OHP for the reading and interpretation of tables, graphs etc. will be helpful.

SECOND YEAR SOCIOLOGY Paper Code-9429

Paper-II : Issues and Problems in Indian Society

M.M:- 100

UNIT A

- Social Problem: Concept and Causes.
- Structural: Poverty, Unemployment- Concept, Causes and Remedies.

UNIT B

- Structural: Population Explosion, Inequality of Caste and Gender
- Problems of SC, ST and Minorities.

UNIT C

- Familial: Dowary, Violance, Divorce, Intergenerational Conflict and Aging Problems.

UNIT D

Developmental: Development induced Displacement, Ecological Degradation and Environmental Pollution, Consumerism , Crisis of Values.

UNIT E

Disorganizational: Crime & Delinquency, White Collar Crime, Corruption, Changing Profile of Crime & Criminals, Drug Addiction.

Essential Readings:

- Beteille, Andre. 1974 Social Inequality . New Delhi : OUP
- Beteille, Andre. 1992 Backward Classes in Contemporary India , New Delhi: OUP
- Berreman G.D. 1979. Caste and Other Inequalities: Essays in Inequality. Meerut: Folklore Institute.
- Dube, Leela 1997. Women and Kinship Comparative Perspectives on Gender in South and Southeast Asia. New Delhi. Sage Publications.
- Gadgil, Madhave and Guha, Ramchandra. 1996. Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi:OUP

- Gill S.S. 1998. The Pathology of Corruption. New Delhi. Harper Collin Publishers. Guha, Ranjit. 1991 . Subaltern Studies. New York: OUP
- Inden, Ronald. 1990. Imaging India. Oxford: Brasil Blackward
- Kothari, Rajani (Ed). 1973 Caste in Indian Politics.
- Rajora , S.C. – Samkalin Bharat Ki Samajik Samashyen (in Hindi) Jaipur: Raj. Hindi Granth Acad. 2000
- Madan, T.N. 1991. Religion in India, New Delhi : OUP
- Ministry Of Home Affairs. 1998. Crime in India. New Delhi: Government of India.
- Mahajan and Mahajan, 2003, Issues and Problems in Indian Society (Hindi), Vivek Prakashan.
- Satya Murty. T.V. 1996. Region, Religion, Caste, Gender and Culture in Contemporary India. New Delhi : OUP
- Sharma, S.L. 1997 " Towerds Sustaninable Development in India" In S.R. Mehta (Ed.) , Population, Poverty and Sustainable Development. Jaipur: Rawat Publications
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References:

- Allen, Douglas (ED.) 1991 Religion and Political Conflict in South Asia, West.
- Port Conn: Connecticut University Press.
- Bardhan , P. 1984 Land, Labour and Rural Poverty, New Delhi
- Breckenbridge C 1996, Consuming Modernity: Public Culture in Contemporary India. New Delhi OUP
- Guha, Ramchandra 1994 Sociology and the Dilemma of Development New Delhi OUP
- Juergensmeir, Mark 1993, Religious Nationalism Confronts the Secular State, New Delhi : OUP
- Sharma, S.L. 2000 "Empowerment Without Antagonism: A Case for Reformulation of Women's Empowerment Approach ". Sociological Bulletin. Vol 49 No.1
- Waxman, 1983 The Stigma of Poverty: A Critique of Poverty Theories and Policies

Pedagogy:

The course requires a pedagogy that seeks to project the issues and problems of contemporary India in a social structural perspective. For this purpose, the students have to be sensitized to the structural roots of the problems as well as to the effects of these problems on the existing social structure. In order to give the students a sympathetic understanding of the problems, i t will be rewarding to use the methodology of role playing. The students may also be encouraged to make on the spot observations of the problems wherever and whenever they find the recurrence of these problems.

Course-37 **Second Year English Language & Literature**

(Pass Course)

The pattern of question paper will be as follows:

Section A **(10 Marks)**

Ten very short type questions of one mark each from all Units.

Section B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper Code-9430

Paper – I : <u>Drama</u> **M.M. 100**

Unit -A

Shakespeare: *Macbeth*

Unit - B

Ibsen : *A Doll's House*

Unit - C

Shaw : *Arms and the Man*

Second Year English Language & Literature

(Pass Course)

The pattern of question paper will be as follows:

Section A **(10 Marks)**

Ten very short type questions of one mark each from all units.

Section B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper Code-9431

Paper - II : Poetry **M.M. 100**

Unit - A

The following poems from *The Poet Pen,* selected and annotated by P.E. and Homi Dustoor, Oxford University press

Donne :	Goe, and Catch a Falling Star
Marwell :	Thoughts in a Garden
Gray :	Elegy Written in a Country Churchyard
Wordsworth :	Lines Composed above Tintern Abbey
Shelley :	To a Skylark
	Ode to the West wind
Keats :	Ode on a Grecian Urn
	Ode to Autumn

Unit - B

The following poems from *The Poet Pen* selected and annotated by P.E. and Homi Dustoor,

Oxford University press

Browning : My Last Duchess

Arnold : Dover Beach

Yeats : To a Shade

Eliot : Journey of the Magi

Unit - C

The following poems from *An Anthology of Indian English Poetry* edited by a Board of Editors, Orient
Longman.

Rabindra Nath Tagore	: Heaven of Freedom /Where the Mind is Without Fear. Silent Steps (from Gitanjali)
Sri Aurobindo	: Transformation The Tiger and the Deer
Sarojini Naidu	: Village Song The Soul's Prayer

Unit -D

Notes on Literary terms (Two out of four literary terms. Each short note should be around 100 words.)

(10 Marks)

: Sonnet, Lyric, Ballad, Ode, Simile, Metaphor, Heroic Couplet, Soliloquy, Irony, Alliteration

35. Literary Appreciation

Course No.	Nomenclature
Course 38	Assessment for Learning
Course 39	Language acroos the curriculam (Including Reading & Reflecting on texts)
Course 40	School Internship (Phase I,4 weeks) Internal assessment Engagement with the field: Tasks and Assignment for courses 20 &21
Course 41	External Assessment one lesson of Pedagogy of a School subject.
Course 42	Core Subject*
	General Hindi
Course 43	Economics I
	Economics II
Course 44	Sanskrit I
	Sanskrit II
Course 45	Geography I
	Geography II
	Geography Practical
Course 46	Rajasthani I
	Rajasthani II
Course 47	Political Science I
	Political Science II
Course 48	Drawing I
	Drawing II
	Submission Work
Course 49	Psychology I
	Psychology II
	Psychology Practical
Course 50	History I
	History II
Course 51	Public Administration I

	Public Administration II
Course 52	**Hindi I**
	Hindi II
Course 53	**Home Science I**
	Home Science II
	Home Science Practical I
	Home Science Practical II
Course 54	**Sociology I**
	Sociology II
Course 55	**English I**
	English II

THIRD YEAR

Paper Code-9571

Course-38 ASSESSMENT FOR LEARNING

Objectives: After completion of the course the student teacher will be able to-

1. Understand the historical aspect and current practices of Assessment.
2. Understand assessing children's progress in terms of psychological development and the criteria provided by the curriculum.
3. Explain cognizant of key concept related to assessment such as measurement, evaluation, assessment, Examination, Test, Formative and Summative evaluation etc.
4. Evolve realistic, comprehensive and dynamic assessment procedures that are able to keep the whole students in view.
5. Explore the use of wide range of assessment tool their selection and appropriate construction.
6. Develop critical understanding of issues in assessment for learning (from constructivist paradigm)
7. Use statistical techniques for interpretation of assessment data.
8. Understanding the critical role of assessment in enhancing learning.
9. Design, integrate and evaluate appropriate assessment tools as part of the learning process.
10. Develop assessment linked to student learning outcomes.
11. Understand and use assessment for improvement of teaching and learning.

COURSE CONTENT

UNIT- I Overview concept of assessment

1. Concept and purpose of assessment
2. Perspective on assessment and evaluation for learning in a constructivist paradigm.
3. Clarification of the terms
   a) Assessment, evaluation, test, examination, measurement
   b) Formative and summative assessment
   c) Continuous and comprehensive assessment
   d) Grading
4. Distinction between terms
   a) Assessment for learning
   b) Assessment as learning
   c) Assessment of learning
5. principles of assessment for learning
6. Critical review of current evaluation practices and their assumption about learning and development.

UNIT- II Assessment of Subject based learning

1. Enlarging notions of subject based learning in a constructivist perspective.
2. Assessment tools
   a) Kinds of task : project, assignments & performance
   b) Observation of learning process by
   c) Self
   d) Peers
   e) Teachers
   f) Self and peer assessment

3. Assessment technique: Oral, Practical test, CAA(Computer Aided Assessment), Test, Exercise, Portfolio, Assignment, MCQ, Short Answer, Notes, Summary, Observing, interviewing and writing comprehensive profile of a student.

UNIT- III Context of assessment and evaluation

1. Context of assessment: subject related, person related.
2. Steps in pedagogical analysis of content matter.
3. Preparation of test items, development of blue print.
4. Checking of answer script: subjective and objective.
5. Classification of assessment based on
   a) Purpose: prognostic, diagnostic, formative, summative
   b) Scope: teacher made, standardized
   c) Attribute: achievement, attitude, aptitude, interest, personality, intelligence, creativity.
   d) Information: qualitative, quantitative
   e) Response: oral, written

UNIT- IV Data analysis & feedback

1. Importance and use of educational statistics.
2. Statistical tools-frequency distribution, normal distribution, graphical representation, percentile, central tendency, deviation, rank difference and product moment coefficient of correlation and their interpretation.
3. Meaning and purpose of feed back in teaching learning process.
4. Types of teacher feedback (written, comments, oral, peer feed back)
5. Reporting on a learner profile in consolidated form .
6. Use of assessment for feedback and taking pedagogic decision.

UNIT V Reforms in assessment for learning

1. Critical analysis of prevalent practices of assessment .
2. Commercialization of assessment i.e. tuition, coaching, study center etc.
3. Assessment for social selection and placement.
4. NCF-2005 & NCFTE-2009 on assessment reforms.
5. Improving quality and range of question in examination paper.
6. Role of ICT in Assessment.
7. De linking of school based assessment from examination: some possibilities and alternative practices.
8. Innovation in assessment practices.

SESSIONAL WORK

(Any two of following)

1. A critical analysis of a question paper in any subject of RBSE/CBSE.
2. Prepare a diagnostic test and remedial programme of any subject at secondary level.
3. Organize a group activity (like: competition, story telling, reading, writing), evolve criteria for assessing the activity and present an assessment report of the activity.
4. School visits followed by presentation of a report on evaluation practices in school.
5. Construction, administration and interpretation of self made achievement test.

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Websites link

- http://www.aahe.org/assessment/assess_links.htm
  A hefty site updated by the American Association of Higher Education. Has many links to assessment articles, sites and listserves.
- http://www.duq.edu/~tomei/tomei/advancedsites.html
  Another hefty site that includes many links to articles and sites on assessment, Bloom's taxonomy, learning styles, etc.
- http://www.snow.utoronto.ca/Learn2/introll.html
  Learning to Learn, a thinking and learning skills site, is for learners, teachers, and researchers to learn about the value of self-awareness as a critical part of learning. It was created for educators developing their assessment and instructional design skills.
- http://www.ldcommunity.org/thesystem.html
  Learning Disabilities Resource Community (LDRC) site that focuses on teaching and assessment including the Intelligent Tutoring and Assessment System that plans to focus on the navigational tools available to users, including perceptual modes.
- http://www.sbctc.ctc.edu/Board/Educ/Outcomes/outcom_wag.htm
  Washington State Assessment Newsletter
- http://www.wwu.edu/~assess/airlinks.htm
  A site generated by Western Washington University that includes resources, articles and
- links to assessment sites.
- http://trgmcber.haygroup.com/Products/learning/lsius.htm
  An online version of David Kolb's Learning-Style Inventory. Material is not printable, but one can opt to pay for it, take it online or order copies for class use.
- http://www.keirsey.com/
  Links to Meyers Briggs information sites
- http://pss.uvm.edu/pss162/learning_styles.html
- http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/

- http//www. snow.utoronto.ca/Learn 2/mod3/ tchstyle.html for a Multiple Intelligence Inventory, Thinking Styles Inventory, Teaching Styles Inventory, Learning Styles Inventories and Tests on the Web, and Learning Styles Links.

Paper code-9572

Course-39 LANGUAGE ACROSS THE CURRICULUM

(Including reading and reflecting on text)

Objectives: After the completion of the course, the student teacher will be able to:

1. Understand the language background of students as the first or second language users.
2. Create sensitivity to the language diversity that exists in the classroom.
3. Understand the nature of classroom discourse and develop strategies for using oral language in the classroom.
4. Understand the nature of reading comprehension in the content area & writing in specific content areas.
5. Understand interplay of language and society.
6. Understand function of language and how to use it as a tool.
7. Understand language and speech disorders and make remedial measure, too.

COURSE CONTENT

UNIT –I Language and society

1. Relationship between language and society.
2. Multilingualism- concept, status of Indian classroom language.
3. Deficit theory and discontinuity theory.
4. Social stimulation- gestures, emotional and facial expressions, postures and movements, articulate speech, physiognomy.

UNIT- II Language development

1. Theories of language development
2. Language development in different stages.
3. Speech defects: lisping, slurring, stuttering and stammering and role of teachers in its resolution.
4. Language acquisition: stages, language and thought.
5. Meta- linguistics: concept, meaning, listening, speaking, reading, comprehension and writing for varying context, language proficiency for teacher.

UNIT- III Classroom and language

1. Classroom discourse- nature, meaning and medium.
2. Questioning in the classroom- type of questions, why and how of asking of questions, teachers role and control during questioning, encouraging questioning by students.
3. Functions of language within and outside the classroom.
4. Classroom as a language lab.
5. Role of literature in language learning.

UNIT- IV Reading and writing

1. Reading skills- purpose and methods.
2. Reading in the content areas- science, social science and Mathematics.
3. Reading strategies- note making, summarizing.
4. Process writing- analysis of children's writing to understand their conception and personality, writing with a sense of purpose, writing to learn and understand.

UNIT –V Reading and Reflecting on text

1. Nature of texts- expository v/s narrative texts, transactional v/s reflective texts
2. Scheme theory- text structures and examining content area.
3. Kinds of text-Textbooks, narratives, autobiographies, field notes, ethnographies.
4. Some practical activities to be conducted in a class -…….
   a. Read a text and prepare a summery
   b. Read a document and organize a discussion on it
   c. Expressing views on an editorial of a news paper

SESSIONAL WORK

Any two of the following:

1. Find out the different languages spoken by the students and prepare a plan to use multilingualism as a teaching strategy.
2. Identify speech defects of a student and make a remedial strategy.
3. Organize an activity based game to motivate students for creative questioning and present its report.
4. Read any empirical, conceptual, historical work or a policy document or studies about schools, teaching, learning or different people's experiences and submit reading reflections.
5. Plan a participatory transaction strategy for language acquisition.
6. Prepare abstracts of any two articles published in reputed Journals.

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Course : 40 INTERNSHIP PROGRAMME (School Intership Phase-I)

School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives –

After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.
9. Get acquainted with the functioning of SMC.

Execution of the Internship Programme

The internship programme shall be divided into 2 years. In the first year, 4 weeks will be allotted.

This will include one week of school observation and three weeks of practice - teaching during which

each student - teacher has to teach 2 periods per day (one period each for 2 pedagogy subjects). Besides teaching, the student - teacher has to complete his/her tasks and assignments related to the courses mentioned in the first year. The three weeks practice teaching will also include the delivery of criticism lessons (one in each pedagogy subject) and also observation of 5 lessons of peers of each of the two subjects. This practice of teaching programme is adopted so as to give a proper training of teaching skills and thorough guidance to the student-teachers by the subject lecturer.

Practice Teaching

S. No.	Activity	Marks
1.	Practice Teaching in both the pedagogy subjects in Schools (for three weeks) (At least 13 lessons in each subject)	50+50=100
2.	Peer Group Lesson Observation(ordinary+criticism-5 lesson in each round (5+5)	5+5=10
3.	Criticism Lessons (1-1 in both pedagogy subjects)	10+10=20
4.	Test (Blue print + question paper + Evaluation Key+Remedial Teaching)	10+10=20
	Total Marks	**150**

PAPER CODE-9574

Course: 41 EXTERNAL ASSESSMENT

ONE FINAL LESSON OF PEDAGOGY OF A SCHOOL SUBJECT

[I YEAR]

4. The weightage of final lesson will be 100 marks. Final lesson will be conducted at the end of first

academic year i.e. after the completion of 1st phase of internship.

5. During the final practical examination each candidate will have to teach one Lesson in any one of the two teaching subjects. However, he shall have to prepare lesson plan in both the teaching subjects and should be prepared to deliver lesson in both the subjects if required.

6. The Board of examiners for external examination will consist of:

d) The Principle of the college concerned.

e) One senior member of the college.

f) Two external examiners appointed by the university.

Note: - The selection of the faculty member and two examiners be such that, as for as possible, Board of Examiners represent all the three faculties-Humanities, Languages and Science

S. No.	EXTERNAL EVALUATION [I Year]	Marks
1.	Course 11- Final Lesson (Final Practical Exam)	100
	Total Marks (I Year)	**100**

Paper Code 9605

Course-42 सामान्य हिन्दी

पाठ्य पुस्तकें –

1. गद्य–वीथी : संपादक – डॉ. ओमप्रकाश शर्मा
प्रकाशक – माया प्रकाशन मंदिर, त्रिपोलिया बाजार, जयपुर
2. कथा दशक – संपादक – डॉ. परमानंद पांचाल
प्रकाशक – राजस्थान प्रकाशन, 28–29, त्रिपोलिया बाजार, जयपुर
3. हिन्दी भाषा ज्ञान – संपादक – डॉ. हरिचरण शर्मा
प्रकाशक – अनुभा प्रकाशन, शालीमार बाग, जयपुर

पाठ्य विषय – पाँच इकाइयों में विभक्त होगा।

इकाई – **I**

गद्य–वीथी पुस्तक से से संक्षेपण एवं 'कथादशक' पुस्तक से पल्लव संबंधी ज्ञान।
दोनों पुस्तकों से सामान्य तथ्यात्मक प्रश्नों का ज्ञान।

इकाई – **II**

शब्द ज्ञान
शब्द पर्याय और विलोम शब्दो ं का ज्ञान।
अनेकार्थी एवं समश्रुत शब्दो ं का ज्ञान।

इकाई – **III**

पत्र लेखन और पत्रो ं के प्रकार संबध ं ी ज्ञान।
अंग्रेजी से हिन्दी अनुवाद का ज्ञान।
हिन्दी में पदनाम संबंधी ज्ञान। (अंग्रेजी से हिन्दी पदनाम)

इकाई – **IV**

मुहावरे – लोकोक्तियाँ
शब्द शुद्धि और वाक्य शुद्धि
पारिभाषिक शब्दावली
अनेक शब्दों के लिए एक शब्द।

इकाई – **V**

देवनागरी लिपि की विशषताएँ
देवनागरी लिपि एवं वर्तनी का मानक रूप
कम्प्यूटर में हिन्दी का अनुप्रयोग – एक प्रारंभिक परिचय।

Paper Code: 9501

Third Year T.D.C. Arts
Paper – I
QUANTITATIVE TECHNIQUES IN ECONOMICS
Course-43

UNIT – I

Statistics – Definition, Importance, Scope and Limitations of Statistics, Primary and Secondary Data, Methods of Collecting Primary Data, Secondary Data, Classification and Tabulation of Data, Presentation of Data – Diagrams and Graphs.

UNIT – II

Measures of Central Tendency : Mean, Median, Mode, Geometric Mean and Harmonic Mean.

Measures of Dispersion – Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Quartile Deviation, Skewness.

UNIT – III

Correlation- Meaning, Causation & Correlation, Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation, Probable Error.

Simple Linear Regression- Introduction, Lines of Regression, Estimation of Regression Coefficient and Regression Lines.

UNIT – IV

Time Series – Introduction, Components of Time Series, Measurement of Trends – Methods of Moving Averages and Least Squares.

Index Numbers – Meaning, Significance and Types of Index Numbers, Methods of Constructing Index Numbers- Simple Price Relative Methods and Aggregative Methods.

UNIT – V

Sampling and Types of Sampling, Interpolation – Newton, Binomial and Langrangian Methods, Statistical System in India, National Sample Survey Organisation (NSSO), Central Statistical Organisation (CSO).

Basic Reading List

36. Croxton, Crowden and Klein (1971) – Applied General Statistics, Prentice Hall of India, New Delhi.

37. Gupta, S.C. (1993) – Fundamentals of Applied Statistics, S. Chand and Sons, New Delhi.

38. Nagar, A.L. and Das, R.K. (1993) – Basic Statistics, Oxford University Press, New Delhi.

39. Speigal, M.R. (1992) – Theory and Problems of Statistics, McGraw Hill Book Co., London.

40. Levin and Rubin – Statistics for Management, Prentice Hall of India, New Delhi.

41. Srivastava, S.C. and Sangy Srivastava – Fundamentals of Statistics, Anmol Publications Pvt. Ltd., New Delhi.

42ण कैलाशनाथ नागर – सांख्यिकी के मूल तत्व, मीनाक्षी प्रकाशन, मेरठ।

43ण ध्सुदामा सिंह, ओ.पी. सिंह एवं वाई.के. सिंह – अर्थशास्त्र गणित एवं प्रारम्भिक सांख्यिकी, राधा पब्लिकेशन, नई दिल्ली।

9. राव, गुप्ता एवं सुथार – व्यावसायिक सांख्यिकी।

Paper Code: 9502

Third Year T.D.C. Arts

Paper – II

INTERNATIONAL ECONOMICS

UNIT – I

Importance of International Economics, Inter-regional and international trade, Theories of International Trade, Theory of Absolute Advantage, Comparative Advantage and Opportunity Cost, Hecksher-Ohlin theory of trade.

UNIT – I

Gains from Trade – Their measurement and distribution, Trade as an engine of economic growth, Concepts of terms of trade and their importance; Doctrine of reciprocal demand.

UNIT – III

Foreign Trade Policy – Free trade v/s Protection, Types of Tariffs and Quotas and their impact on Partial Equilibrium analysis.

Concept of Optimum tariff, Dumping and its Impacts Concept of Foreign Trade Multiplier.

UNIT – IV

Concept and components of Balance of Trade and Balance of Payments, Equilibrium & dis-equilibrium in Balance of Payments, Consequences of dis-equilibrium in Balance of Payments, Various measures to correct deficit in the Balance of Payments.

Devaluation, Merits, Demerits and limitations, Functions of IMF, World bank and WTO.

UNIT – V

Foreign exchange – Meaning, Theories of Determination of Exchange Rate- The Purchasing Power Parity Theory, Modern Theory, The Balance of Payment Theory, Exchange Rate Policy.

Fixed v/s Flexible Exchange Rate, Forward Exchange Rates, Exchange Control- Meaning, Objectives and Methods of Exchange Control.

Basic Reading List

44. Jhingar, M.L. – International Economics, Vrinda Publications, New Delhi.

45. Mithani, D.M. – International Trade, Himalaya Publication House, Bombay.

46. Barla and Agrawal – International Economics, Laxmi Narayan Agarwal, Agra.

47. Sodersten, B.C. (1991) – International Economics, Macmillan Press, London.

48ण वैश्य, एम.सी. एवं सुदामा सिंह – अन्तर्राष्ट्रीय अर्थशास्त्र, ऑक्सफोर्ड एवं आई.बी.एच. पब्लिशिंग कम्पनी प्रा. लि., नई दिल्ली।

19ण जय प्रकाश – अन्तर्राष्ट्रीय अर्थशास्त्र राधा पब्लिकेशन, नई दिल्ली।

20ण सिंह, एस.के. – अन्तर्राष्ट्रीय अर्थशास्त्र, एस. चन्द एण्ड कम्पनी, नई दिल्ली।

21ण झिंगन, एम.एल. – अन्तर्राष्ट्रीय अर्थशास्त्र, वृन्दा पब्लिकेशन, नई दिल्ली।

22ण बरला एवं अग्रवाल – अन्तर्राष्ट्रीय अर्थशास्त्र, लक्ष्मीनारायण अग्रवाल, आगरा।

Course-44 Paper Code-9503

बी. ए. तृतीय वर्ष संस्कृत परीक्षा 2009–2010

थम प्रश्नपत्र – वैदिक व लौकिक काव्य एवं गद्य

100 अंक

म्पूर्ण पाठ्यक्रम पाँच इकाइयाँ में और प्रश्नपत्र तीन खण्डों में विभक्त जिनका अंक विभाजन निम्न है।

प्रथम खण्ड	–	10 अंक
द्वितीय खण्ड	–	50 अंक
तृतीय खण्ड	–	40 अंक

ठ्यक्रम एवं विस्तृत विवरण

वैदिक काव्य – वेदचयनम्

) निम्नलिखित सूक्तों का अध्ययन अपेक्षित है –

1. विष्णुसूक्त – ऋग्वेद मण्डल – 1, सूक्त 154
2. इन्द्रसूक्त – ऋग्वेद मण्डल– 2, सूक्त 12
3. प्रजापति सूक्त – ऋग्वेद मण्डल– 10, सूक्त 121
4. पुरुष सूक्त – ऋग्वेद मण्डल – 10, सूक्त 90
5. वाक् सूक्त – ऋग्वेद मण्डल – 10, सूक्त 125

(आ) कठोपनिषद् : प्रथम अध्याय (प्रथम दो वल्ली मात्र)

2. लौकिक काव्य – किरातार्जुनीयम्–भारवि (प्रथम सर्ग)
3. गद्य – शुकनासोपदेश – बाणभट्ट

पाठ्यक्रम की इकाइयाँ

प्रथम इकाई	–	वेदचयनम्– विष्णु, इन्द्र प्रजापति, पुरुष, वाक् सूक्त।
द्वितीय इकाई	–	कठोपनिषद्– प्रथम अध्याय प्रथम दो वल्ली।
तृतीय इकाई	–	किरातार्जुनीयम्– प्रथम सर्ग–श्लोक 1 से 25 तक
चतुर्थ इकाई	–	किरातार्जुनीयम्– प्रथम सर्ग–श्लोक 26 से 46 तक
पंचम इकाई	–	शुकनासोपदेश

प्रश्नपत्र का विस्तृत अंक विभाजन –

प्रथम खण्ड
(वस्तुनिष्ठात्मक भाग) 10 अंक

इस खण्ड के अन्तर्गत विकल्परहित वस्तुनिष्ठ कुल दस प्रश्न पूछे जाएंगे तथा इनके लिये कुल 10 अंक निश्चित हैं। प्रश्न पाठ्यपुस्तकों के विस्तृत एवं मुख्य विषयों पर आधारित होंगे। अर्थात् किसी एक या दो या तीन स्थान विशेष पर आधारित न होकर पाठ्यक्रम के समग्र भाग पर आधारित होंगे तथा समस्त इकाइयों से समान रूप से सम्बद्ध होंगे।

द्वितीय खण्ड

(व्याख्यात्मक भाग) **50 अंक**

इस खण्ड के अन्तर्गत शत प्रतिशत विकल्प के साथ पाँच प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न के लिये 10 अंक निधारित हैं। इनका पाठ्यक्रमानुसार विभाजन निम्नलिखित प्रकार से होगा –

क. वेदचयनम् – पाठ्यक्रम में ऋग्वेद के दिये गये सूक्तों में से चार मन्त्र देकर किन्हीं दो की सप्रसंग व्याख्या पूछी जाएगी। 10 अंक

ख. कठोपनिषद् – चार मन्त्र देकर किन्हीं दो मन्त्रों की व्याख्या पूछी जाएगी। 10 अंक

ग. किरातार्जुनीयम् – प्रथम सर्ग

श्लोक 1 से 25 तक के श्लोकों में से दो श्लोक देकर एक श्लोक की सप्रसंग सटिप्पणी व्याख्या पूछी जाएगी। 10 अंक

घ. किरातार्जुनीयम् – प्रथम सर्ग

श्लोक 26 से 46 तक के श्लोकों में से कोई दो श्लोक देकर एक श्लोक की संस्कृत व्याख्या। 10 अंक

इ शुकनासोपदेश – चार गद्यांश देकर किन्हीं दो का सप्रसंग अनुवाद पूछा जाएगा। 10 अंक

तृतीय खण्ड

विवेचनात्मक भाग **40 अंक**

1. इस खण्ड के अन्तर्गत कुल दो विवेचनात्मक प्रश्न विकल्पों के साथ पूछे जाएंगे।

अ वेदचयनम् – दो देवताओं का नाम देकर एक देवता का स्वरूप पूछा जाएगा अथवा कठोपनिषद् के विषय से सम्बन्धित, चरित्र–चित्रण आदि पूछे जाएंगे। 20 अंक

आ. किरातार्जुनीयम् और शुकनासोपदेश की विषयवस्तु से सम्बन्धित, चरित्रचित्रणात्मक, समीक्षात्मक, दोनों की भाषा–शैली, काव्यगत वैशिष्ट्य, गद्य सौन्दर्य आदि। 20 अंक

सहायक पुस्तकें –

1. द न्यू वैदिक सेलेक्शन्स – एस. के. तैलंग एवं बी. बी. चौबे भारतीयविद्या प्रकाशन, दिल्ली
2. वेदचयनम् – विश्वम्भरनाथ त्रिपाठी
3. ऋग्भाष्यसंग्रह – डी. आर. चानना
4. वैदिक साहित्य और संस्कृति : पं. बलदेव उपाध्याय
5. वैदिक साहित्य का इतिहास : कुंवरलाल जैन, भारतीय विद्याप्रकाशन, दिल्ली
6. किरातार्जुनीयम् (प्रथम सर्ग) अजमेरा बुक कम्पनी, जयपुर
7. संस्कृतकविदर्शन : भोलाशंकर व्यास
8. कठोपनिषद् : अजमेरा बुक कम्पनी, जयपुर
9. शुकनासोपदेश : अजमेरा बुक कम्पनी, जयपुर
10. शुकनासोपदेश : भारतीय विद्या प्रकाषन, दिल्ली

Paper Code :- 9504

ए. तृतीय वर्ष संस्कृत परीक्षा 2009–2010

तीय प्रश्नपत्र – इतिहास, दर्शन, अनुवाद, व्याकरण एवं निबन्ध

100 अंक

म –

ंस्कृत–साहित्य का इतिहास –

सके अन्तर्गत निम्नलिखित विषय निर्धारित हैं।

एवं महाभारत, महाकाव्य (ऐतिहासिक काव्यों सहित) नाटक भव एवं विकास, गद्य काव्य कथासाहित्य।

र्शन

सके अन्तर्गत निम्नलिखित विषय निर्धारित हैं–

गवद्गीता – द्वितीय अध्याय मात्र।

ारतीय दर्शन की मूल अवधारणाएं।

- बौद्धदर्शन – चार आर्यसत्य, अष्टांगमार्ग
- जैन दर्शन – अनेकान्तवाद, पंचमहाव्रत
- वेदान्त तथा मीमांसादर्शन – अविद्या, ब्रह्म, अर्थापत्तिप्रमाण।

ग. अनुवाद – हिन्दी से संस्कृत में

घ. व्याकरण – इसके अन्तर्गत निम्नलिखित प्रत्ययों का अध्ययन अपेक्षित है।

कृत् प्रत्यय – क्त्वा, तुमुन्, ण्यत्, यत्, क्त, क्तवतु, शतृ, शानच्, तव्यत्, अनीयर्।

तद्धित प्रत्यय – मतुप्, इन्, ठक्, त्व, तल्

स्त्रीप्रत्यय – टाप्, ङीप् ।

ङ. निबन्ध (संस्कृत भाषा में) जिसके विषय इस प्रकार होंगे :–

कालिदास, बाण, भारवि; भगवद्गीता, भारतीय संस्कृति, संस्कृत भाषा का महत्व, सत्संगति, परोपकार, उद्योग का महत्व, विद्या का महत्व, महाविद्यालय।

विस्तृत विवरण –

प्रथम खण्ड

इस खण्ड के अन्तर्गत वस्तुनिष्ठ विकल्परहित कुल दस प्रश्न पूछे जाएंगे तथा इनके लिये कुल 10 अंक निर्धारित हैं। प्रश्न समग्र पाठ्यक्रम पर आधारित होंगे।

पाठ्यक्रम की इकाइयाँ –

10 अंक

द्वितीय इकाई – 10 अंक

दर्शन 1 – इसके अन्तर्गत उपयुर्क्त विषयों का अध्ययन अपेक्षित है।

तृतीय इकाई – 10 अंक

अनुवाद 1 – इस इकाई के अन्तर्गत हिन्दी से संस्कृत भाषा में अनुवाद करना अपेक्षित है।

चतुर्थ इकाई – 10 अंक

व्याकरण 1 – इसके अन्तर्गत उपर्युक्त विषयों का अध्ययन करना अपेक्षित है।

पंचम इकाई – 10 अंक

निबन्ध 1 – इसके अन्तर्गत उपर्युक्त विषयों का अध्ययन अपेक्षित है।

द्वितीय खण्ड

इस खण्ड के अन्तर्गत कुल पांच प्रश्न पूछे जाएंगे जिनका शत प्रतिशत विकल्प उपलब्ध रहेगा। प्रत्येक के लिये 10 अंक निर्धारित हैं। इनका पाठ्यक्रम के अनुसार विभाजन निम्नलिखित प्रकार से होगा –

क. इसके अन्तर्गत संस्कृत साहित्य के इतिहास से सम्बद्ध रामायण अथवा महाभारत से विकल्प सहित प्रश्न पूछा जाएगा। 10 अंक

ख. इसके अन्तर्गत भगवद्गीता के द्वितीय अध्याय से कोई भी दो श्लोक देकर एक श्लोक की सप्रसंग संस्कृत व्याख्या पूछी जाएगी। 10 अंक

ग. इसके अन्तर्गत कोई भी दो हिन्दी भाषा में अवतरण देकर एक अवतरण का संस्कृत भाषा में अनुवाद कराया जाएगा। 10 अंक

घ. इसके अन्तर्गत कोई आठ शब्द देकर किन्हीं चार का मुख्य सूत्रनिर्देशपूर्वक प्रकृति–प्रत्यय का विवेक पूछा जाएगा। 10 अंक

ङ इसके अन्तर्गत उपर्युक्त विषयों में से किन्हीं चार विषयों को देकर एक विषय पर संस्कृत में निबन्ध लिखने के लिये कहा जाएगा। 10 अंक

तृतीय खण्ड

इस खण्ड के अन्तर्गत कुल दो प्रश्न (विकल्प सहित) पूछे जाएंगे। इनमें से प्रत्येक का उत्तर लगभग 400 शब्दों में देना अपेक्षित है। इसके लिये 20–20 अंक निर्धारित हैं।

1. उक्त खण्ड के अन्तर्गत एक प्रश्न विकल्प सहित संस्कृत साहित्य के इतिहास के निम्नलिखित बिन्दुओं पर आधारित होगा। 20 अंक

   1. महाकाव्य – ऐतिहासिक काव्यों सहित
   2. नाटक – उद्भव एवं विकास
   3. गद्य काव्य
   4. कथा साहित्य

2. उक्त खण्ड का द्वितीय प्रश्न विकल्पसहित भारतीय दर्शन की मूल अवधारणाओं पर आधारित होगा। इसका विषयनिरूपण ऊपर किया गया है। 20 अंक

Paper Code-9505

B.A. Third Year
Course-45 Subject: Geography
Paper-I: Geography of India

Unit – I

a) India in the context of Southeast and South Asia.
b) India: a land of diversities; unity within diversities.
c) Major terrain elements of India and their role in shaping physical landscape of India.
d) Drainage systems of India and their functional significance.
e) The morphological regions of India.

Unit – II

a) Regional and seasonal variations of climate: the monsoon, western disturbance, norwesters, climatic regions of India.
b) Soil types of India: their distribution and characteristics
c) Vegetation types and their distribution; forest resources
d) Status, use and need for conservation of mineral resources
e) Status, use and need for conservation of power resources

Unit – III

a) Spatial distribution of population and density; socio-economic implications of population growth; urbanization;
b) Changing nature of Indian economy.
c) Agricultural growth during the plan period; Green Revolution vis-à-vis traditional farming;
d) Major crops and their status; wheat, Rice, Sugarcane, cotton
e) Regionalization of Indian agriculture;

Unit – IV

a) Industrial development and Indian economy.
b) Industrial regions of India and their industrial structure.
c) Major industries: Iron and steel, Cotton, cement, chemical Industries
d) Means of transportations: Roads, Railways and Railways
e) Composition of Domestic and International trade.

Unit – V

a) Basis of regional divisions of India.
b) Classification of Economic Regions of India: P. Sen Gupta
c) Comparative Analysis of macro regions.
d) Resource regions of India.
e) Planning region of India

Suggesting Readings:

1. Deshpande, C. D., India - A Regional Interpretation, Northern Book Centre, New Delhi, 1992.
2. Farmer, B. H., An Introduction to South Asia, Methuen, London, 1983.
3. Govt. of India, India - Reference Annual, Pub. Div, New Delhi, (latest edition)

4. Govt. of India, National Atlas of India, NATMO Publication, Calcutta.
5. Govt. of India, The Gazetteer of India, Vol. I & III Publication Division, New Delhi, 1965.
6. Khullar, D. R., India: A Comprehensive Geography, Kalyani Publishers, Ludhiana, 2000.
7. Learmonth, A. T. A. et al (ed), Man and Land of South Asia, Concept, New Delhi.
8. Manorama Press, Manorma Year Book, Kottayam (Kerala), (Latest Edition).
9. Mitra, A., Levels of Regional Development of India, Census of India, Vol. 1, Part I-A (i) and (ii), New Delhi, 1967.
10. Routray, J. K., Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993.
11. Shafi, M, Geography of South Asia, McMillan & Co., Calcutta, 2000.
12. Singh, G., Geography of India. Atmaram & Sons, Delhi.
13. Singh, R. L. (ed), India: A Regional Geography, National Geographical Society, India,
14. Spate, O. H. K. and Learmonth, A. T. A., India and Pakistan - Land, People and Economy Methuen & Co., London, 1967.
15. Times of India Press, Times of India Year Book, Bombay (Latest Edition)
16. Vaidiya, K. S., Dynamic Himalaya, University Press, Hyderabad, 1998,
17. Wadia, D. N., Geology of India, McMillan & Co., London, 1967.
18- गौड कृपाशंकर : भारत की भौगोलिक समीक्षा, हिन्दी प्रचार पुस्तकालय, वाराणसी
19- मामोरिया चतुर्भुज : भारत का आर्थिक भूगोल, आगरा बुक स्टोर, आगरा
20- दुबे, रामनाथ : भारत का आर्थिक भूगोल, किताब महल, इलाहाबाद
21- तिवारी विश्वनाथ : भारत का वृहद् भूगोल, रामप्रसाद एण्ड सन्स, आगरा
22- चौहान, वीरेन्द्रसिंह : विशाल भारत, रस्तोगी एण्ड कम्पनी, मेरठ
23. चौहान, तेजसिंह : भारत का भूगोल, विज्ञान प्रकाशन, जयपुर

Paper Code-9506

B. A. Third year
Subject:Geography
Paper-II: Geography of Rajasthan

Unit – I

a) Rajasthan in the context of India; diversity and unity; history of emergence.
b) Geological structure and formation of the state.
c) Relief features and physiographic regions; drainage characteristics.
d) The monsoon rhythm and weather conditions; climatic regions; climate and man.
e) Vegetation; forests; soils types.

Unit – II

a) Distribution of population: status, factors and implications.
b) Population characteristics: gender, literacy and workforce.
c) Urbanization and migration.
d) Tribal population: composition, concentration and principal tribal groups.
e) Population growth and associated problems.

Unit – III

a) Agriculture and economy of Rajasthan
b) Cropping pattern: detailed study of bajra, maize, wheat, pulses and oilseed crops
c) Source of irrigation; irrigation system of Indira Gandhi Canal and Chambal Command Area; problem of depleting ground water resources
d) Livestock resource: distribution by composition and size; dairy development
e) Major agricultural problems and their solution.

Unit – IV

a) Minerals, industries and economy of Rajasthan.
b) Detailed study of minerals: rock phosphate, mica, marble, soapstone and limestone.
c) Status and potential of energy minerals: lignite, petroleum and natural gas.
d) Detailed study of industries: zinc, cement, chemical, cottage and small-scale industries.
e) Industrial problems and prospects of the state.

Unit – V

a) Tourism: basis of tourism in Rajasthan; major destinations; tourists by place of origin.
b) Means of transportation: net work of roads and railways and related problems.
c) Droughts in Rajasthan: nature, causes, implications and coping measures.
d) Basis of regions of Rajasthan and study of different schemes of regionalization.
e) Detailed study of Marusthali and Aravalli regions.

Suggesting Readings:

1. Bhalla, L. R., Rajasthan ka Bhugol, Kuldeep Publication, Ajmer (Hindi).
2. Census of India, Rajasthan Series, General Population Tables of 1961to 2001.
3. DST (Govt. of Rajasthan), Resource Atlas of Rajasthan, Jaipur.
4. Govt. of Rajasthan, Statistical Abstract (latest edition), Jaipur.
5. Mishra, V. C., Geography of Rajasthan, National Book Trust, New Delhi.
6. NCEAR, Techno-economic Survey of Rajasthan, Vol. I and II, New Delhi.
7. Publication Division, Govt. of India, India (Latest edition), New Delhi.
8. Spate, O. H. K., India and Pakistan, Methuen, 1960.

9. चौहान, तेजसिंह : राजस्थान का भूगोल, विज्ञान प्रकाशन, जोधपुर
10- लोढा, राजमल एवं महेश्वरी, दिपक : राजस्थान का भूगोल, हिमांशु पब्लिकेशन्स, उदयपुर
11- मामोरिया, चतुर्भुज व जैन शेपमल : राजस्थान का भूगोल, साहित्य भवन पब्लिकेशन्स, आगरा
12- सक्सेना, एच.एम. : राजस्थान का भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
13- विजयवर्गीय, राम रक्षपाल : राजस्थान का भू–विज्ञान एवं खनिज सम्पदा, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

Paper Code-9507

B. A. Third year
Subject: Geography

Practical: Surveying, Topographical Maps and Remote Sensing

I. Surveying:

1. Objectives; primary division and classification of surveying; principles of surveying.
2. Plane table survey:
   i. Radiation; intersection; open and close traverse with a minimum of five stations. (4 exercises)
   ii. Resectioning: three point problem by mechanical and graphical methods of Bessel and Llano. (3 exercises)
3. Prismatic compass survey:
   i. Types of bearings and conversion of bearings.
   ii. Radiation; intersection; open and close traverse (with a minimum of five stations. (4 exercises)
   iii. Calculation of included angles; correction of bearing; closing of the error. (1 exercise)

II. Topographical maps:

1. A brief history of Survey of India; scheme of topographical maps; and conventional symbols. (2 exercises)
2. Scale of slopes. (1 exercise)
3. Study and interpretation of Survey of India 1:50,000 or 1:63,360 topographical maps representing typical areas of Rajasthan in respect of relief, drainage, land use, settlement and means of transport (2 exercises)

III. **Remote sensing**:

1. Remote sensing as a tool for data generation and mapping;
2. Basic concepts of aerial photographs and satellite imageries;
3. Generating maps (physical and human features) from aerial photographs and remote sensing data products using pocket stereoscope and other aids. (2 exercises)

Notes:

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on a full drawing sheet.
3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.
4. The distribution of marks will be as follows:

a.	Paper	30 Marks
b.	Record Work*	10 Marks
c.	Viva-voce**	5 Marks
d.	Field survey and viva- voce	15 Marks (10+5)

* Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

** Viva-voce will be based on the record work.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggesting Readings:

1. Cole, John P. and Cuchlaine A. M. King, Quantitative Geography: Techniques and Theories in Geography, John Wiley & Sons Ltd., London, 1970.
2. Hammond, Robert and McCullagh Patrick, Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford, 1978.
3. Kanetkar, T. P., Surveying and Levelling, Vol. I, A. V. Griha Prakashan, Bombay, 1985.
4. Nag, Prithvish and M. Kudrat, Digital Remote Sensing, Concept Publishing Company, New Delhi, 1998.
5. Singh, R. L., Elements of Practical Geography, Student Friends, Allahabad.

6. सिंह एवं कनोजिया : मानचित्र तथा प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
7- तिवारी, वि वनाथ : प्रायोगिक भूगोल, रामप्रसाद एण्ड संस, आगरा
8- वर्मा, एल.एन. एवं लोढा, आर. एम. : प्रायोगात्मक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
9- भार्मा, जे.पी. : प्रायोगात्मक भूगोल, रस्तोगी प्रकाशन, मेरठ

Paper Code-9508

Course-46 राजस्थानी साहित्य : तृतीय वर्ष परीक्षा,

इस परीक्षा मे ं 100—100 अंको ं के दो प्रश्न पत्र होगं ।

प्रथम प्रश्न पत्र : राजस्थानी भाषा और साहित्य का इतिहास एवं निबन्ध

पाठ्य पुस्तके ं

इकाई – प्रथम 20 अंक

1. राजस्थानी भाषा की उत्पत्ति, उद्भव एवं विकास

इकाई – द्वितीय

2. राजस्थानी भाषा की बोलियां और उनका क्षेत्रफल

इकाई – तृतीय

3. राजस्थानी साहित्य के प्रारम्भकाल एवं मध्यकाल से सम्बन्धित प्रश्न (काल, प्रवृत्ति, प्रमुख कृतिकार एवं कृतियां)

इकाई – चतुर्थ

4. राजस्थानी साहित्य के उत्तरकाल से सम्बन्धित प्रश्न

इकाई – पंचम

5. राजस्थानी भाषा मे ं निबंध लेखन (राजस्थानी भाषा, साहित्य एवं संस्कृति से सम्बन्धित)

उक्त पांचो ं इकाईयां तीन खण्डों मे ं विभक्त होंगी, जिनमे, निम्न प्रकार अंको ं का विभाजन रहेगा।

10

खण्ड 'अ'

इसमे ं दस वस्तुनिष्ठ लघुत्तरात्मक प्रश्न होगं । प्रत्येक इकाई मे ं से दो प्रश्न होगं । प्रत्येक प्रश्न एक अंक का होगा। ये दस प्रश्न विकल्प रहित होगं । प्रत्येक प्रश्न का लघुत्तर लगभग 20 शब्दों मे ं होगा।

(अंक 10)

खण्ड 'ब'

इस भाग मे ं पाठ्यक्रम की प्रत्येक इकाई से दो प्रश्न पूछे जायेगं । कुल दस प्रश्न होगं । जिनके विकल्प भी इसी इकाई से होंग। प्रत्येक प्रश्न दस अंकों का होगा। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दो ं मे ं दिया जा सकता ह।

(अंक 50)

खण्ड 'स'

इस भाग में चार विवेचनात्मक प्रश्न पूछे जायेगं जिनमे ं से दो प्रश्नों के उत्तर देन होगं । प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दो ं मे ं देना होगा। प्रत्येक प्रश्न बीस अंक का होगा। इन प्रश्नो ं मे ं एक प्रश्न के दो भाग भी हो सकते ह।

(अंक 40)

टिप्पणी :– प्रत्येक इकाई पर आलोचनात्मक प्रश्न पूछे जा सकते है।

संदर्भ :–

1. राजस्थानी भाषा और साहित्य : डॉ. मोतीलाल मेनारिया
2. राजस्थानी भाषा और उसकी बोलिया : सम्पादक डॉ. देव कोठारी
3. राजस्थानी साहित्य की समीक्षा : सम्पादक डॉ. मनोहर शर्मा

Paper Code-9509

द्वितीय प्रश्न पत्र : प्राचीन एवं मध्यकालीन काव्य

पाठ्य पुस्तके ं

इकाई – प्रथम 20 अंक

1. मीरां वृहत्त पदावली भाग प्रथम

सम्पादक : हरिनारायण पुरोहित
प्रकाशक : राजस्थानी प्राच्य विद्या प्रतिष्ठान,
जोधपुर

इकाई – द्वितीय 20 अंक

2. गोरा बादल चरित चउपई
सम्पादक : फतहसिंह
प्रकाशक : राजस्थान प्राच्य विद्या प्रतिष्ठान,
जोधपुर

इकाई – तृतीय 20 अंक

3. द्रोपदी विनय (रामनाथ कविया कृत)
सम्पादक : कन्हैयालाल सहल
प्रकाशक : बंगाल हिन्दी मंडल, कोलकत्ता।

इकाई चतुर्थ 20 अंक

4. उक्त तीनो ं पाठ्य पुस्तको ं से ससंदर्भ व्याख्यात्मक प्रश्न
12

इकाई – पंचम 20 अंक

5. छंद
दूहा (भेद, लक्षण उदाहरण सहित)
उक्त पांचो ं इकाईयां तीन खण्डो ं मे ं विभक्त होगं ी जिनमे ं इस प्रकार अंको ं का विभाजन रहेगा –
खण्ड 'अ'
इसमे ं दस वस्तुनिष्ठ लघुत्तरात्मक प्रश्न होगं । प्रत्येक इकाई मे ं से दो प्रश्न होगं । प्रत्येक प्रश्न एक अंक का होगा ये दस प्रश्न विकल्प रहित होगं । प्रत्येक प्रश्न का लघुत्तर लगभग 20 शब्दों मे ं होगा।
(अंक 10)
खण्ड 'ब'
इस भाग मे ं पाठ्यक्रम की प्रत्येक इकाई से दो प्रश्न पूछे जायेगं । कुल दस प्रश्न होगं ` जिनके विकल्प भी इसी इकाई से होगं । प्रत्येक प्रश्न दस अंको ं का होगा। प्रत्येक प्रश्न का उत्तर लगभग 250 शब्दो ं मे ं दिया जा सकता ह।
(अंक 50)
खण्ड 'स'
इस भाग मे ं चार विवेचनात्मक प्रश्न पूछे जायेगं ` जिनमे ं से दो प्रश्नों के उत्तर देन ` होगं । प्रत्येक प्रश्न का उत्तर लगभग 500 शब्दो ं मे ं देना होगा। प्रत्येक प्रश्न बीस अंको ं का होगा। इन प्रश्नो ं मे ं एक प्रश्न के दो भाग भी हो सकते ह।
(अंक 40)
टिप्पणी : प्रत्येक इकाई पर आलोचनात्मक प्रश्न पुस्तक, विषयवस्तु काव्यपक्ष इत्यादि पर पूछे जा सकते हैं और दो व्याख्याएँ 10–10 अंको ं की पूछी जा सकती ह।

13

THIRD YEAR ARTS

Course-47 POLITICAL SCIENCE

Two papers	Min. Pass Marks:	Max. Marks:
Paper-I	3 hrs. duration	Marks
Paper-I	3 hrs. duration	Marks

Note : Each question paper will be divided into three sections. Section A will contain 10 compulsory questions, 2 from each unit of 1 mark each. Answer will have to be given up to a limit of 25 words. Section B will contain 10 questions, 2 from each unit of 10 marks each. Candidates will have to answer 5 questions picking 1 from each unit with a word limit of up to 250 words. Section C will contain 4 questions out of which candidates will have to answer any 2. Each question will be of 20 marks and the word limit is up to 500 words.

Sections	**No. of questions**	**Marks**	**Word limit**
Section A	10 (Compulsory)	10 Marks (1 mark each)	25 words
Section B	5 (One from each unit)	50 marks (10 marks each)	250 words
Section C	Any 2 from 4	40 marks (20 marks each)	500 words

Paper Code-9510

PAPER-I : WESTERN POLITICAL THOUGHT AND ISMS

Unit-I : Plato: Ideal State, Justice and Philosopher King, Aristotle: Scientific method, Revolution, Classification of States.

Unit-II : St. Thomas Aquinas, Machiavelli.

Unit-III: Idealism and Individualism.

Unit-IV: Anarchism and Fascism

Unit-V: Socialism and Nationalism.

Suggested Readings :

1.	Francis W. Cocker	:	Recent Political Thought
2.	C.E.M. Joad	:	Introduction to Modern Political Theory (English and Hindi Editions).
3.	Dr. E. Ashrivatham	:	Political Theory (English and Hindi Editions).
4	डॉ. इकबाल नारायण	:	राजनीति शास्त्र के सिद्धान्त
5	डॉ. एम. पी. शर्मा तथा डा. बी. आर. पुरोहित	:	आधुनिक राजनीति के विभिन्न वाद
6-	तिवारी एवं बेबबात	:	आधुनिक राजनीतिक विचारधाराएं
7-	धरम मिश्रा	:	राजनीतिक विचारधाराएं एवं समाजवाद से सर्वोदय तक

Paper Code-9511

PAPER-II: INTERNATIONAL RELATIONS

Unit-I: Major Developments in International Politics since 1945. Cold war, Detente, Post cold war, Nonaligned Movement, New International Economic Order, North-South and South-South Dialogue, European Economic Community.

Unit-II: U.N.O.: Organization and Working, Disarmament, NPT, SALT, START, INF, CTBT.

Unit-III: Foreign Policy of U.S.A., Peoples' Republic of China and Russia: Their Objectives and Problems.

Unit-IV: India's Foreign Policy: Objectives and Determinants, Policy of Non-Alignment, Responses to New International Changes, Nuclear Policy after 1968.

Unit-V: India and U.N.O., China, Pakistan and SAARC; A critical review of Indian Foreign Policy.

Suggested Readings :

1. W. Friedman : An Introduction to World Politics (3rd Ed.)
2. D.C. Gupta : International Relations
3. A.K. Sen : International Relation since World War-I.
4. V.D. Mahajan : International Relation since 1900.
5. S.N. Dhar : International Relations and World Politics since 1919.
6. Keswani : International Relations Since 1900.
7. मदन गोपाल : अन्तर्राष्ट्रीय सम्बन्ध
8- पांडे व शर्मा : अन्तर्राष्ट्रीय सम्बन्ध एवं निवेश नीतियां
9- चौधरी : **अन्तर्राष्ट्रीय** सम्बन्ध
10- हरिदत्त वेदांलकर : **अन्तर्राष्ट्रीय सम्बन्ध**
11- पी. डी. कौशिक : **अन्तर्राष्ट्रीय** सम्बन्ध
12- पी. के. चढ्ढा : **अन्तर्राष्ट्रीय** सम्बन्ध
13- जैन एवं मंडोत : **अन्तर्राष्ट्रीय** सम्बन्ध
14- बी. एल. फड़िया : अन्तर्राष्ट्रीय सम्बन्ध
15- शीला ओझा : भारतीय विदेश नीति : एक अध्याय
16- आर. एस. यादव : भारत की विदेश नीति

17. Chaturvedi and : Indian Foreign Policy and the Emerging World Order

Course-48

PaperCode:-9512

PART-B : OUTDOOR STUDY

4 Period One Hour Max. Marks : 30

The Candidates has to submit 50 pages of Outdoor study, these should include landscapes and nature studies, study of figures : figurative sculptures and birts and animals. The types of study shall be decided by the teacher concerned who shall also verify the file submitted by each candidate.

The date of submission of work shall be one month before the commencement of the examination.

Marks will be awarded by the teacher concerned. The marks will be forwarded by the Head of the Deptt. Alongwith sketch copies to the University. Sketch copies will be returned to candidates by the Universty one month after the announcement of the result.

For the repeaters and failure (other than Drawing & Painting Part B) there is no need for submitting the sketch copies. Their previous makrs would be counted for their result by the 'University after the announcement of the result'.

For the repeaters and failure (other than of Drawing & Painting, Part-B) there is no need for submitting the sketch copies. Their previous marks would be counted for the results.

THIRD YEAR ARTS, [redacted]

FOREST RESOURCES AND THEIR UTILIZATION

PAPER-I
SILVICULTURE AND FOREST MANAGEMENT

Unit-1

General silviculture principles. Ecological factors influencing forest vegetation, natural and artificial regeneration of forests.

Unit-2

Nursery techniques; Seed collection, Storage, Pre-treatment germination, establishment and tedings.

Unit-3

Silvicultural systems, clear felling, uniform shelter-wood selection coppice and conversion system.

Unit-4

Silviculture of some of the economically important wild trees of Aravalis with special reference to *Acacia catechu, A. nilotica, Azadirachta indica, Anogeissus* spp., Bamboos, *Gemelina aroborea, Tectona grandis, Madhuca indica* and *Dalbergia* spp., Ethnosilvicultural trees of Aravallis.

Unit-5

Objectives and Principles of forest management working plans.

Books Recommended :

1. Short Historical survey of Music of Northern Indian by Bhatkhande.
2. Sangeet ke Jihan Prashtha by S.N. Raj.
3. Hamara Sangeet.
4. Sangeet Visharad.
5. Comparative Study of Music of 15th, 16th, 17th Century of Bhatkhande.
6. Sangeet Kaumudi by Nigam.
7. Hindustani Music – its Physics and Aesthetics by Raj Bhaiya Puchawale.
8. Hindustani Sangeet Paddti by Bhatkhande.
9. Kramik Pustak Malika 1 to 6.
10. Rag Shashtra – Geeta Banerjee
11. Sangeet Gharana ki Charcha – Sushil Kumar Chobey.

All Books are published by Sangeet Karyalaya, Hathras.

THIRD YEAR ARTS 2009 - 2010

DRAWING & PAINTING

There will be two parts in the Examinations - Part "A" & Part "B"

Note : 6 Periods one hour each teaching is necessaryfor Part I and Part II. 4 Periods of one hour for Part "B".

It is compulsory to pass in each of the part separately.

PART-A will be of two papers, i.e.

PAPER-I
COMPOSITION

Time : 5 Hrs. (Examination) M.M. : 85

PAPER-II
STUDY FROM LIFE BUST (MALE)

Time : 5 Hrs. (Examination) M.M. : 85

Painting a portrait from life showing broad masses of tones clearly bringing out the modelling of the male figure.

Medium : Water Colour, Tempers, Oil or Pastel colours.

Size : Half Imperial.

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory.
Total marks : **05**

Section B: 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C: 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

Paper Code -9513

PAPER-II

Unit-1

Objectives and Principles of people's participation in forestry; Joint Forest Management by village community.

Unit-2

Forest department of voluntary agencies; Social Forestry – Objectives and scope.

Unit-3

Forest policies in India, Natural Conservation, wild life sanctuaries, National Parks and animals of India and their conservation.

Unit-4

Traditional nature conservation practices of Aravallis, Sacred groves, tree conservation and tree worship, livelihood trees.

Unit-5

Chipco movement and save Narmada Valley Movement, Basic approach of price policy and sales planning of forest products and by-products.

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions)

from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory.

Total marks : **05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

Paper Code:-9514

PRACTICAL (FORESTRY)

(Based on Paper I & II)

Time : 4 Hours M.M. : 75

1. Collection and identification of forest seeds of Aravallis.
2. Nursery and Reforestation Practices.
3. Survey Mapping.
4. Tree Measurement, diameter, height and volume.
5. Nursery work – Seed Bed preparation, volume.
6. Identification and collection of economically important trees and propagules.
7. Study of the soil profile.

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2

questions from each unit. Students are required
attempt at least 1 question from each unit. Ea
question will carry 5 marks . The answers of ea
question should be given in about 250 words.
Section C there will be 4 descriptive type questio
set from all the 5 units, not more than 1 questi
from each unit. These questions may also have su
divisions. The students are required to answer
questions, each in approximately 500 words. Ea
question will carry 10 marks .

In short, pattern of question paper and distribution
marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each uni
short answer, all questions compulsory.

Total marks : **05**

Section B : 10 questions, 2 question from each uni
5 question to be attempted, at least 1 from each uni
answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-
division), not more than 1 question from each unit,
descriptive type, answer in about 500 words, 2 ques-
tions to be attempted. Total marks : **20**

ooks Recommended :

Dwivedi, A.P. : (1984) Forestry in India, Jugal Kishore & Co., Dehradun.

Sheh, S.A. : (1990) Forestry for People.

Khanna, L.S. : (1984) Principles and Practices of Silviculture, Khan Bandhu, Dehradun.

4. Tara Gandhi : (1989) Rajasthan Vegetation Index. Society for Promotion of Wastelands Development, New Delhi.

5. Pandey, D.N. : (1992) Wild Trees of Aravallis (Booklet) Govt. of Rajasthan Publication.

6. Pandey, D.N. : (1992) Wildlife, Protected Areas and People in India (A Monograph).

7. Nair, S.M. : (1992) Endangered Animals of India, National Book Trust, New Delhi.

8. R. Prakash and L. S. Khanna : (1989) Theory and Practice of Silviculture, Export Book Agency, Delhi.

Course-49 PSYCHOLOGY

General Instructions:

49. There will be two theory papers of 70 marks each and Practical of 30 marks in each paper. The candidate will be required to pass separately in theory and practical examination.
50. Each theory paper will require four teaching periods of 45 minutes and four practical periods per week per paper. Practical class will consist of a group of 20 students.
51. Each paper will have three sections (As per university norms)

PAPER CODE : 9515

PAPER – I HEALTH PSYHOLOGY

Unit-I Meaning of Health in socio-cultural contexts

Nature, scope and development of Health Psychology. The role of Health Psychologist.

Unit-II Models of Health Bio-psycho-social and cultural models: Health Belief models.

Unit-III Type A Behaviour Pattern and its role in cardio vascular disorders.

Unit-IV Stress & Health : Role of Social support in stress management.

Unit-V Physical & mental health issues related to women, children & elderly.

BOOKS RECOMMENDED:

1. अरूण कुमार सिंह : असामान्य मनोविज्ञान, बनारसीदास प्रका ान – 2001

23. Bennett, P., weinman, J., & Spurgeon, P. (Eds.) 1990. Current development in health psychology. U.K. Harwood Academic Publishers.

24. Feuerstein, M. Elise, R.L. & Kuczmierciym. A.K. (1986). Health psychology: A psychological perspective. New York: Plenum Press.

25. Friedman – DiMateo. (1989). Health psychology. New York: Prentice Hall.

26. Mark, D.F., Murray, M., Evans, B., & Willig, C. (2000). Health psychology: Theory, research and application. New Delhi: Sage Publication.

- Misra, G. (Ed) 1999. psychological perspectives on stress and health. New Delhi: concept Publication.
- Pestonjee, D.M. 1999. Stress and coping: The Indian experience. New Delhi: Sage Publication.
- Spaceman, S., & Oskamp, S.(1998). The social psychology of health. New York: Sage publication.

PAPER CODE : 9516

PAPER – II : GUIDANCE & COUNSELLING

Unit-I : Meaning and scope of Guidance. Areas of Guidance – Educational, Vocational, Personal and Group Guidance. Need of guidance with special reference to India.

Unit-II : Guidance services: Self Inventory service, Information service, Personal Data collection service, Counselling service, Placement service, follow-up service Organization of guidance programme in School/college in community (Rural/Urban).

Unit-III : Personality: Meaning of Personality and Personal Adjustment; Personality Assessment, subjective and Objective techniques.

Counselling: Its concept and importance. Distinction between counselling and guidance.

Unit-IV: Methods of Counselling : Directive, non-directive, eclectic and group counselling. Concept of Aptitude : Types of aptitude tests, G.A.T.B., D.A.T.B. and special aptitude tests.

Unit-V: Achievement and its measurement : cumulative Record; Intelligence tests verbal, non-verbal and performance type.

Interview : Its importance and types, structured, unstructured, interview schedule, counselling interview.

Books Recommended:

1.	John	Principles of guidance & Pupils Personal work
2.	Myers	Principles & Techniques of Guidance.
3.	Robert Smith & Erickon	Organisation and Administration of Guidance Service.
4.	Super, D.E.	Counselling in Secondary Schools.
5.	Pasrich and Prem	Guidance & Counselling in Indian Education.
6.	इन्दु दवे एवं ए.बी. पाठक	निर्देक के मूल तत्व
7.	डॉ0 चौहान वी. एल. एवं डॉ0 जैन	निर्दे ाक एवं पराम र्ा
8.	कोचर	निर्दे ाक एवं पराम र्ा

11

PAPER CODE :9517

PRACTICALS

Note : Students have to complete any six practicals of Health Psychology and six practicals of Guidance and Counselling under the supervision of the teacher concerned. Marks in the examination will be awarded on the basis of regularity and conceptual understanding.

THIRD YEAR ARTS **Paper Code-9518**

Course-50 HISTORY

PAPER I : OUTLINE HISTORY OF RAJASTHAN

M.M. 100

Unit I

Sources of History of Rajasthan :
Archaeological, Literary & Archival
Early civilization in Rajasthan : Kalibanga & Ahar.
Origin of Rajputs. Early History of Chouhans with special reference to Prithvi Raj III.
Emergence of Regional powers with special reference to Mewar and Marwar (Kumbha and Jodha).

Unit II

Mewar – Kumbha, Sanga, Pratap. Udai Singh, Raj Singh.
Marwar – Jodha, Maldeo, Chandra Sen
Amer – Man Singh, Mirza Raja Jai Singh, Sawai Jai Singh.

Unit III

Rajput Paintings, Fort Architecture with special reference to Kumbhalgarh, Mehrangarh,

Chittorgarh, Religious trends in Medieval Rajasthan – Bhakti & Sufi cult.

Unit IV

Maratha Penetration and Rajput Resistance – Causes and Impacts.
Treaties of 1818-Causes, Priorities of the Treaties and its Impacts.
Role of Rajasthan in the Revolt of 1857.

Unit V

Causes of political awakening in Rajasthan.
Peasant and Tribal movements – Bhil and Bijolia movement, Praja Mandal movement,
Constitutional development in Rajasthan, Formation of Rajasthan.
Trade and Commerce in Rajasthan.

Books Recommended:-

1. Gupta K.S. : Mewar and the Maratha Relations.
2. Saxena R.K. : Maratha Relation with the major states of Rajputana.
3. Parihar G.R. : Marwar and Marathas.
4. Mehta M.S. : Lord Hastings and the Indian History.
5. Banerjee A.C. : Rajput States and the East India Company.
6. Khargawat N.R. : Rajasthan's Role in the struggle of 1857.
7. Ojha G.H. : Rajputana Ka Itihas. (Relevant Volumes).
8. Sarda H.V. : Maharana Kumbha
9. Gupta K.S. & G. Vyas : Rajasthan Itihas Ke Shrota (Hindi)
10. Tod James : Annals & Antiquities of Rajasthan (Rel. Vol.)
(Also in Hindi)

Paper Code-9519

PAPER II (A): WESTERN WORLD : MID 15th CENTURY TO 1848

M.M. 100

Unit I

Decline of Feudalism and the Rise of the Modern era.
Renaissance – Causes, Main elements, Importance
Reformation – Causes, main aspects, importance, regional variations, role-played by Martin Luther.
Economic origin of the modern western world-Mercantilism

Unit II

The rise of new absolute Monarchies –
Emergence of the Nation state
England, France, Russia & Prussia

Unit III

Growth of Parliamentary Institution in England, Magnacarta to Glorious revolution of 1688.
American war of Independence – Causes – its Significance.
Scientific revolution, Agricultural revolution, Industrial revolution – causes – impact on

contemporary society and significance.

Unit IV

French revolution of 1789 – Causes, Role of thinkers, Results and its significance. Rise and fall of Napoleon Bonaparte and his continental system.

Unit V

Age of conservation – 1815 to 1848

The Congress of Vienna 1815. Matternich – Concert of Europe, Forces of Conservatism and restoration of old hierarchies, Revolutionary movements of 1830 and 1848.

12 | P a g e

Books Recommended:-

1. Ketalby D.M. : Historyof Modern Times
2. Thompson David : Europe Since Napoleon.
3. Sharma M.L. : Europe Ka Itihas
4. Metha B.N. : Adhunik Europe Pt. I.
5. Mathur L.P. : Europe Ka Itihas (Hindi)
6. Lal Bahadur : Europe Ka Itihas (Hindi)
7. Hale, J.R. : Renaissance in Europe
8. Lee, Stephen : Aspects of European History
9. Sharma & Vyas : Europe Ka Itihas
10. Hilol Christopher : From Reformation to Industrial Revolution.

PAPER II (B) – WESTERN WORLD 1848-1950 A.D.

M.M. 100

Unit I

Consolidation of large Nation states – The Unification of Italy and Germany.

Unit II

Bismarkian diplomacy and System of alliances, Eastern question – Berlin Congress of 1878, Colonialism and Imperialism in Asia & Africa in the 19th and 20th Centuries.

Unit III

Diplomatic alliances – Tripple alliances and Tripple Entente, World War, Anglo- German Naval rivalry. Morroco Crisis, Balkan war of 1913–14. First world war – Causes, Results and Significance.

Unit IV

Paris peace settlements - The working of League of Nations – Russian Revolution of 1917 Causes, Results and Impacts on the world. The great Economic depression, Rise of Nazism & Fascism in Germany and Italy.

Unit V

Awakening in the Arab world, struggle for freedom and reform in Egypt, Emergence of Modern Turkey under Kamal Ataturk, The origin of world war – II, U. N. O. : It's aims, organizations.

14 | P a g e

Books Recommended:

1. Katelby D.M. : History of Modern Times
2. Thompson David : Europe since Napoleon

3. Sharma M.L. : Europe Ka Itihas
4. Mehta B.N. : Adhunik Europe
5. Mathur L.P. : Europe Ka Itihas
6. Carr H.H. : The Bolshevik Revolution
7. Taylor A.J.P. : The origins of the Second World War
8. Taylor A.J.P. : The struggle of Mastery in Europe
9. Sharma and Vyas : Europe Ka Itihas

THIRD YEAR ARTS,
Course -51 PUBLIC ADMINISTRATION SCHEME
Two Papers Min. Pass Marks 72 Max. Marks 200
Paper-I 3 hrs. Duration 100 Marks
Paper-II 3 hrs. Duration 100 Marks

परीक्षक के लिए निदेर्श ा :

(खण्ड–अ)

इस भाग मे ं दस वस्तुनिष्ठ/लघुत्तरात्मक पश्र न होगं े। प्रत्यके इकाइ र् मे ं से दो पश्र न होगं े। पत्र यके पश्र न एक अंक का होगा। ये दस प्रश्न विकल्प रहित होगं े। लधु उत्तर लगभग 20 शब्दो ं में होगा। (10 अकं)

(खण्ड–ब)

इस भाग में पाठ्यक्रम की पत्र येक इकाइ र् से दो प्रश्न पूछे जायेगं े। कुल दस प्रश्न होगं े, जिनमे ं से पाँच प्रश्न करने होगं े। जिनके विकल्प भी इसी इकाइ र् से होगं े। पत्र येक पश्र न 10 अकं का होगा। इन पश्र नों के उत्तर लगभग 250 शब्दो ं तक दिये जा सकते हैं।

(50 अंक)

(खण्ड–स)

इस भाग मे ं चार विवेचनात्मक पश्र न सम्पूर्ण पाठ्यक्रम मे ं से बनाये जाएँगे, जिनमे ं से दो पश्र नो ं के उत्तर देने होगं े। पत्र येक प्रश्न का उत्तर लगभग 500 शब्दो ं मे ं देना होगा। पत्र येक प्रश्न बीस अंक का होगा। इन प्रश्नों में से एक प्रश्न के दो भाग भी हो सकते हैं।

(40 अंक)

Paper Code-9520

PAPER-I
COMPARATIVE ADMINISTRATIVE SYSTEMS

UNIT-I

Comparative Administration : Concept, Nature, Scope and Importance.
Salient features of administration of developed & developing societies.
Contribution of Fred Riggs.

UNIT-II

Salient features of constitutions of U.K., U.S.A. and France.
(11)
Political systems : Parliamentary system in U.K., Presidential system in U.S.A. & France.

UNIT-III

Salient features of Administrative systems of U.K., U.S.A., Frence & Nepal with Special reference to Central Administration, Nature and Role of Civil Service.

UNIT-IV

Cabinet Secretariat & Treasury in U.K., Independent Regulatory Commission in U.S.A.

UNIT-V

Post of Governor in U.S.A., Council de Etate in France, Sweden's Ombudsman, Panchyat system in Nepal

Books Recommended :

1. Mackenzie & Grove : Central Administration in Britain.
2. Guy Hathorn et.al. : Government and politics in the United states.
3. Ridley & Blondel : Public Administration in France.
4. टी.एन. चतुर्वेदी : तुलनात्मक लोक प्रशासन, रिसर्च पब्लिकेशन्स, नई दिल्ली

5ण चन्द्रा हीरावत : तुलनात्मक प्रशासनिक व्यवस्थाएँ
6ण डॉ. पुखराज जैन : प्रमुख राज व्यवस्थाएँ, साहित्य भवन, आगरा
7ण बी.एल. फड़िया : विश्व के प्रमुख संविधान
8ण रविन्द्र शर्मा : तुलनात्मक प्रशासनिक व्यवस्थाएँ
9ण ए.पी. अवस्थी : तुलनात्मक लोक प्रशासन
10ण सुरेन्द्र कटारिया : तुलनात्मक प्रशासन व्यवस्थाएँ

Paper Code-9521

PAPER-II
LOCAL ADMINISTRATION

UNIT-I

Meaning, Nature and siginificance of Local Governments in Modern state,
Evolution of Local Government during the Ancient, Medieval and Modern India.

UNIT-II

Composition, functions, powers and role of various kinds of local bodies :
Municipal Corporation, Municipal Council, Nagar Panchayat, Contonment Board

and Single Purpose Agencies.

UNIT-III

Theory and practice of Democratic Decentralization in India. Panchayati Raj Institution; Zila Parishad, Panchayat Samiti, Village Panchayat, Gram Sabhatheir composition, powers and functions.

UNIT-IV

Problem of Autonomy and Accountability of Local Bodies, Mechanism of control over local Bodies at state level, The Role of Directorate of Local Bodies, Panchayati Raj and Development Department. Financial Administration of local (13)
Bodies of India, Strengthening of Local Resources in view of Local Finance Commission recommendation.

UNIT-V

Personnel Administration of Rural and Urban Local bodies; Recruitment, Classification, Promotion, Training and Service condition of Local officials.

Books Recommends :

1. R.L. Khanna : Municipal Government and
Administration in India
2. S.R. Maheshwari : Local Government in India.
3. K.K. Puri & G.S. Barara : Local Government in India
4. Rajeshwar Dayal : Panchayati Raj in India.
5. G. Ram Reddy : Panchayati Raj in India.
6. M.V. Mathur : Panchayati Raj in Rajasthan
Narayan &
V.M. Sinha
7. M.V. Paylee : Indian Constitution (also in Hindi)
8. A.R.C. : Report on State Administration
9. Govt. of Rajasthan : Report of the Administrative Reforms
Committee
10. S.R. Maheshwari : Indian Administration

बी.ए. तृतीय वर्ष,

Course-52हिन्दी साहित्य

Paper Code-9522

प्रथम प्रश्न–पत्र : काव्य

पाठ्य पुस्तकें –

1. भक्ति काव्य सरिता – संपादक : डॉ. श्यामसुंदर दीक्षित

   प्रकाशक – राजस्थान प्रकाशन, त्रिपोलिया बाजार, जयपुर

2. नहुष – कवि मैथिलीशरण गुप्त

   प्रकाशक – नेशनल पब्लिशिंग हाउस, दरियागंज, नई दिल्ली

पाठ्य विषय पाँच इकाइयों में विभक्त होगा।

इकाई – I

कबीर (4 से 8, 11 से 17 तथा 21 से 26 पदों को छोड़ कर) और जायसी (नख–शिख को छोड़ कर) के संकलित अंश की व्याख्या एवं आलोचना।

इकाई – II

सूरदास (संयोग श्रृंगार – 1 से 6 को छोड़कर, वियोग वर्णन – 13 से 25 छोड़कर।)

तुलसीदास (सुंदरकाण्ड–21 से 22 छोड़कर, लंका काण्ड 23 से 27 छोड़कर) ओर रसखान (26 से 52 तक के पद छोड़ कर) के संकलित अंश की व्याख्या एवं आलोचना। उपर्युक्त अंशों को छोड़कर शेष अंश ही स्वीकृत माने जाएँ।

इकाई – III

सुंदरदास (गुरु दया षटपदी 1 से 2 पद छोड़कर, त्रिभंगी छंद 1 से 13 पद) छोड़कर, अथ आत्मा अचल अष्टक 1 से 8 पद छोड़कर, मन – 18,19 वाणी का महत्त्व–20, भजन न करने वाले–21, 22 पदों को छोड़कर ही शेष अंश स्वीकृत माने जाएँ) मीरा बाई (पद संख्या – 32 से 46 को छोड़कर शेष अंश) के संकलित अंश की व्याख्या

एवं आलोचना।

ढोला मारू रा दूहा की व्याख्या एवं आलोचना (1 से 109 तक को छोड़कर) शेष अंश, 184 से 211 तक को छोड़कर शेष अंश)

इकाई – IV

नहुष की व्याख्या एवं आलोचना।

भक्ति काव्य धारा का परिचय।

शब्द शक्ति परिचय

बी.ए. तृतीय वर्ष,

हिन्दी साहित्य **Paper Code-9523**

द्वितीय प्रश्न–पत्र : गद्य

1. निबंध चयनिका – संपादक : डॉ. गोविन्द रजनीश

   प्रकाशक – पुनीत प्रकाशन, ए–3 कांतिनगर, जयपुर

2. आकाश की छत – लेखक : डॉ. रामदरश मिश्र

   प्रकाशक – वाणी प्रकाशन, 21 ए, दरियागंज, नई दिल्ली

3. अभिनव छः एकांकी – संपादक : डॉ. चंदूलाल दुबे

   प्रकाशक – सोनाली पब्लिकेशन, जयपुर

पाठ्य विषय पाँच इकाइयों में विभक्त होगा।

इकाई – I

'निबंध चयनिका' में संकलित 'साहित्य जनसमूह के हृदय का विकास है','आचरण की सभ्यता', 'रामायण', 'साहित्य का उद्देश्य' (प्रगतिशीलता), 'करुणा' 'भारतीय संस्कृति' निबंधों की व्याख्याएँ और आलोचनात्मक प्रश्न।

इकाई – II

'निबंध चयनिका' में संकलित 'भारतीय साहित्य की प्राणशक्ति, 'काव्य बिम्ब : स्वरूप और प्रकार', 'तुलसी साहित्य के सामंत विरोधी मूल्य', 'भारतीय कला दृष्टि', 'उत्तरा फाल्गुनी के आस–पास', और 'साहित्य मूल्यांकन के नए मान' निबंधों की व्याख्याएँ

और आलोचनात्मक प्रश्न।

इकाई – III

'आकाश की छत' के व्याख्यात्मक स्थल और आलोचनात्मक प्रश्न।

इकाई – IV

'अभिनव छः एकांकी' में संकलित 'इतनी सी बात', 'पुरस्कार', 'घोंसले', 'नींद की घाटियाँ', 'पर्दे के पीछे' और 'बलहीन' एकांकियों के व्याख्यात्मक स्थल और आलोचनात्मक प्रश्न।

इकाई – V

उपन्यास साहित्य का विकास।

THIRD YEAR T.D.C. ARTS
Course- 53 HOME SCIENE

	Duration of Exam.	M.M.	Min. M.	Total No. of Hours/ Week
Paper-I: Human Development and Family Relationship	3 Hrs.	75	27	3
Paper-II: Textiles and Laundry	3 Hrs.	75	27	3
PRACTICALS				
Pract. I: Clothing Construction	3 Hrs.	25	09	02
Pract II: Laundry Work	3 Hrs.	25	09	02

Paper Code: 9524

THIRD YEAR T.D.C. ARTS

HOME SCIENCE

Paper – I
Human Development & Family Relationship

Unit I

52. (a) Meaning and Definition of Child Development and its relation to allied fields.

Scope, Importance and Methods of Child Study.

53. (a) Growth and Development – Definition

Principles of Development – Developmental task, factors affecting growth and development. Heredity and environment.

Learning and Maturation – Meaning, Significance theories and laws of learning.

Unit II

27. Development during Infancy, Early and Late Childhood:

    Physical and Motor development

    Social development

    Emotional development

    Mental and Cognitive development

    Speech and language

    Personality

28. Adolescence Age – Characteristic, Physiological and Psychological changes, Problems and their solutions.

Unit III

- Play and Activity: Meaning and value of play in childhood, characteristic of play, kinds of play-free and Spontaneous, make believe, constructive games, sports and amusement.

- Habit: Habit formation, condition of habit formation, importance of good habit, deconditioning bad habits.

- Exceptional Children:

    Gifted

    Retarded

    Physically handicapped

Unit IV

13. Mental Health – Definition, Predisposing factors of delinquent behaviour.

14. Problems of Children – Thumb sucking, Nailbiting, Enuresis (Bed wetting) tempertantrum, shyness speech disorders – Stuttering and stammering, fear, telling lies and distructive behaviour.

Unit V

15. Parent Child Relationship:

    (A) Basis for understanding human behaviour – physical, social and psychological needs.

    (B) Making adjustments, ways of meeting situations like running away, attacking, altering one's attitude and balance in adjustments.

16. Parent Hood:

    (A) Responsibilities

    (B) Influence of Parents, attitude on social and personality development of the child.

    (C) Guidance and directing child's activities at home, planning hobbies for children.

Books Recommended:

Child Development: Laura E. Berk II Ed.

Text book of Child Development: Rajammal P. Devdas.

Child Development: Hurlock.

डॉ. आशा पारीकः बाल विकास एवं पारिवारिक सम्बन्ध, कॉलेज बुक डिपो, त्रिपोलिया बाजार, जयपुर।

9. मुद्गुरेश्वर पारिखः बाल विकास एवं पारिवारिक सम्बन्ध।

10. बी.के. बख्शीः मातृ कला एवं बाल विकास।

THIRD YEAR T.D.C. ARTS

HOME SCIENCE
Paper – II

Textiles and Laundry

Unit I

54. Meaning and importance of Textiles.
55. Classification of fibres and their origin, Manufacture, General characteristics of Natural and Man made fibres.

Unit II

29. Yarn construction – Spinning methods, size and count of yarn, single and standard yarn, ply yarn, novelty yarn.

30. Weaves:
(a) terms used in weaving – warp, weft, slevedge, count of cloth, balance of cloth.

(b) Types of weaves, felting, knitting, braiding.

31. Finish and finishing process – Mechanical and Chemical.

Unit III

- Dyes and Dyeing Process – (a) Methods and Stages of dyeing – Raw Stock dyeing, yarn dyeing, piece dyeing and cross dyeing.

(b) Methods of home dyeing, simple batik, Tie and dye.

- Different methods of printing – Block Stencil, Screen and Machine printing.

Selection of fabrics for family garments, household linens, factors affecting their selection, selection of readymade garments.

Unit IV

- Elementary knowledge of traditional textiles of India – Brocade, Kin-khawab, patola, Bandhani, Baluchar, Butidar and Chanderi.

- Indian embroideries.

- Care and storage of clothing.

Unit V

15. (a) Laundry – Material

Water, soap, detergent, stiffening agent, blues, laundry reagents, bleaching agents.

16. Principles and methods of laundry.

17. Stain removal – common stains.

References:

17. Sushila Dantaygi – Text and its care.

18. Durga Develkar – Text and Laundry work.

19. Text book of Home Science – Premlata Mullick.

20ण वस्त्र विज्ञान एवं धुलाई कला – डॉ. बेला भार्गव।

21ण वस्त्र विज्ञान एवं परिधान – डॉ. वृन्दा सिंह।

22ण वस्त्र विज्ञान एवं परिधान – श्रीमती आनन्द शर्मा।

Paper Code - 9526

HOME SCIENCE

Practical – I

Duration: 3 Hrs. **M. M. 25**

Clothing Construction

56. Sewing equipments and their care.

57. Basic stitches, seams, fasteners.

58. Mending of tears.

59. Drafting, cutting and stitching of following garments:

Jabla, Frock Blouse, Petticoat, Salwar, Girls Kameez

60. Knitting of any one articles.

61. Embroidery – Any one of the furnishing items.

Practical – I

Distribution **M.M. 25**

1.	Sessional and Files	8
2.	Drafting	7
3.	Stitching	10
	Total	**25**

Paper Code – 9527

Practical – II

Duration: 3 Hrs. **M. M. 25**

Laundry Work

62. Laundry of Cotton, Silk, Woollen and synthetic clothes.

63. Stain Removal – Common stains.

64. Dyeing – Tie and Dye.

65. Demonstration of Batik.

66. Demonstration and use of washing machine.

Practical – II

Distribution of Marks **M.M. 25**

1.	Sessional and Files	8
2.	Tie and Dye	5
3.	Staining	5

4.	Washing	7
	Total	**25**

References:

32. A Manual of Children's clothing – Savitri Pandit.

33. Basic Process and Clothing Construction – Sherie Doongaji and Roshni Deshpande.

THIRD YEAR

Course-54 SOCIOLOGY

There will be TWO Theory papers of marks each:

Paper - I : Foundation of Sociological Thought

Paper- II – Any One of the following :

II – A – Social Anthropology

OR

II – B – Rural and Urban Sociology

Detailed Course Contents of Papers **Paper Code - 9528**

Paper – I - Foundation of Sociological Thought

M.M

UNIT – A

The Emergence and Development of Sociological Thought :

67. Transition from Social Philosophy to Sociology.
68. The Social, Economic and Political Forces: The French and Industrial Revolutions, Enlightenment.

UNIT - B

The Pioneers

34. Auguste Comte: Positivism; Herbert Spencer: Social Evolution ; Emile Durkheim : Social Fact; MaxWeber: Ideal Type.

UNIT – C

The Classical Tradition:

- Durkheim: Division of Labour and Suicide; Weber : Social Action, The Protestant Ethic and the Spirit of Capitalism; Pareto : Logical and Non-Logical Action, Circulation of Elites.

UNIT – D

Theoretical Approaches: Social Action : T. Parsons.

Functionalisms: R.K.Merton ; Conflict: Karl Marx.

UNIT – E

Development of Sociological Thought in India: Contributions of G.S. Ghurye, D.P. Mukherjee and Radha Kamal Mukherjee.

Essential Readings:

- Aron, Raymond. 1967 (1982 reprint) . Main Currents in Sociological Thought (2 vol.) Harmondsworth, Middlesex: Penguin Books.

- Barnes, H.E. 1959. Introduction to the History of Sociology. Chicago: The University of Chicago Press.

- Coser, Lewis A. 1979 Masters of Sociological Thought. New York: Harcourt Brace Jovanovich.

- Fletcher, Ronald. 1994 The Making of Sociology (2 Vol.) Jaipur : Rawat

- Morrison, Ken . 1995. Marx, Durkheim, Weber: Formation of Modern Social Thought. London: Sage

- Ritzer George. 1996 Sociological Theory. New Delhi: Tata McGraw Hill.

- Singh, Yogendra. 1986 Indian Sociology: Social Conditioning and Emerging Trends. New Delhi: Vistaar.

- Turner, J. : Esseantial Reading in Sociology.

- Zeitlin, Irving 1998 (Indian edition) , Rethinking Sociology: A Critique of Contemporary Theory. Jaipur : Rawat

- Doshi, S.L. : Samajik Vicharak (in Hindi) , Rawat Publ. Jaipur . 1998

- Mukherjee, R.N.: Samajik Vichardhara (in Hindi) Vivek Prakashan, Delhi: 1998.

Pedagogy:

The focus of this paper is on the substantive, theoretical and methodological issues which shaped the thinking of pioneering and classical sociologists and which continue to concern the practitioners of sociology today. Unless otherwise necessary to understand their contributions, the biographical details of the sociologists should be kept to the minimum.

Evaluation of the relevance and significance of the contributions of the pioneers and classical theorists should be briefed by the historical context of the discipline and its theorists.

Paper Code - 9529

THIRD YEAR SOCIOLOGY

Paper – II (A): Sociology of Tribal Society

M.M.

UNIT – A

The Concept of Tribe: Demographic Profile: Habitat, Distribution and Concentration of Tribal People; Tribal Zones; Sex Ratio; Status of Women

Unit-B

Classification of Tribal People ; Good Gatherers and Hunters, Shifting Cultivators, Nomads, Pastoralists, Peasants and Settled Agriculturists, Artisans

Unit-C

Social-Culture Profile: Ethnic and Culture Diversity-Languages and religious beliefs; Kinship: terminology and behaviour; Marriage: forms; Family: types.

Unit-D

Social Mobility and Change: Hinduization and Sanskritization;

Problems of Tribal People; Various Approaches of Tribal Problems: Isolation, Assimilation, Integration, Social Symbiosis.

Unit-E

Tribal Integration and Identity.

Major Tribal Communities of Rajasthan.

Tribal Movements in Rajasthan: Motilal Tejawat and Govind Giri.

Essential readings:

Bose, N. K. : (1967) Culture and Society in India, Asia Publishing House.

Desai, A. R. : (1979) Peasant Struggles in India Oxford University Press, Bombay)

Dube, S. C. (1977) : Tribal Heritage of India, New Delhi : Vikas.

Haimendorf, Christoph Von : (1982) Tribes of India; The Struggle for Survival, OxfordUniversity Press.

Hasnin, N. : (1983) Tribes in India, Harnam Publications, New Delhi.

Rao, M.S.A. : (1979) Social Movements in India, Manohar : Delhi.

Raza, Moonis and A. Ahmad: (1990) An Atlas of Tribal of India, Concept Publishing : Delhi.

Sharma, Suresh, 1994 : Tribal Identity and Modern World, Stage : New Delhi.

Singh, K.S. (1998), People of India, Rajasthan, Vol. XXXVIII, Part I & II, Popular Prakashan, Delhi.
Singh, K.S. : (1972) Tribal Situation in India, Indian Institute of Advanced Study.

Singh, K.S. : (1985) Tribal Society, Manohar :- Delhi.

Singh, K.S. : (1982) Tribal Movements in India, Vol. I and II, Manohar : New Delhi.

Singh, K.S. : (1995) The Scheduled Tribes, Oxford University Press : New Delhi.

Bailey, F G : Tribal, Caste and Nation.

Doshi, S.L. : Vyas, NN, Tribal Situation in Rajasthan, Himanshu Publication, Udaipur, 1997.

Majumdar and Madan : Introduction to Social Anthropology (Hindi version is also available)

TRIBE : A Bilingual journal of TRI, Udaipur.

Upreti, H.C, Bharat Ki Janjatiyan (in Hindi), Raj. Granth Academy, Jiapur

Pedagogy:

Audio-visual methods should be used.

Students should be taken on field visits to trible areas.

Wherever possible, illustration should be drawn from the local trible communities

Paper Code - 9530

Third Year English Language & Literature

Course-55(Pass Course)

The pattern of question paper will be as follows:

Section- A **(10 Marks)**

Ten objective type questions of one mark each from all units.

Section -B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section -C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper - I : Drama and Poetry **M.M. 100**

Unit - A : Drama

Shakespeare : *The Merchant of Venice*

J.M. Synge :*The Playboy of the Western World*

Unit - B: Poetry

The following poems from *Fifteen Poets* Oxford University Press.

Milton : Lycidas

Dryden : Alexender's Feast

Coleridge : Kubla Khan

Coleridge : Frost at Midnight

Tennyson : Crossing the Bar

Tennyson : From – In Memorium (from lines Ring Out, Wild Bells

Unit - C: Indian English Poetry

The following poems from *An Anthology of Indian English Poetry* Edited by a Board of Editors, Orient Longman.

Nissim Ezekiel	:	Marriage
		Night of the Scorpion
Jayant Mahapatra	:	Indian Summer
		Lost
R. Parthasarthy	:	Regret
		Mahabalipuram
		The Dance of Eunuchs

		The Doubt

Paper Code - 9531

Third Year English Language & Literature

(Pass Course)

The pattern of question paper will be as follows:

Section- A **(10 Marks)**

Ten objective type questions of one mark each from all units.

Section -B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section -C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Paper - II : <u>FICTION</u> **M.M. 100**

Unit – A: <u>Indian English Fiction</u>

Raja Rao : Kanthapura

Mulk Raj Anand : Coolie

Unit - B: <u>British Fiction</u>

Jane Austen : Pride and Prejudice

Hemingway : The Old Man and the Sea

Unit - C: <u>Phonetics</u>

Transcription (10 words out of 20: 10 Marks)

Word Accent (10 Marks)

FORTH YEAR

Course No.	Name of Subject
Course 32	**Educational Management & creating an Inclusive school**
Course 33	**Knowledge & Curriculam.**
Course 34	**Drama & Art. (Internal Assessment)**
Course 35	**Optional Courses (any 1).** **1. Health & Physical Education.** **2. Guidance & Counselling.** **3. Peace Education.**
Course 36	**School Internship (Phase II, 16 Weeks)** **Engagement with the field: Tasks and Assignment for courses 12 &13.**
Course 37	**External Assessment** **Viva-Voce for School Internship subject**

PAPER CODE-9671

Course-56 EDUCATIONAL MANAGEMENT AND CREATING INCLUSIVE SCHOOL

Objectives: After completing the course the student Teachers will be able to -

1. Develop understanding about concept and importance of Educational Management
2. Understand the educational Management structure at different levels.
3. Understand the role of Heads and Teachers in School Management.
4. Understand the importance of Management of different resources in school system
5. Develop an institutional plan for a secondary school
6. Understand the characteristics of inclusive school and appreciate diversity
7. Develop skills and practices for creating inclusive school so as to address the special needs of children with different backgrounds.

COURSE CONTENT

UNIT-1 Introduction to Educational Management

1. Concept, need, Functions & recent trends in Education Management

2. Characteristics of Effective Educational Management.
3. Management structure of education in India at different levels – Centre, State and Local.
4. Educational Management in the state of Rajasthan with special reference to School Education.

UNIT-2 Management of Resources

1. Leadership role of Principal – Characteristics & skills. Role in building the climate of a school.
2. Material resource Management.
3. Human Resource Management – Recruitment, Orientation and Professional development of Teachers.
4. Financial Management –Budgeting, Monitoring and Auditing.
5. School community Symbioses – Utilization of Community resources for school development, role of PTA and SMC.
6. Managing school supervision- Concept, need, principles, scope and techniques of supervision.

UNIT-3 Management of School Activities

1. Time Management – School Calendar, preparation of time table – concept, principles, types
2. Curricular & Co curricular activities- Their importance, Principles, planning and effective organization.
3. Institutional Planning, Concept, Areas and Steps

UNIT-4 Inclusive Education:

1. Meaning, Need and Importance of inclusive education
2. Historical overview of education of children with disabilities – from welfare to right
3. Policies related to inclusive education
4. Barriors of Learning and Participation
5. Challenges in Inclusive Education.

UNIT-5 Creating inclusive School

1. Characteristics of inclusive school
2. Understanding student needs.
3. Inclusive Practices – Collaboration, Team work peer strategies and innovative instructional practices.
4. Role of Teacher in inclusive education

5. Role of Principal in managing inclusive schools.
6. Role of Government for promoting inclusive education.

PRACTICUM/ SESSIONAL WORK

(One from each of the following two sections)

Section -A

1. Study of an institutional plan of a school
2. A critical study of a secondary school time-table
3. Study the management of co-curricular activities of a school.
4. Study the leadership role of Headmaster of a Secondary School.

Section -B

1. Case-study of an inclusive school.
2. Case study of an individual with disability.
3. Study of inclusive practices of a secondary school.

REFERENCES

1. Agrawal, J.C. (2010) Shiksha Vyavastha Ka Adhar Tatha Prabandhan, Agra, Agrawal Publications.
2. Allen, L.A. (1995) – Management and Organization, McGraw-Hill Auckland.
3. Baquer, A & Sharma, A. (1997) Disability: Challenges VS Responses: CAN, New Delhi.
4. Bhatnagar, Suresh (1996), Shaikshik Prabandh Avam Shiksha Ki Samasyaye, Meerut, Surya Publication.
5. Dave, Amritlal Avam Anya (2015), Bharat Me Shaikshik Vyavastha Avam Vidyalaya Prabandh, Meerut, R. Lall Book Depot.
6. Farrell, M. (2004) Special Educational Needs: A Resources for Practitioners, New Delhi, Sage Publications.
7. Hearty, S. & Alur, M. (eds.) (2002) Education and Children with Special Needs: From Segregation to Inclusion. New Delhi, Sage Publications.
8. Jaswant Singh (1959), How to be successful the school Headmaster, Jalandhar, University Publishers.
9. Khan, M.S. (1996) – Educational Administration, ES-362, Block-4, New Delhi.
10. Kochar, S.K. (1970, Secondary School Administration, New Delhi, Sterling Publishers.
11. Kochhar, S.K. (1994) – Secondary School Administation, Sterling Publishers, New Delhi.
12. Mahajan, Baldev (1996), Educational Administration in Rajasthan, New Delhi, Vikas Publishing House (Private) Limited.

13. Mohanty, J. (2000) – School Management, Administration and Supervision, Deep and Deep, New Delhi.
14. Mohi-u-ddin, M.S. (1962) School Organization and Management, Baroda, Acharya Book Depot.
15. Mukerji, S.N. (1963), Secondary School Administrating, Baroda, Acharya Book Depot.
16. Mukherji, S.N. (1962), Administration of Education in India, Baroda, Acharya Book Depot.
17. NCERT (2000) Assessment of Needs for Inclusive Education: Report of the First Regional Workshop for SAARC Countries, NCERT, New Delhi, India.
18. Puri, M. & Abraham, G. (eds.) (2004) Handbook of Inclusive Education for Educators, Administrators, and Planners, New Delhi, Sage.
19. Reynolds, C.R. and Janzen, F.E. (eds.) Encyclopedia of Special Education: A reference for the Education of the Handicapped and other Exceptional Children and Adults, Vol. No. 2 ed. USA, John Willey and Sons, Inc.
20. Safaya, R.N. (2006), Modern School Administatoin and Organziation, New Delhi, Dhanpat Rai Publishing (Pvt.) Limited.
21. Sidhu, K.S. (1992) – School Organization and Administration Sterling Publisher, New Delhi.
22. The persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation Act (1995) Ministry of Law, Justice and Company Affairs (Legislative Department)

Course-57 KNOWLEDGE AND CURRICULUM

Objectives: On completion the course the student teacher will be able to:

1. Develop understanding of meaning philosophical basis and sourses of knowledge.
2. Develop understanding of the relationship between knowledge and curriculum.
3. Develop understanding of Activity, Discovery and Dialogue related to modern child centered education with reference to Gandhi, Tagore, Dewey, Plato and Freire.
4. Understand the concept of Nationalism, Secularism and Universalisation with special reference to Tagore and J.krishnamurthi.
5. Understand the changes brought about by Industrialization,
6. Implications of Democracy, Individual autonomy, Equality, Social justice for education.
7. Understand the difference between Curriculum framework, Curriculum, Syllabus and textbook.
8. Understand the Principles of Curriculum Construction.
9. Understand the assessment modes of Curriculum Evaluation.

COURSE CONTENT

UNIT- I Epistemology, Knowledge and Knowing

1. Epistemology: Meaning; Philosophical basis of Knowledge according to Western and Indian Philosophy.
2. Distinction between : Knowledge and Belief; Knowledge and Information ; Knowledge and Skill; Knowledge and Reason; Knowledge and Education; knowledge and Training
3. Facets of Knowledge Such as Local and Universal ; Concrete and Abstract ; Theoretical and Practical; Contextual and Textual; School and out of School.
4. Process of Knowing Process of Construction of Knowledge; Factors involved in construction of Knowledge; The role of Knower and Known in Construction and Transmission of Knowledge; The role of Culture in Knowing

UNIT -II Forms of Knowledge and Its Organization in Schools.

1. Categorization of Knowledge; Basis of Categorization;
2. The essential forms of Knowledge.
3. Basis of selection of categories of Knowledge in School Education.
4. The responsibility of Selection Legitimacy of inclusion of knowledge in School curriculum.

UNIT- III Educational Thinkers and Child Centered Education

Basis of Child Centered Education in relation to Activity, Discovery and Dialogue with reference to Gandhi, Tagore, Dewey, Plato and Freire. Social basis of Education in the context of society in relation to Democracy, Industrialization and Ideas of Individual Autonomy Equality and Social- justice.

1. Concepts of Nationalism, Universalization and Secularism and their interrelationship with education.
2. Critical Multiculturalism and Democratic education as the basis of analyzing concepts of learning rooted in school practices.

UNIT- IV Principles of Curriculum construction

1. Meaning and need of Curriculum.
2. Principles of Curriculum construction
3. Differentiation between curriculum framework, Curriculum and Syllabus.
4. Determinates of Curriculum
5. Social-Political-cultural-economic diversity.
6. Socio-Political aspirations including ideologies.
7. Economic necessities and Technological possibilities.
8. National priorities and International contexts.
9. Considerations in curriculum making.
10. Relevance and specificity of educational objectives for concerned level.
11. Critical issues: Environmental concerns, Gender differences, Values and Social sensitivity.

UNIT –V Curriculum Development and its Implementation

1. Different approaches of curriculum development: Subject centered: Environmentalist (incorporating local concerns) Behaviorist ; Competency based, Learner centered and Constructivist
2. Role of external agencies in providing curriculum and pedagogic supports to teachers within schools; teacher's role in transacting, developing and researching curriculum.
3. Operationalisation of curriculum into learning situations; selection and development of learning resources i.e. text books, teaching – learning materials and resources outside the school- local environment, community and media.
4. Process of Curriculum evaluation; Evolving assessment modes, need of model of Continuous Comprehensive Evaluation; Feedback from learners, teachers, community and administrators.

PRACTICUMS

Attempt any two of the following.

1. Report on analysis of operationalisation of Curriculum into learning situations in school and outside school in any one school.
2. Conduct a survey on feedback of curriculum from learners/ Teachers/ community and prepare a report.
3. Prepare a report of a group discussion conducted on ‘democratic ducation’/‘multiculturalism’ as the basis of analyzing school practices.
4. Prepare three activities to develop awareness about Environmental concerns, Gender ensitivity and Social Sensitivity (one on each issue).

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Course 58 - DRAMA AND ART IN EDUCATION

(Internal Assessment)

Objectives: After completion of this course, the student teachers will be able to:

1. Understand the role of fine arts in enhancing the creative potentials of an individual;
2. Understand the concept and basics of different art forms (all the visual and performing arts);
3. Understand the significant implications for the role of art, music and drama in education, to nurture children's creativity and aesthetic sensibilities through genuine exploration, experience and free expression;
4. Respond to the beauty in different Art forms;
5. Develop ability to appreciate the inherent rhythm, beauty and harmony in visual and performing art forms(specifically regional, traditional and classical art forms)
6. Enhance skills for integrating different Art forms across school curriculum at secondary level ;
7. Develop skill to create artistic pieces through waste materials;
8. Develop awareness regarding the rich cultural and artistic heritage of India and the specific regions;
9. Develop awareness regarding the role of arts and crafts in the society and day-to-day life situation;
10. Get acquainted with the life and work of the local artists/artistes;
11. Deepen understanding, appreciation and skills in one chosen medium through self work and evaluate self as an artist;
12. Develop the ability to use drama and other visual and performing art processes to generate new

knowledge, understanding and perception of the world;

13. Get acquainted with the vast range of the regional and traditional art forms in the light of National Integration.
14. Gets an opportunity for self expression resulting in emotional harmony.
15. Communicate important social issues through drama.

COURSE CONTENT

Note : The entire course will be based on practical oriented.

UNIT - I: Visual Arts and Crafts

Experiencing visual and plastic resources and means of creative expression:

1. Exploration and Experimentation with different '*materials'* of two dimensional and three dimensional Visual Arts - such as lines, strokes, colours, shades, tones, textures etc. by rendering through pencil, charcoal, crayon and pastel, pen and ink, water, poster and acrylic colours, rangoli, alpana, and mandana materials, clay and metal scraps wire, thread, cloured papers, printed materials from magazines and news paper, cardboards and other available throw away materials.
2. Exploration, experimentation and expressing with different techniques of Visual Arts like Sketching; Drawing; Painting; Poster making; Chart making; Block and Stencil printing; Collage and Mosaic work with a variety of coloured papers and coloured printed pictures/ photographs from magazines and news papers; Clay modeling; Hanging mobiles and Stables; Paper cutting and folding, and other local crafts work etc.
3. Framing and displaying of Art works.

UNIT–II Performing Arts: Dance, Music, Theatre and Puppetry Performing arts: Music and Dance
Experiencing Rhythmic and Kinetic resources and means of creative expression through:
1. Exploration and Experimentation with the terms used in Music and Dance like-Nada, Swara (Shudha, Komal, Tivra), Saptak, Sargham, Mandra, Madhyama, Tar, Arohi Avarohi, Raga, Ragini, Laya, Maatra, Tal, Avartal, Mishra Sam Tal, Gati, Padghat, Classical, Regional and Folk forms of Music and Dance and other related elements.
2. Listening/viewing and exploring Regional Art forms of music and dance through live and recorded
performances.

PAPER CODE-9674

Course 59 - OPTIONAL COURSE
1. HEALTH AND PHYSICAL EDUCATION

Objectives: On completion of the course the student teacher will be able to:
1. Develop Physical fitness.
2. Understand the concept, aims & objectives of Health & physical education.
3. Understand various communicable diseases
4. Understand and practice good posture, Balance diet, first aid
5. Understand the characteristics of hygienic environment along with contributing factors and its importance.
6. Understand the rules & regulations and develop skill of organizing different physical education activities.
7. Develop competencies in games & athletic events
8. Conduct tournaments, competitions & Athletic Meets.

COURSE CONTENTS

UNIT-I Health Education

1. Meaning, Concept, Aims & Objectives, School Health Programme. Nutrition & Balanced Diet Components of balanced diet, major sources & mal nutrition.

2. Posture Concept & values Postural deformities and their management.

3. Communicable diseases Mode, Control & Prevention Physical fitness & first aid Physical fitness

meaning, elements & importance. First aid in the following- Wounds, cuts, Hammaerage, dislocation, fracture, bites of insects, sprain & strain.

UNIT-II Physical Education

1. Concept, definition, aims, objectives and importance. Its place in school programme. A suggestive physical education programme in an Indian school

UNIT-III Management & organization of different physical education activities.

1. Rules of important major games and sports. Methods of marking a standard track (400 m), Connected areas & their rules.

2. Organization, Management & administration of tournaments, intramurals, play day, health day, play centers and other similar activities. Organizing Indigenous games like Kho-Kho, Kabbadi, Malkham etc.Indian street games-Satoliya, Gilli–Danda, and Rumal Jhapatta etc.

3. Officiating, Coaching, fundamental skills & ground marking of any two major games.

SESSIONAL WORK

Any one of the following:

1. Organize games / sports / health activities during OAS/SUPW Camp
2. Conduct awareness programme on issue of social health
3. Prepare an exhibition / awareness rally/poster competition on health awareness in nearby schools.
4. Organize a programme on health & hygiene.
5. Organize intramurals.

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3. Physical Education and Health- Dr. A.K. Uppal, Dr. G.P. Gautam, Friends Publications, New Delhi.

4. Physical activities for Secondary School (T.IP.E. Kandivali Bombay-Sub).

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2. GUIDANCE AND COUNSELLING

Objectives: On completion of this course the student will be able to:-
1. Understand the meaning, nature and scope of guidance.
2. Understand various types of guidance.
3. Develop skills in administrating and interpreting testing and non testing tools of data collection.
4. Know and use the information and methods of guidance programme of special learners.
5. Understand with the meaning, nature and techniques of counselling.
6. Develop/learn the skills to organize guidance programme in the secondary schools.

COURSE CONTENTS

UNIT-1 Introduction to Guidance and Counselling

1. Meaning, Purpose, Scope, Nature and Functions of Guidance.
2. Need of Guidance at various stages
3. Principles of Guidance
4. Types of Guidance: Educational, Vocational and Personal guidance (Their Meaning, Objectives, needs and Importance)
5. Guidance services: Need and Importance
6. Types of Guidance Service, Individual inventory service, Information Service, Counselling Service,
Follow up service.

UNIT-2 Guidance Programme, Services and Procedures

1. Individual and group procedure of guidance and counselling.
2. Characteristic of good guidance programme.
3. Group guidance Techniques, Class-talks, Career Talks, Career Conference, Group discussion, Career exhibitions, Audio-Visuals Techniques.
4. Role of various community Agencies in school guidance progrmme.
5. Out line of minimum guidance programme at secondary on senior secondary level.

6. Meaning of Nature of Counselling and Role of Teachers as a Counsellor

UNIT-3 Guidance for special learner and Tools and Techniques

1. Concept of special learner Guidance needs of special learner
2. *Guidance methods for*
3. Special learner
4. Case study method
5. Remedial measures
6. *Tools and Techniques*
7. Types of tools
8. Standardized and self made tools
9. Techniques; Interview; Observation; Rating Scale & Check List
10. *Sources of Collecting data*
11. Cumulative record card
12. Anecdotal record card
13. Autobiography

PRACTICUM/SESSIONAL WORK

Any one of the following:-

1. Group Guidance – One career talk
2. Critical study of guidance programme in any senior secondary school.
3. Survey of Guidance needs of Adolescents
4. Celebration of Career day ensuring participation of all

SUGGESTED READING

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2. Asch, M. (2000). Principles of Guidance and Counselling, New Delhi: Sarup and Sons
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24. वर्मा, रामपाल सिंह, उपाध्याय राधावल्लभ – शैक्षिक एवं व्यावसायिक निर्देशन, विनोद पुस्तक मंदिर, आगरा

3. PEACE EDUCATION

Objectives: On completion of this course the student will be able to-

1. Explain about peace and peace education, their relevance and connection to inner harmony as well as harmony in social relationships.
2. Understand the views of different philosophies about peace.
3. Understand importance of Peace and factors responsible for disturbing peace.
4. Understand and resolve conflicts within self and in society.
5. Use pedagogical skills and strategies in and out of classroom for promoting peace.

COURSE CONTENT

UNIT-I Understanding peace as a dynamic Social reality

1. Concept, Need and importance of peace education.
2. Peace values vis-a-vis constitutional values : Importance of the attitudes, beliefs and values of peace viz compassion, cooperation, love etc. that foster inner peace and constitutional values of justice , equality, freedom, respect for differences and ecological resources that ensure peace in society.

3. Challenges to peace by increasing stresses, conflicts crimes, terrorism, violence and wars resulting in poor equality of life.

4. Nature and causes of conflicts.

5. Conflicts at different levels in society: With himself, interpersonal, intrapersonal, organizational, interstate and global.

6. Role of Social and Ecological condition and processes that sustain conflict: limited resources, poverty, political interest, economic interest, socio-cultural and ecological conditions, environmental

resources viz. water, mineral, forests, energy etc.

UNIT-II Role of various thinkers and agencies in promoting peace

1. Concept of Peace according to the following thinkers - Gandhi, Krishnamurthy, Aurbindo, Vivekananda, Rabindranath Tagore, Gijubhai Badheko, Mother Terasa initiatives at National and International levels.

2. Agencies contributing to peace – UNESCO, Gandhi Peace Foundation etc.

UNIT-lll Empowerment of Self

Awareness of the influence of Social milieu on self Understanding adequate self as a product of positive experiences of caring, warmth and appreciation in the family, school, neighborhood, etc. which promote healthy discipline, shunning violence.

1. Negative experiences generate stress, anger, aggressor

2. Yoga, meditation, anger/stress management, as practices that restore positive physical healthy and attitudes.

3. Role of different subjects in inculcation of PEACE.

4. Suggested Activities in schools for promoting peace.

a. Celebration of Festivals of different religions/ important days

b. Exposure to personalities working or fostering peace in society.

c. Practice of Yoga & Meditation.

d. Peace Rallies

5. Intervention in resolution of societal conflicts.

PRACTICUM/SESSIONAL

Any one of the following:-

1. Visits to organizations connected with peace and inter cultural harmony and aesthetic appreciation to experience peace as reality submission of reports on experiences.

2. Analysis of morning assembly programme of a school from the point of peace.

3. Preparation of a report on school programmes for promoting to Peace.

4. Case study of a child suffering from bad habit.

5. Developing an action plan for Peace in school and local community.

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Balasovriya, A.S. (1994) Teaching Pace to Children, National Institute of Education Maharagama, Sri Lanka.

Balasovriya, A.S. (2000) World Peace through School National Institute of Education, Maharagama.

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PAPER CODE-9675

Course 60 - INTERNSHIP PROGRAMME (School Internship Phase-II)

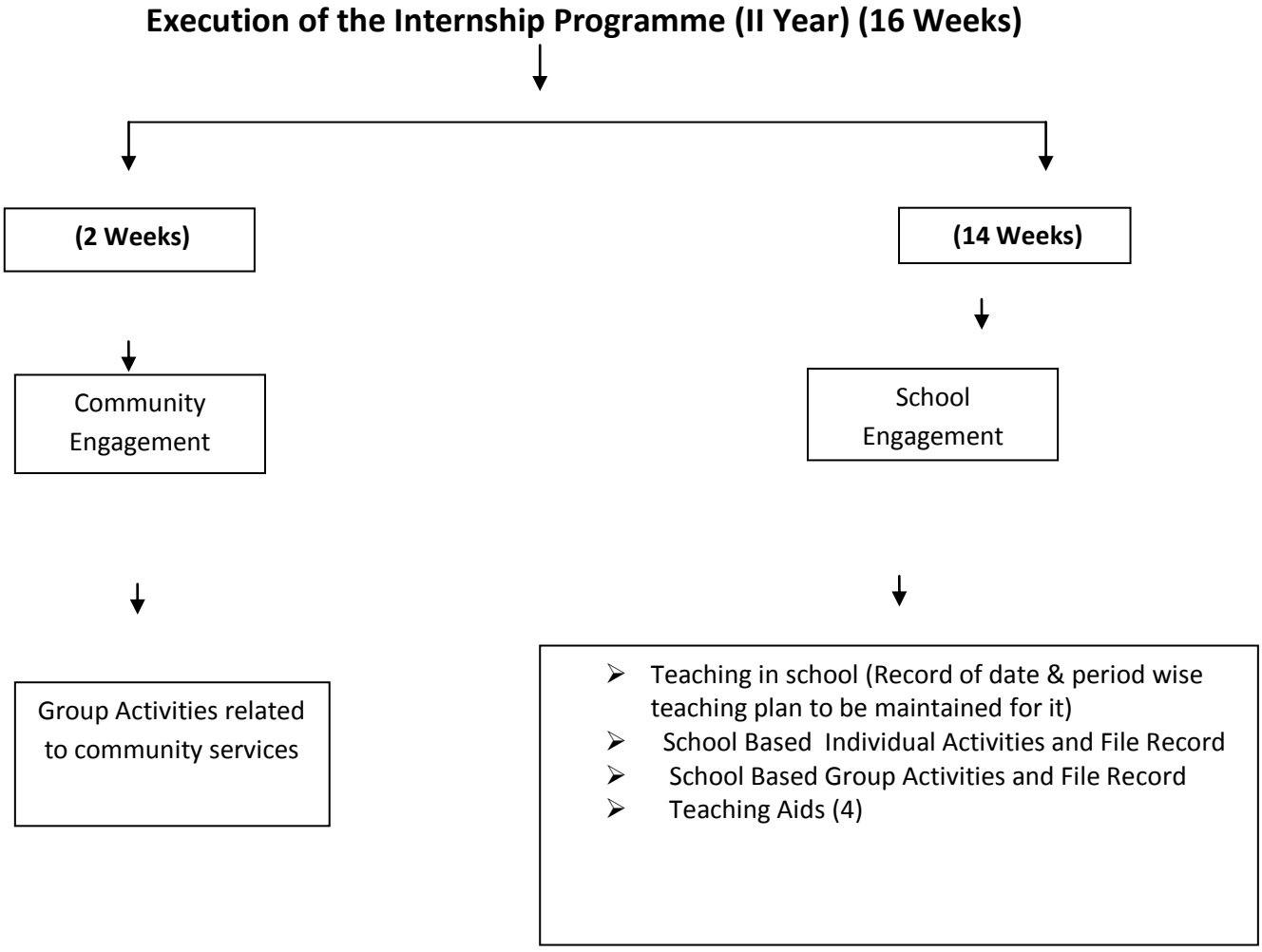
School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives: After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.

9. Get acquainted with the functioning of SMC.

As per the School Internship: Framework and Guidelines (Jan., 2016) of the NCTE Regulations, 2014, following revised plan of the School Internship is proposed for the consideration of the committee.



During the 14 weeks period of internship in schools, the student-teachers will perform the under mentioned tasks:-

1) Interact with Headmaster and mentor teachers of the school about the two teaching

Subjects he/she has offered.

2) They will teach at least 3-4 periods per day (Minimum of 200 lessons).

3) They will have to discharge the duties of a class- teacher of any class.

4) They will have to participate in the following activities individually as well as in group. The suggested individual and the group activities are as follows:-

A) <u>Individual Activity</u>

1. Preparation of time table of the school other than that in force.
2. Maintaining students' attendance and preparing a monthly record of students' attendance.
3. Maintaining Teacher's diary.
4. Case study of a special child.
5. A critical study and report of Institutional plan of the school.
6. Preparation of a progress report of a student of the class of which he /she is the

Class teacher.

7. Analysis of school syllabus and textbooks of their pedagogy subjects.

8. Undertaking of Action Research Project on at least one problem area of Schooling.

B) <u>Group Activity</u>

1. Organising Morning Assembly
2. Organising Literary and Cultural Activities
3. Organising Games and Sports Activities

4. Participation in Parent's-Teacher Meeting and Meeting of School Management Committee (SMC)
5. Observing and participating in Mid-day Meal Programme
6. Organising Science Club or other Club Activities
7. Maintaining discipline in the school.
8. Participating in Community Contact Programmes like- Rallies, awareness Campaigns, community health campaigns, cleanliness campaigns and so on.

NOTE: - From group activities (1) to (7), each student- teacher has to participate in at least 5 of the activities and activity no. (8) Is compulsory for all student-teachers

5) Study of various records maintained by the school (for instance, stock register, service book, letter receipt & dispatch register, Library book accession & issue register, scholar register, leave account, T.A. bill etc.)

NOTE: - Each student - teacher has to submit a file in which detailed reports of all the activities and tasks observed and discharged by him/her are to be mentioned along with reflective thinking. A viva- voce will be conducted after the internship programme. The file record, the viva-voce and the lesson plan diary will form the basis of assessment of the internship programme. The student-teachers performance shall be assessed jointly by the TEI Principal and faculty (The grade recommended for a particular student by the Principal and mentor teachers of internship school must also be considered.)

Evaluation for Internship Programme

Evaluation for internship programme will consist of two parts – Internal Evaluation & External Evaluation, the details of which are as follows:

INTERNAL EVALUATION		
1	Teaching in Schools (Record of date and period wise teaching plan to be maintained for it.	100
2	Individual Activities and File Record	80
3	Group Activities and File Record	30
4	Teaching Aid (4)	20
5	Community Engagement and Report writing	20
	Total Marks	**250**
	Course-61EXTERNAL EVALUATION Paper code 9676	
1.	Viva-Voce for Internship Programme (50 marks) Written test based on internship (50 marks) Power point presentation and documentation of internship (50 marks)	150
	Total Marks	**400**

Note:-

1. The grand total for the internship programme of both the years is 550 marks (150+400)
2. The weightage of external evaluation (Viva-voce for II Year) of internship will be 150 marks.

3. During the viva- voce, student will present all the records of the work done during the internship (II Year) programme viz. teaching in school, individual and group activities.
4. Power point presentation (including videos of various activities) of the work done by the students during the second year of internship is desirable at the time of viva-voce.

The Board of examiners for Viva-voce will consist of:

a) The Principal of the college concerned.

b) One senior member of the college. (Preferably Internship Incharge)

c) Two external members appointed by the university.

SYLLABUS

Department of Education

FACULTY OF EDUCATION

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR

SCHEME OF EXAMINATION AND COURSE OF STUDIES

BACHELOR OF EDUCATION (B.Ed.)

TWO- YEARS PROGRAMME
YEAR 2017-18, 2018-19,

Department of Education

FACULTY OF EDUCATION

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR

INDEX (FIRST YEAR)

INDEX (SECOND YEAR)

Department of Education

FACULTY OF EDUCATION

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR

Scheme of Examination and Course Of Studies

BACHELOR OF EDUCATION (B.Ed.)

(B.Ed. Programme Is a Full Time, Two Academic Session Programme; Each Session will Be of 200 Days Duration)

1. INTRODUCTION

Destiny of a nation is shaped in its classrooms and teacher is the architect who shapes the destiny. Enlightened, emancipated and empowered teachers lead communities and nations towards better and higher quality of life. Teachers are expected to create soul cohesion, national integration and a learning society. They disseminate knowledge and generate new knowledge. It is therefore, essential for nation to have a sound and effective programme of teacher preparation. The teacher education programme needs to be upgraded and updated periodically.

A perusal of the reports of various commissions and committees indicate the preference for longer duration of B.Ed. programme. It was also endorsed by the Hon'ble Supreme Court of India in its judgement on 15 June 1993. "The Teachers Training Institutes are meant to teach children of impressionable age and we cannot let loose on the innocent and unwary children the teachers who have not received proper and adequate training. True, they will be required to pass the examination but that may not be enough. Training for a certain minimum period in a properly organised training institute is essential before a teacher may be duly launched." The NCTE (2009) recommended a two year B.Ed. programme. Earlier too in 1998 NCTE had recommended two year B.Ed. programme in its earlier curriculum framework.The NCERT had prepared two year B.Ed. curriculum and launched it in the Regional Institutes of Education in 1999.

Now, finally the NCTE has recommended that the B.Ed. course should be of two years duration and has prepared a Curriculum Framework for Two year B.Ed. Programme.Mohanlal Sukhadiya University also decided to introduce Two Year B.Ed. programme and has prepared a detailed course of study and Scheme of Examination for two years B.Ed. course on the basis of guideline given in the curriculum framework.The two year B.Ed. course will come in to force from the session commencing in 2015.

The two-year B.Ed. course aims at a complete development of the student-teacher; particularly in knowledge and skills, in individual care of the learner and also in methods and evaluation designed to facilitate learning. This course is divided into two parts. It aims at developing understanding of and competence to render disciplinary knowledge into forms relevant to stage specific understanding of teaching-learning situation apprehended through intensive study of conceptual explanations, observation and analysis of live classroom situations as well as hand-on experiences and longer duration of field experience. Interactive processes, i.e. group reflection, critical thinking and meaning-making have been encouraged. The maturity of student-teachers has been kept in mind while visualizing modes of learning engagements; instead of continuous teacher monitoring, greater autonomy to learners has been given in accordance with andragogic principles of learning. The syllabus retains the essence of student-teachers being active participants in the learning process and prepares the student-teachers for facing the emerging challenges resulting out of globalization and its consequences.

Therefore it becomes essential for any nation to give necessary professional inputs to its teachers. Mohanlal Sukhadia University pursues the following curriculum for its pre-service teacher training programme. The curriculum also aims at developing language proficiency of the pupil teacher by providing him opportunities through different activities and course content.

2. PROVISIONS FOR ADMISSION TO B.ED. COURSE

Admission shall be made on merit on the basis of marks obtained in the qualifying examination and / or in the entrance examination or any other selection process as per policy of the State Government/ and the University.

Duration

The B.Ed. Programme shall be of duration of Two Academic Years, which can be completed in a Maximum of Three Years from the date of the admission to the programme.

Working Days

1. There shall be at least Two Hundred (200) Working Days each year exclusive of the period of examination and admission.
2. Institution shall work for a minimum of thirty six hours a week, during which physical presence in the institution of all the teachers and student teachers is necessary to ensure their availability for advice, guidance, dialogue and consultation as and when needed.
3. The minimum attendance of student-teachers shall have to be 75% for all course work and practicum, and 90% for school internship.

Eligibility

Candidates with at least 50% Marks either in Bachelor Degree and /or in Master Degree in Science/ Social Sciences/ Humanities/Commerce, Bachelor in Engineering of Technology with specialization in Science and Mathematics with 55% Marks or any other Qualification equivalent thereto, are eligible for admission to the programme. Relaxation in case of reservation catagories will be as per state government guidelines.

3. OBJECTIVES OF THE COURSE

The objectives of theory course prescribed for the B.Ed. course are as follows:

1. To develop competence to teach subjects of their specialization on the basis of an adequate theory of learning and a sound knowledge of the subjects.
2. To develop interest, attitude and knowledge which will enable them (i) to foster the all-round growth and development of children under their care and (ii) to provide guidance to individual pupils?
3. To develop an understanding of the aims and objectives of education in the Indian background and to promote an awareness of the role of the school and the teacher in realizing these aims and ideals.
4. To develop an understanding of the close relationship between societies and the school, between life and school work.
5. To become self-regulated learners; develop professional commitment and work as responsible professionals.
6. To make them comfortable with content and pedagogical effective use and utilization of ICT.
7. To enable them to critically analyse the various evaluation tools to serve CCE.
8. To reflect on teacher practices and interface with societal resources
9. To build up professional consciousness.

The objectives of practical work prescribed for the B.Ed. course are as follows:

To develop the ability and self-confidence of pupil teachers to-

1. Be conscious of a sense of values and need for their inculcation in children through all available means including ones own personal life.
2. Posses a high sense of professional responsibility.
3. Develop resourcefulness so as to make the best use of the situation available.

4. Appreciate and respect each child's individuality and treat him as an independent and integrated personality.
5. Arouse their curiosity and interest and secure their active participation in the education process.
6. Develop capacity for thinking and working independently and guide them to that end.
7. Organize and manage the class for teaching learning.
8. Appreciate the dynamic nature of the classroom situation and teaching techniques.
9. Define objectives of particular lessons and plan for achievement.
10. Organize the prescribed subject matter in relation to the needs, interest and abilities of the pupils.
11. Use appropriate teaching methods and techniques.
12. Prepare and use appropriate teaching aids, use of the black board and other apparatus and materials properly.
13. Convey ideas in clear and concise language and in a logical manner for effective learning.
14. Undertake action research.
15. Give proper opportunity to the gifted pupils and take proper care of the pupils with special need.
16. Correlate knowledge of the subjects being taught with other subjects and with real life situations as and when possible.
17. Prepare and use assignment.
18. Evaluate pupil's progress.
19. Plan and organize co-curricular activities and participate in them.
20. Co-operate with the school teachers and administrators and learn to maintain school records and registers.

Learning Outcomes

After the completion of the course the student teacher is expected to attain the following learning outcomes:

1. Competence to teach effectively two school subjects at the secondary/senior secondary level.
2. Ability to translate broad objectives of secondary/senior secondary education in terms of specific programmes and activities in relation to the curriculum.
3. Ability to understand children's needs, motives, growth pattern and the process of learning to stimulate learning and creative thinking to foster growth and development.
4. Ability to use (a) individualized instruction and (b) dynamic methods in large classes.
5. Ability to examine pupil's progress and effectiveness of their own teaching through the use of proper evaluation techniques.
6. Use of Equipment for diagnosing pupil's difficulties and deficiencies in achievement and dealing with them through remedial work.
7. Readiness to spot talented and gifted children and capacity to meet their needs.
8. Ability to cater to the need of children with special needs.
9. Ability to organize various school programmes, activities for pupils.
10. Ability to provide guidance in educational, personal and vocational matters.
11. Ability to asses the all round development of pupils and to maintain a cumulative record.
12. Development of certain practical skills such as:
    (a) Black board work
    (b) Preparing improvised apparatus
    (c) Preparing teaching aids
13. Developing professional competence.
14. Readiness to participate in activities of professional organizations.

4. MODES OF LEARNING ENGAGEMENT

Overall Intention of Modes of Learning Engagement

1. The Curriculum is so designed that the student-teachers internalise the nature of education and pedagogic process through enriched experiences.

2. The kinds of learning engagement suggested will contribute to reduction of the gap between theory and practice by dovetailing both appropriately.
3. The Curriculum emphasises the use of varied modes of learning engagement in accordance with the requirements.
4. Interactive processes wherein group reflection, critical thinking and meaning making will be encouraged.
5. In this respect, critical theory, critical pedagogy and critical thinking become very crucial theoretical inputs and are embedded implicitly in various courses.
6. While visualising modes of learning engagement, the nature of student teachers who are adults has been kept in mind. Instead of continuous teacher monitoring greater autonomy to learners has been recommended which is more relevant and in accordance with the andragogic principles of learning.
7. Multiple learning engagements visualised being more active/interactive, the course work is clearly not meant to be burdensome and 'memorybased', but challenging and engaging.

Some Specific Modes of Learning Engagement Envisaged

1. Overarching lectures-cum-discussion
2. Use of narratives based on research and documentation
3. Project reviews
4. Case studies
5. Use of video-clips and transcripts of classroom teaching
6. Success stories/ innovations
7. Observation in schools and other field sites
8. Recording of observations and experiences
9. Interviews with school personnel
10. Panel of group discussion on issues
11. Individual projects
12. Journal writing
13. Using library and ICT resources.

These are suggestive modes of learning engagement. Teacher educators will have to create, design and evolve different modes of learning engagement based on the course and suited to the needs of student teachers.

Enhancement of Learning through School-based Experiences

Most courses require school experience for various purposes. Some significant aspects of these experiences are outlined:

1. School visits and observations spread over the years, including
    a) Observation visits
    b) School attachment
    c) Longer duration attachment, along with mentoring
2. School as a site for practical learning linked with theory
3. Single school visit for carrying out tasks related to more than one course
4. Exposure to variety of schools in order to understand larger systemic issues
5. School-based experience to learn not only classroom pedagogy, but also learning to function as a teacher in the school environment.

5. COMPONENTS OF THE B.Ed. PROGRAMME

The programme shall comprise three broad curricular areas – Perspectives in Education, Curriculum and Pedagogic Studies and Engagement with the Field. The courses under each of these areas are as follows:

I. Perspectives in Education

Perspectives in Education include courses in the study of childhood, child development and adolescence, contemporary India and education, theoretical foundations of knowledge and curriculum, teaching and learning, gender in the context of school and society, and inclusive education. The following are the five courses to be transacted in the two year period, under the curricular area of Perspectives in Education:

Course 1 Childhood and Growing Up
Course 2 Contemporary India and Education (Including Gender, School and Society)
Course 3 Learning and Teaching
Course 13 Knowledge and Curriculum
Course 15 Educational Management and Creating an Inclusive School

The course on 'Childhood and Growing up' shall enable student-teachers to engage with studies on Indian society and education, acquire conceptual tools of sociological analysis and hands-on experience of engaging with diverse communities, children and schools. The course on 'Contemporary India and Education' shall develop a conceptual understanding about issues of diversity, inequality and marginalization in Indian society and the implications for education, with analyses of significant policy debates in Indian education. The course on 'Teaching and Learning' will focus on aspects of social and emotional development; self and identity, and cognition and learning. 'Knowledge and Curriculum' shall address the theoretical foundations of school knowledge from historical, philosophical and sociological perspectives, with critical analysis of curricular aims and contexts, and the relationship between curriculum, policy and learning. The course on 'Creating an Inclusive School' shall develop an understanding of the cultures, policies and practices that need to be addressed in order to create an inclusive school.

II. Curriculum and Pedagogic Studies

Curriculum and Pedagogic Studies offers a study of the nature of disciplines, critical understanding of the school curriculum; pedagogy as the integration of knowledge about the learner, the discipline and the societal context of learning, and research relating to different aspects of young children's learning. The design of the programme would enable students to specialize in two subject areas, at secondary level of school. The courses under the curricular area of 'Curriculum and Pedagogic Studies' for the two year period include:

Course 4 **Language across the Curriculum (Including Reading and Reflecting on Texts)**
Course 5 **Pedagogy of a School Subject (Including Understanding Disciplines and Subjects First)–Part I**
Course 6 **Pedagogy of a School Subjec(Including Understanding Disciplines and Subjects Second)–Part I**
Course 11 **Pedagogy of a School Subject (First) - Part II**
Course 12 **Pedagogy of a School Subject (Second) - Part II**
Course 14 **Assessment for Learning**
Course 17 **Optional Course**

I. Vocational/Work Education
II. Health and Physical Education
III. Peace Education
IV. Guidance and Counseling
V. Innovations and Action research

These courses shall aim to develop in students an understanding of the curriculum, linking school knowledge with community life. A variety of investigative projects, that link with curricular area III given below, shall be included to reconstruct concepts from subject knowledge though appropriate pedagogic processes that communicates meaningfully with children.
Optional courses will be offered in areas such as Vocational/Work Education, Health and Physical Education, Peace Education, Guidance and Counselling,

To opt for the pedagogy of a school subject, the student teacher shall have to offer any two teaching subjects out of the following papers, which he/she has studied at Graduation /P.G. level for at least two years:

The pedagogy of a school subject:

1- Pedagogy of Hindi.
2- Pedagogy of English.
3- Pedagogy of Sanskrit.
4- Pedagogy of Urdu.
5- Pedagogy of Rajasthani.
6- Pedagogy of Mathematics.
7- Pedagogy of General Science.
8- Pedagogy of Physics.
9- Pedagogy of Chemistry.
10- Pedagogy of Biology.
11- Pedagogy of Home Science.
12- Pedagogy of Computer Science
13- Pedagogy of Social Science.
14- Pedagogy of Sociology
15- Pedagogy of Psychology
16- Pedagogy of History.
17- Pedagogy of Political Science.
18- Pedagogy of Economics.
19- Pedagogy of Geography.
20- Pedagogy of Art.
21- Pedagogy of Music.
22- Pedagogy of Business Studies
23- Pedagogy of Financial Accounting

III. Engagement with the Field –(*the Self, the Child, Community and School*)

This curricular area would have three components –

1. Tasks and Assignments that run through all the courses as indicated in the year wise distribution of the syllabus

2.School Internship

3.Courses on Enhancing Professional Capacities (EPC- Internal assessment)

Course 7: Drama and Art in Education
Course 8: Critical Understanding of ICT
Course 9: Open Air Session / SUPW Camp
Course 16: Understanding the Self

6. INTERNSHIP

Apart from teaching practice experience in school, the student- teacher should function as a regular teacher in a school (i.e. taking attendance, organizing and participating in all the school activities, like assembly, games, Balsabha, cultural and literacy programmes, examination papers, maintenance of school record etc.)

The trainee-teacher should prepare a report about the school experience with specific reference to their chosen areas of specialization.

Internship may also be utilized for completing the application based assignment of the theory papers.

Having gained some experience with the child, the community and schools in Year 1, the second year would offer intensive engagement with the school in the form of School Internship. During the first year,

to support better understanding of schools and in preparation of Internship, teacher education institutes shall make provisions for visits to innovative centres of pedagogy and learning - innovative schools, educational resource centres, etc.

During the Internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children. Before teaching in a classroom, the student-teachers will observe the school and its classrooms for a week, to understand the school in totality, its philosophy and aims, organisation and management; the life of a teacher; needs of the physical, mental, emotional development of children; aspects of curriculum and its transaction; quality, transaction, and assessment of teaching–learning.

School Internship shall be designed to lead to the development of a broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. Student teachers shall be equipped to cater to diverse needs of learners in schools.They should be provided opportunities to teach in government/private schools with systematic supervisory support and feedback from faculty. Internship in schools is to be done for a minimum duration of 16 weeks. This should include an initial phase of one week for observing a regular classroom with a regular teacher and would also include peer observations, teacher observations and observations of interns' lessons by faculty. It is important that the student-teachers consolidate and reflect on their teaching experience during and after the school internship. Therefore, along with writing reflective journals during the internship programme, there shall be space for extended discussions and presentations on different aspects of the teaching experience after the internship.

For each student-teacher, internship should be conducted in one school for the entire 16 weeks.

7. THE CURRICULAR DETAILS FOR TWO YEARS

ANNUAL DISTRIBUTION OF THE COURSES

I-Year

Course No.	Paper Code	Nomenclature	Scheme
Course 1	9101	Childhood and Growing Up	100 marks (80+20)
Course 2	9102	Contemporary India and Education (Including Gender, School and Society)	100 marks (80+20)
Course 3	9103	Learning and Teaching	100 marks (80+20)
Course 4	9104	Language across the Curriculum (Including Reading and Reflecting on Texts)	100 marks (80+20)
Course 5	9105-9127	Pedagogy of a School Subject (Including Understanding Disciplines and Subjects First) –Part I	100 Marks (80+20)
Course 6	9105-9127	Pedagogy of a School Subject (Including Understanding Disciplines and Subjects Second) –Part I	100 Marks (80+20)
Course 7	9128	Drama and Art in Education *Internal assessment*	50 marks
Course 8	9129	Critical Understanding of ICT *Internal, External assessment*	100 marks (50 Internal & 50 External)
Course 9	9130	Open Air Session / SUPW Camp *Internal assessment*	50 marks

Course 10	9131	School Internship (Phase-I, 4 Weeks) *Internal assessment* *(Pre-Practice Teaching, Practice Teaching)* Engagement with the Field: Tasks and Assignments for Courses 5 & 6	200 marks
Course 11	9132	*External Assessment* One Lesson Of Pedagogy of a School Subject	100 marks
		Total	**1100 marks**

II-Year

Course No.	Paper Code	Nomenclature	Scheme
Course 12	9201-9223	Pedagogy of a School Subject (First) – Part II	50 marks (40+10)
Course 13	9201-9223	Pedagogy of a School Subject (Second) – Part II	50 marks (40+10)
Course 14	9224	Knowledge and Curriculum	100 marks (80+20)
Course 15	9225	Assessment for Learning	100 marks (80+20)
Course 16	9226	Educational Management and Creating an Inclusive School	100 marks (80+20)
Course 17	9227	Understanding the Self *Internal assessment*	50 marks
Course 18	9228	Optional Course* (Any one) I. Vocational/Work Education II. Health and Physical Education III. Peace Education IV. Guidance and Counseling V. Innovations and Action research	50 marks (40+10)
Course 19	9229	School Internship (Phase-II, 16 Weeks) *Internal assessment* Engagement with the Field: Tasks and Assignments for Courses 12 & 13	250 marks
Course 20	*9230*	*External Assessment* Viva-Voce for School Internship Subject	150 marks
		Total	**900 Marks**

8. MLSU PAPER CODE (THE CURRICULAR DETAILS FOR TWO YEARS)

I-Year

Course No.	Paper Code	Nomenclature	Scheme
Course 1	9101	Childhood and Growing Up	100 marks (80+20)
Course 2	9102	Contemporary India and Education (Including Gender, School and Society)	100 marks (80+20)
Course 3	9103	Learning and Teaching	100 marks (80+20)
Course 4	9104	Language across the Curriculum (Including Reading and Reflecting on Texts)	100 marks (80+20)
Course 5	9105-9127	Pedagogy of a School Subject (Including Understanding Disciplines and Subjects First) –Part I	100 Marks (80+20)
Course 6	9105-9127	Pedagogy of a School Subject (Including Understanding Disciplines and Subjects Second) –Part I	100 Marks (80+20)
Course 5 & 6	9105	1- Pedagogy of Hindi	
	9106	2- Pedagogy of English	
	9107	3- Pedagogy of Sanskrit	

	9108	4- Pedagogy of Urdu	
	9109	5- Pedagogy of Rajasthani	
	9110	6- Pedagogy of Mathematics	
	9111	7- Pedagogy of General Science	
	9112	8- Pedagogy of Physics	
	9113	9- Pedagogy of Chemistry	
	9114	10- Pedagogy of Biology	
	9115	11- Pedagogy of Home Science	
	9116	12- Pedagogy of Computer Science	
	9117	13- Pedagogy of Social Science	
	9118	14- Pedagogy of Sociology	
	9119	15- Pedagogy of Psychology	
	9120	16- Pedagogy of History	
	9121	17- Pedagogy of Political Science	
	9122	18- Pedagogy of Economics	
	9123	19- Pedagogy of Geography	
	9124	20- Pedagogy of Art	
	9125	21- Pedagogy of Music	
	9126	22- Pedagogy of Business Studies	
	9127	23- Pedagogy of Financial Accounting	
Course 7	9128	Drama and Art in Education *Internal assessment*	50 marks
Course 8	9129	Critical Understanding of ICT *Internal, External assessment*	100 marks (50 Internal & 50 External)
Course 9	9130	Open Air Session / SUPW Camp *Internal assessment*	50 marks
Course 10	9131	School Internship (Phase-I, 4 Weeks) *Internal assessment* *(Pre-Practice Teaching, Practice Teaching)* Engagement with the Field: Tasks and Assignments for Courses 5 & 6	200 marks
Course 11	9132	*External Assessment* One Lesson Of Pedagogy of a School Subject	100 marks
		Total	**1100 marks**

II-Year

Course No.	Paper Code	Nomenclature	Scheme
Course 12	9201-9223	Pedagogy of a School Subject (First) – Part II	50 marks (40+10)

Course 13	9201-9223	Pedagogy of a School Subject (Second) – Part II	50 marks (40+10)
Course 12 &13	9201	1- Pedagogy of Hindi	
	9202	2- Pedagogy of English	
	9203	3- Pedagogy of Sanskrit	
	9204	4- Pedagogy of Urdu	
	9205	5- Pedagogy of Rajasthani	
	9206	6- Pedagogy of Mathematics	
	9207	7- Pedagogy of General Science	
	9208	8- Pedagogy of Physics	
	9209	9- Pedagogy of Chemistry	
	9210	10- Pedagogy of Biology	
	9211	11- Pedagogy of Home Science	
	9212	12- Pedagogy of Computer Science	
	9213	13- Pedagogy of Social Science	
	9214	14- Pedagogy of Sociology	
	9215	15- Pedagogy of Psychology	
	9216	16- Pedagogy of History	
	9217	17- Pedagogy of Political Science	
	9218	18- Pedagogy of Economics	
	9219	19- Pedagogy of Geography	
	9220	20- Pedagogy of Art	
	9221	21- Pedagogy of Music	
	9222	22- Pedagogy of Business Studies	
	9223	23- Pedagogy of Financial Accounting	
Course 14	9224	Knowledge and Curriculum	100 marks (80+20)
Course 15	9225	Assessment for Learning	100 marks (80+20)
Course 16	9226	Educational Management and Creating an Inclusive School	100 marks (80+20)
Course 17	9227	Understanding the Self *Internal assessment*	50 marks
Course 18	9228	Optional Course* (Any one) I. Vocational/Work Education II. Health and Physical Education III. Peace Education IV. Guidance and Counseling V. Innovations and Action research	50 marks (40+10)

Course 19	9229	School Internship (Phase-II, 16 Weeks) *Internal assessment* Engagement with the Field: Tasks and Assignments for Courses 11 & 12	250 marks
Course 20	*9230*	*External Assessment* Viva-Voce for School Internship	150 marks
		Total	**900 marks**

9. EVALUATION

EVALUATION OF THEORY PAPERS

Some theory papers will carry a weightage of 100 marks, out of which 80 marks will be for external University Examination and 20 marks will be for internal sessional work. Out of 20 marks - 10 marks will be for sessional and 10 marks will be for mid-term test. In some of the papers carrying a weightage of 50 marks, 40 marks will be for external University Examination and 10 marks will be for internal sessional work. Out of 10 marks - 5 marks will be for sessional and 5 marks will be for mid-term test.

The final external examination paper for **80 marks will be of three hour's duration** and the paper for **40 marks will be of two hour's duration**.

1. Each question paper (80 MARKS) will have three sections- **Section A** will contain 10 very short answer type questions and the candidate will be required to attempt the entire ten questions. Each question will carry two marks. **Section-B** will contain 10 short answer type questions out of which a candidate is required to attempt any 5 questions (one question per unit to be attempted out of two questions per unit). Each question will carry 6 marks. **Section-C** will have 5 questions and a candidate will be required to attempt any three questions. There will be 10 marks for each question.
2. Each question paper (40 MARKS) will have three sections- **Section A** will contain 4 very short answer type questions and the candidate will be required to attempt all four questions. Each question will carry 2 marks. **Section-B** will contain 3 short answer type questions out of which a candidate is required to attempt any 2 questions. Each question will carry 6 marks. **Section-C** will have 3 questions with a choice of attempting any 2 questions. Essay type questions will carry 10 marks each.
3. Very short answer type questions would aim at testing of critical thinking, knowledge of concepts, facts, definitions, laws, principles, generalization etc. and also understanding of principles and concepts.
4. Short answer type questions would aim at testing knowledge, definitions, laws, generalization etc. and also understanding of concepts.
5. Essay type questions are to aim at testing the abilities of critical thinking and application of principles taught in theory.

Format of Eighty (80) marks question paper

Question Type	No. of Question per Unit	Total No. of Question	No. of Questions to be Attempted	Total Marks
Very short question type	2 per unit	10	10	10x2=20
short question type	2 per unit	10	5 (one question per unit to be attempted)	5x6=30
Long question type	1 per unit	5	3	3x10=30

Format of Forty (40) marks question paper

Question Type	No. of Question per Unit	Total No. of Question	No. of Questions to be Attempted	Total Marks
Very short question type	1/2 per unit	4	4	4x2=8
short question type	1 per unit	3	2	2x6=12
Long question type	1 per unit	3	2	2x10=20

EVALUATION FOR INTERNSHIP PROGRAMME

Evaluation for internship programme will consist of two parts – Internal Evaluation & External Evaluation, the details of which are as follows:

Practical Work in B.Ed. 1st Year

I- Pre-Practice Teaching

a) Practicing Teaching Skill (Minimum 05) 20

b) T.L.M. Workshop in Each Subject (5+5) 10

c) Simulated Teaching (5 Lesson in each subject) (5+5) 10

d) Blue Print & Test Preparation in Both Subject (5+5) 10

Total : 50

II. Practice Teaching

(A) Peer group lesson observation 10

Ordinary + Criticism – 5 lesson in each round (5+5)

(B) Practice Teaching two round one in each subject

In each subject 13 lesson + 1 test + 1criticism

Lessons- (50 + 50)	=	100
Test - (10 + 10)	=	20
Criticism- (10 + 10)	=	20
Total	=	**150**

III. External Practical Exam

Presentation in one subject - 100 Marks

Grand Total = 300 Marks

INTERNAL EVALUATION (Course-19) [II Year]		
1.	Teaching in Schools (Record of date and period wise teaching plan to be maintained for it.	100
2.	Individual Activities and File Record	80
3.	Group Activities and File Record	30
4.	Teaching Aid (4)	20
5.	Community Engagement and Report writing	20
	Total Marks	**250**
	EXTERNAL EVALUATION [II Year]	
1.	Course -20 Viva-Voce for Internship Programme	150
	Total Marks	**400**

EXTERNAL EVALUATION
[I YEAR]

1. The weightage of final lesson will be 100 marks. Final lesson will be conducted at the end of first academic year i.e. after the completion of 1st phase of internship.
2. During the final practical examination each candidate will have to teach one Lesson in any one of the two teaching subjects. However, he shall have to prepare lesson plan in both the teaching subjects and should be prepared to deliver lesson in both the subjects if required.
3. The Board of examiners for external examination will consist of:
   a) The Principle of the college concerned.
   b) One senior member of the college.
   c) Two external examiners appointed by the university.

   Note: - The selection of the faculty member and two examiners be such that, as for as possible, Board of Examiners represent all the three faculties-Humanities, Languages and Science.

EXTERNAL EVALUATION
[II YEAR]

1. The weightage of external evaluation (Viva-voce for 2nd phase) of internship will be 150 marks.
2. During the Viva voce, student will present all the records of the work done during the internship (2nd phase) programme viz. teaching in school, individual and group activities.
3. Power point presentation (Including Videos of various activities) of the work done by the students during the second phase of internship is desirable at the time of viva-voce.
4. The Board of examiners for Viva-voce will consist of:
   a) The Principle of the college concerned.
   b) One senior member of the college (Preferably Internship Incharge)
   c) One external examiner appointed by the university.

Evaluation of Open Air/SUPW Camp
(Internal Evaluation)

S. No.	Activity	Marks
1.	Participation in preparation of Camp	5
2.	Presentation of report of survey/ creative work	20
3.	Participation in Community Awareness Programme	15
4.	Participation in organizational process/community living/cultural and aesthetic activities	10
	Total Marks	50

10. WORKING OUT THE RESULT FOR AWARDING DIVISION

1. A candidate in order to be declared successful at the B.Ed. examination shall be required to pass separately in Theory and Practice of teaching.

2. For a pass in Theory a candidate shall be required to obtain at least-(a) 30% marks in each theory paper the (b) 36% marks in the aggregate of all the theory papers.

3. For a pass in Practice of Teaching a candidate shall be required to pass separately in the internal & external examinations and obtain at lest 40 marks in each.

4. University theory examination will be conducted at the end of each academic year and the final division will be awarded on the basis of aggregrate marks of the two academic years.

5. Practical examination (Final lesson) will be conducted at the end of the second academic session.

6. The successful candidates will be classified in three divisions and shall be assigned divisions separately in theory and practice of teaching as follows:

Division	Theory	Practice of teaching
I	60%	60%
II	48%	48%
III	36%	36%

11. PROPOSED SCHEME OF DISTRIBUTION OF TIME FOR THEORY & PRACTICE TEACHING

DAYS DISTRIBUTION

FIRST YEAR

THEORY	**– 165 DAYS**
PRACTICALS	**– 35 DAYS**
1. SCHOOL BASED OBSERVATION AND ENGAGEMENT WITH FIELD	- 6 DAYS
2. SCHOOL INTERNSHIP (Phase-I, 4 Weeks) (12- LESSON IN EACH SUB.)	-24 DAYS
3. OPEN AIR SESSION/ SUPW CAMP	-5 DAYS

SECOND YEAR

THEORY	**– 104 DAYS**
PRACTICALS	**– 96 DAYS**
1. SCHOOL OBSERVATION	- 6 DAYS
2. SCHOOL INTERNSHIP (Phase-II, 16 Weeks)	-90 DAYS

EXAMINATION SHEDULE

FIRST YAER - THEORY EXAM
EXTERNAL ASSESSMEN (One Lesson of Pedagogy of a School Subject)
SECOND YEAR - THEORY EXAM
EXTERNAL ASSESSMEN (Viva – Voce for Internship Programme)

TIME-SCHEDULE OF A WORKING DAY

Total Allocation per day	-	6 Hours
Prayer	-	15 Minutes
Lunch	-	30 Minutes
Periods *7X45* Minutes	-	315 Minutes
Total	-	360 Minutes (6) Hours

12. DISTRIBUTION OF PERIODS FOR THEORY PROGRAMME

FIRST YAER

(1) Per day – 7 period, Total days (165)

(2) Total periods-165x7=***1155*** period

1. Foundation Courses (Having 100 Marks) - **5 periods per week for each**
   Total Weeks - 27
   Total Periods - 4 x 6 x 27 = **648** Periods
   (Having 50 Marks) - **3 periods per week for each**
   Total Weeks - 27
   Total Periods - 2 x 3 x 27 = **162** Periods

2. Pedagogy Courses (Two Sub.) - 4 Periods per week for each paper
   Total Weeks - 27
   Total Periods - 2 x 4 x 27 = **216**

3. Library Periods 1 Periods per week - 1 x 27 = **27**

4. Tutorials & Society /House meetings one Periods per week 2 Periods per week
   - 2 x 27 = **54**

5. Cultural Activities 2 Periods per week - 1 x 27 = **27**

6. Community,Yoga & Other Activities - **21**

Total Periods = ***1155***

SECOND YEAR

(1) Per day – 7 period, Total days (104)

(2) Total periods-104 x 7 = ***728*** period

1. Foundation Courses (Having 100 Marks) - 6 periods per week for each paper
   Total Weeks - 17
   Total Periods - 3 x 6 x 17 = **306**

2. Pedagogy Courses & Foundation Courses (Having 50 Marks)
   - 4 Periods per week for each paper
   Total Weeks - 17
   Total Periods - 4 x 4 x 17 = **272**

3 .Library Periods 2 Periods per week - 2 x 17 = **34**

4. Tutorials 2 Periods per week - 2 x 17 = **34**

5. Cultural Activities 2 Periods per week - 2 x 17 = **34**

6. Society /House meetings one Periods per week - 1 x 17 = **17**

7. Community & Yoga - **31**

Total Periods = ***728***

SYLLABUS

FIRST YEAR

Course 1	*Childhood and Growing Up*
Course 2	*Contemporary India and Education (including Gender, School and Society)*
Course 3	*Learning and Teaching*
Course 4	*Language across the Curriculum (including Reading and Reflecting on Texts)*
Course 5	*Pedagogy of a School Subject (First) –Part I (including Understanding Disciplines and Subjects)*
Course 6	*Pedagogy of a School Subject (Second) –Part I (including Understanding Disciplines and Subjects)*
Course 7	*Drama and Art in Education Internal assessment*
Course 8	*Critical Understanding of ICT Internal assessment*
Course 9	*Open Air Session / SUPW Camp Internal assessment*
Course 10	*School Internship (phase – 1, 4 Weeks) Internal assessment Engagement with the Field: Tasks and Assignments for Courses 5 & 6*
Course 11	*External Assessment One Lesson Of Pedagogy of a School Subject*

PAPER CODE-9101

Course 1 - CHILDHOOD & GROWING UP

Objectives–After completion of the course the student teachers will be able to:-

1. Understand the Developmental characteristics of Childhood and adolescence.
2. Learn the Theories of development.
3. Understand Educational provisions of children at different stages of development.
4. Understand the Concepts and Components of Personality.
5. Know the Techniques of Personality Assessment.
6. Understand the Psycho-Analytic Theory of personality.
7. Understand the Concept and Importance of Mental Health and role of Teacher in Promoting Mental Health.
8. Acquire the Concept of Individual Variation and their Classroom Implications.
9. Understand nature and Characteristics of Intelligence.
10. Understand the Theories of Intelligence.
11. Acquire the skill of Measurement of Intelligence.
12. Understand concept and assessment of creativity and ways of fostering it.

COURSE CONTENT

UNIT- I Basic Concepts of Child Development

1. Meaning, Scope and Importance of studying Child Development.
2. Methods of study of Children- Case Study, Observation and Field Studies.
3. Basic Concepts in Child Development-Growth V/S Development, Maturation V/S Learning, Heredity vs. Environment (Family, Neighborhood, School and Community)
4. Principles of Growth and Development
5. Stages of Development.

UNIT- II Childhood

1. Characteristics of Childhood
2. Physical, Cognitive, social, Emotional and Moral development during childhood.
3. Factors affecting various developments during childhood.
4. Nature of Education during Childhood.
5. Theories of development – Piaget (cognitive), Erikson (Psychosocial).

UNIT- III Adolescence

1. Characteristics of adolescence development- Physical, Cognitive, Social and Emotional.
2. Impact of Urbanization, Economic, Social and Political changes on adolescence.
3. issues in adolescence and role of teacher -
   - Identity crisis and conflicts
   - Idealism and Hero worship
   - sexual abuse and harassment
   - Child Labour
   - Changing Family Structures
   - Peer Pressures
   - Pressure of Competition
   - Juvenile Delinquency
4. Guidance and Counseling of adolescents.

UNIT- IV Personality and Mental Health

1. Personality Concept, types and Components of Personality.
2. Psychoanalytic theory of Personality by Freud.
3. Factors affecting Personality development.
4. Assessment of Personality- Projective and Non-Projective Techniques.
5. Mental Health-
   a) Concept and Importance
   b) Types of Conflicts and Defense Mechanisms
   c) Role of Teacher in Promoting Mental Health

UNIT - V Individual Variations

1. Concept of Variation and Classroom,Implication with reference to Intelligence, Aptitude, Creativity.
2. Intelligence, Nature and Characteristics
3. Theories of Intelligence
   a) J.P. Guilford Structure of Intellect
   b) Howard Gardener's Theory of Multiple Intelligence.
   c) Daniel Goleman's Model of Emotional Intelligence.
4. Measurement of Intelligence and Types of Intelligence Tests.
5. Creativity: Concept, assessment and role of teacher in fostering creativity.

SESSIONAL WORK

Attempt any two (One from each section)

Section -A

1. Administration, Scoring, Interpretation of any one Intelligence test.
2. Administration, Scoring, Interpretation of any one Personality test.
3. Administration, Scoring, Interpretation of any one Test of Creativity.

Section –B

1. Preparation of case history of a child of any age group (Childhood to adolescence) from different Socio economic and cultural background in the context of family, school, neighborhood and community.
2. Study of any one psychosocial issues related to adolescence (Child labour, Juvenile Delinquency, Pressure of Competition).
3. Study of any one issue represented and highlighted by media (Sexual abuse and harassment, child labour etc).

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PAPER CODE-9102

Course 2- CONTEMPORARY INDIA & EDUCATION
(Including Gender, School & Society)

Objectives: Student teachers will be able to :-

1. Understand the diversified nature of Indian Society.
2. Understand the Marginalization and Inequality present in Indian Society.
3. Understand the Challenges and implications of Social diversity and inequality in school education.
4. Understand the role of Education in grooming children with respect to diversity.
5. Understand the Constitutional promises of freedom Social justice, equality and fraternity.
6. Critically examine the reflection of constitutional values in educational system.
7. Understand the policies related to education in pre and post independent india.
8. Critically examine the implementation of policies on education.
9. Understand the implications of Globalization, Privatization and Liberalization in education. 10 develop gender sensitivity and understand the gender discrimination in family, school and society.

COURSE CONTENT

UNIT- I Indian Society & Education

1. Meaning, Nature & purpose of Education:
   According to different thinkers i.e, Gandhi, Tagore, Aurobindo, Vivekananda, Rousseau and Dewey.
2. Concept of Social diversity, inequity and Marginalisation and role of Education to cope up with these issues.
3. Universalization of Education.

UNIT- II Education in India

1. Education in Pre Independence Period- Vedic Period, Buddhist Period, British Period.
2. Education in Post Independence Period- Education Commission (1966), NPE (1986), NCF (2005), Learning without burden (Yashpal Committee report) NCFTE (2009), Dellors Commission report- relevance to Indian conditions.

UNIT- III – Challenges in Education

1. Language policy Mutli lungal approach
2. Enhancement of quality in Education and role of SSA and RAMSA in this.
3. Increasing enrollment at different stages
4. Globalization, Liberalization, and Privatization and their implications in Education.

UNIT- IV Gender, School and Society

1. Gender Sensitivity and its importance for society.
2. Gender discrimination in Family, Society, and Schools.
3. Role of Education, Family, Media and legislation in developing gender parity.
4. Obstacles to and measures for Gender Sensitization.

UNIT – V - Values in Education –

1. Values: concept and classification, unity of all life and being); tolerance; Values in modern Indian context with the reference to the Indian Constitution. Rights and Duties of a citizen as stated in constitution.

2. Value Education and role of school. Human rights & danger to Social Security, Role of Education in safe guarding human rights. Activities helpful in Inculcation of values.
3. Environmental Education- Role of teacher in Promoting Conservation of Environment.
4. Education for peaceful and cooperative living.

SESSIONAL WORK

Attempt any two-(One each from following sections)

Section A

1. Term paper on any one Topic/issues related to Education
2. Two abstract of any Two articles related to Education

Section B

1. Prepare a report on Co-curricular Activities of a school supporting Environment protection.
2. Case study of any one institution with reference to gender sensitivity.
3. Prepare a report of a group discussion conducted on language Policy/ Constitutional values/ Globalization/ Libralization/ Privatization.

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PAPER CODE-9103

Course 3 - LEARNING AND TEACHING

Objectives:- After completing this course, the student-teachers will be able to :

1. Understand the process of learning and different approaches to the teaching learning process.
2. Apply psychological principles in the teaching learning process.
3. Understand the concept of motivation and strategies to develop motivation and use the motivational devices during teaching learning process.
4. Apply transfer of learning to foster maximum positive transfer.
5. Identify and cater to the educational needs of children with learning difficulties.
6. Develop an understanding of cognitive processes.
7. Understand various factors that influence learning.
8. Understand the concept, principles of teaching and models of teaching.
9. Develop an understanding of various approaches of teaching.
10. Understand the management of teaching.
11. Understand the role of professional organizations in professional development of teachers.

COURSE CONTENT

UNIT-I Learning and Motivation

1. Learning- Concept and Factors Affecting Learning.
2. (a) Approaches to Learning:
   Cognitive : Gestalt (Werthimier, Kofka, Kohler)
   Behaviorist : (Pavlov, Thorndike, Skinner)
   Social Cognitive: Bandura
   (b) Relevance and the applications of the above approaches to learning.
3. Transfer of Learning – Meaning, Types of Transfer and Teaching for Transfer.
4. Motivation– Concept and Significance, Types of Motivation (Intrinsic and Extrinsic), Maslow's Hierarchy of Needs and Motivational Devices for Classroom Teaching.

UNIT- II Individual Differences and Cognitive Processes

1. Individual differences – Nature, Types, Causes, Accommodating individual differences in classroom.
2. Understanding differences based on cognitive abilities in children with learning difficulties (for instance, slow learner, dyslexic).
3. (a) Cognitive Process-Concept and Processes such as Sensation, Perception, Attention, Memory,Concept formation and Problem Solving in Learning.
   (b) Educational Implications of the above cognitive processes.

UNIT- III Teaching and Teaching Process

A. Teaching

1. Concept, Nature and Principles of Teaching.
2. Relationship between Teaching and Learning.
3. Levels, Phases and Components of Teaching (Teacher, Student, Teaching-Learning material and Classroom climate.
4. Interrelatedness of objectives, teaching learning experiences and evaluations.
5. Content analysis and Task analysis.

B. Teaching Process:

1. Teaching Technology: Concept, Assumptions, Characteristics and Components – Planning, Organisation and Evaluation.
2. Criterion of effective teaching, Methods of assessment of teaching (Classroom observation, Peer assessment, Self reporting and Evaluation by a supervisor).
3. Teacher behaviour during Teaching: Flander's Interaction Analysis System.

UNIT- IV Models and Approaches of Teaching

1. Concept of models of teaching.
2. Elements of Models of Teaching.
3. Families of Models of Teaching.
4. Types of Models of Teaching - Richard Suchman's Inquiry Training Model, Glaser's Basic Teaching Model, Information Processing Model and Concept Attainment Model.
5. Approaches to teaching- Participatory, Child Centered, Constructivist and Investigatory - Their meaning, characteristics and use in teaching.

UNIT-V Teaching as a Profession

1. Definition and characteristics of a profession.
2. Characteristics of teaching profession .
3. Professional Ethics for Teachers.
4. Strengthening Teaching Profession
   a) Role of Educational Organizations in the professional development of teachers (UGC, NCTE, NCERT, Universities and SIERT)
   b) Role of Teacher Education Institution in the professional development of teachers.
   c) Role of School and Community in enriching Teaching Profession
5. Balancing personal aspirations and professional obligations by teachers.

SESSIONAL WORK

The student teachers shall undertake any two of the following activities (one from each section) –

I –Section-A

1. Preparing a teaching plan based on constructivist approach / child centered approach / activity based learning.
2. Case study of a child with learning difficulties.

II-Section-B:

1. Study and report on pressures on school teachers.
2. Observation of one student-teacher's behavior during one teaching period (using Flander's Interaction Analysis System).
3. Collection of few success stories of teachers.
4. A case study of a professional organisation of teachers.

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PAPER CODE-9104

Course 4- LANGUAGE ACROSS THE CURRICULUM
(Including reading and reflecting on text)

Objectives: After the completion of the course, the student teacher will be able to:

1. Understand the language background of students as the first or second language users.
2. Create sensitivity to the language diversity that exists in the classroom.
3. Understand the nature of classroom discourse and develop strategies for using oral language in the classroom.
4. Understand the nature of reading comprehension in the content area & writing in specific content areas.
5. Understand interplay of language and society.
6. Understand function of language and how to use it as a tool.
7. Understand language and speech disorders and make remedial measure, too.

COURSE CONTENT

UNIT –I Language and society

1. Relationship between language and society.
2. Multilingualism- concept, status of Indian classroom language.
3. Verbal Communication.
4. Social stimulation- gestures, emotional and facial expressions, postures and movements, articulate speech, physiognomy.

UNIT- II Language development

1. Language development in different stages.
2. Speech defects: lisping, slurring, stammering and role of teachers in its resolution.
3. Language acquisition: stages, language and thought.
4. Meta- linguistics: concept, meaning, listening, speaking, reading, comprehension and writing for varying context, language proficiency for teacher.

UNIT- III Classroom and language

1. Classroom discourse- nature, meaning and medium.
2. Questioning in the classroom- type of questions, why and how of asking of questions, teachers role and control during questioning, encouraging questioning by students.
3. Functions of language within and outside the classroom.
4. Role of classroom interaction in learning language.
5. Role of literature in language learning.

UNIT- IV Reading and writing

1. Reading skills- purpose and methods.
2. Reading in the content areas- science, social science and Mathematics.
3. Writing with a sense of purpose, writing to learn and understand.
   A. Preparation of press note and meeting minutes.
   B. Reporting of conference and workshop

UNIT –V Reading and Reflecting on text

1. Nature of texts- expository v/s narrative texts, transactional v/s reflective texts
2. Scheme theory- text structures and examining content area.
3. Reading reflections :
   a. Characteristics and Precautions of summary writing.
   b. Measures and Precautions to be taken for organizing discussions based on reading of a document.
   c. Steps of expressing views on an editorial of newspaper.

SESSIONAL WORK

Any two of the following:

1. Find out the different languages spoken by the students and prepare a plan to use multilingualism as a teaching strategy.
2. Identify speech defects of a student and make a remedial strategy.
3. Organize an activity based game to motivate students for creative questioning and present its report.
4. Read any empirical, conceptual, historical work or a policy document or studies about schools, teaching, learning or different people's experiences and submit reading reflections.
5. Plan a participatory transaction strategy for language acquisition.
6. Prepare abstracts of any two articles published in reputed Journals.

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Course – 5 & 6
PEDAGOGY OF A SCHOOL SUBJECT
(Including Understanding Disciplines and Subjects)
Part I

To opt for the pedagogy of a school subject, the student teacher shall have to offer any two teaching subjects out of the following papers, which he/she has studied at Graduation /P.G. level for at least two years:

1- ***Pedagogy of Hindi.***
2- ***Pedagogy of English.***
3- ***Pedagogy of Sanskrit.***
4- ***Pedagogy of Urdu.***
5- ***Pedagogy of Rajasthani.***
6- ***Pedagogy of Mathematics.***
7- ***Pedagogy of General Science.***
8- ***Pedagogy of Physics.***
9- ***Pedagogy of Chemistry.***
10- ***Pedagogy of Biology.***
11- ***Pedagogy of Home Science.***
12- ***Pedagogy of Computer Science***
13- ***Pedagogy of Social Science.***
14- ***Pedagogy of Sociology***
15- ***Pedagogy of Psychology***
16- ***Pedagogy of History.***
17- ***Pedagogy of Political Science.***
18- ***Pedagogy of Economics.***
19- ***Pedagogy of Geography.***
20- ***Pedagogy of Art.***
21- ***Pedagogy of Music.***

22- Pedagogy of Business Studies

23- Pedagogy of Financial Accounting

PAPER CODE-9105

Course 5 & 6 - हिन्दी का शिक्षण शास्त्र

उद्देश्य– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. भाषा के स्वरूप को जान सकेंगे।
2. भाषा की अलग–अलग भूमिकाओं को जान सकेंगे।
3. भाषा सीखने के तरीके एवं प्रक्रिया को जान सकेंगे।
4. भाषायी अभिव्यक्ति के प्रकारों को जान सकेंगे।
5. अनुवाद के महत्व एवं भूमिका को समझना सकेंगे।
6. विद्यार्थियों की भाषायी सृजनात्मक क्षमता को पहचानना सकेंगे तथा विकसित कर सकेंगे।
7. साहित्य व भाषा के सम्बन्ध को समझ सकेंगे।
8. हिन्दी शिक्षण के उद्देश्यों को जान सकेंगे एवं उपयोग में ले सकेंगे।
9. हिन्दी शिक्षण के महत्व को समझ सकेंगे।
10. विद्यालय में हिन्दी भाषा सम्बन्धी गतिविधियों के संचालन की योग्यता विकसित कर सकेंगे।
11. हिन्दी शिक्षण में अनुभूत समस्याओं के निराकरण हेतु लघु प्रायोजनाएँ, क्रियात्मक अनुसंधान आदि उपायों को काम में लेने की प्रक्रिया को जान सकेंगे।
12. हिन्दी शिक्षण में दृश्य–श्रृव्य सामग्री तथा भाषा प्रयोगशाला का उपयोग जान सकेंगे।

पाठ्यक्रम–विषयवस्तु

इकाई– I भाषा का अर्थ, महत्व, भाषिक समस्या तथा शिक्षण उद्देश्य

(1) भाषा का अर्थ, महत्व तथा मातृभाषा एवं मानक भाषा की समझ।
(2) संविधान और शिक्षा समितियों के प्रतिवेदनों में भाषा की स्थिति।
(3) भारत की भाषिक समस्या, त्रिभाषा सूत्र तथा गाँधी जी द्वारा भाषा के सम्बन्ध में व्यक्त किये विचार।
(4) भाषा शिक्षण के उद्देश्य एवं व्यवहारगत परिवर्तन।
(5) बाल साहित्य का अर्थ एवं विधाएँ तथा पाठ्यक्रम में साहित्य को पढ़ना, पढ़ाना एवं अनुवाद करना।

इकाई–II भाषा का वैज्ञानिक स्वरूप तथा भाषायी व्यवहार के विविध पहलू

(1) भाषा का वैज्ञानिक स्वरूप (वर्ण विचार, शब्द विचार एवं वाक्य विचार की दृष्टि से)
(2) भाषा सीखने–सिखाने की बहुभाषिक दृष्टि।
(3) भाषायी व्यवहार के विविध पहलू (विभिन्न बोलियां, क्षेत्रीय भाषा एवं मानक भाषा)

इकाई–III हिन्दी शिक्षण के आधारभूत कौशल, सूत्र तथा अन्य विषयों से सम्बन्ध

(1) हिन्दी के आधारभूत कौशल– सुनना, बोलना, पढ़ना व लिखना एवं भाषा के माध्यम से सृजनात्मकता का विकास
(2) हिन्दी शिक्षण के सूत्र एवं सिद्धान्त
(3) हिन्दी भाषा का अन्य विषयों से सम्बन्ध
(4) हिन्दी शिक्षण में चुनौतियाँ

इकाई– IV हिन्दी शिक्षण की विभिन्न विधाएँ

(1) गद्य शिक्षण–उद्देश्य, विधियाँ एवं पाठ योजना।
(2) पद्य शिक्षण– बोध पाठ, रस पाठ एवं उपयोजना पाठ। (बोध पाठ व रस पाठ का मिश्रित रूप)
(3) नाटक एवं एकांकी शिक्षण–अभिनयात्मक पाठ–मंचीय विधि।
(4) व्याकरण एवं रचना शिक्षण।
(5) इकाई एवं वार्षिक इकाई, दैनिक शिक्षण योजना, इकाई जॉच पत्र तथा नील पत्र का निर्माण।

इकाई– V हिन्दी शिक्षण में सहायक सामग्री एवं नवाचार

(1) दृश्य–श्रृव्य सामग्री (रेडियो, टेलीविजन, ओ.एच.पी., लिग्वा फोन, चित्रकथा, टेपरिकॉर्डर आदि।
(2) भाषा प्रयोगशाला।
(3) भाषा शिक्षण में नवाचार (अभिनयीकरण, समस्या पूर्ति, काल्पनिक लेख आदि)
(4) निदानात्मक परीक्षण एवं उपचारात्मक शिक्षण।

सत्रीय कार्य

निम्नांकित में से कोई दो

1. विद्यालय की किसी एक साहित्यिक गतिविधि की योजना निर्माण, क्रियान्विति करना तथा प्रतिवेदन तैयार करना।
2. भाषायी कौशलों (सुनना, बोलना, पढ़ना, लिखना) के सीखने सम्बन्धित चार–चार गतिविधियाँ तैयार कर प्रतिवेदन प्रस्तुत करना।
3. हिन्दी भाषा में प्रयुक्त अन्य भाषाओं के शब्दों का संकलन, अध्ययन एवं व्याकरण की प्रकृति के अनुसार वर्गीकरण।
4. भाषा शिक्षण के दौरान आने वाली समस्याओं पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।:–

संदर्भ पुस्तकें

1. शर्मा, बी.एन. (1997) ''हिन्दी शिक्षण'' साहित्य प्रकाशन।
2. तिवारी, उदयनारायण (1999) ''भाषा शिक्षण''–विनोद पुस्तक मंदिर, आगरा।
3. नागदा, भंवरलाल (2000) ''हिन्दी भाषा में वर्तनी एवं उच्चारण सम्बन्धी त्रुटियां एवं उपचार'', क्लासिकल पब्लिशिंग कंपनी, नई दिल्ली।
4. पाण्डेय रामशकल (2004) ''नूतन हिन्दी शिक्षण'', विनोद पुस्तक मंदिर, आगरा।
5. सिंह, निरंजन कुमार (2006) ''माध्यमिक विद्यालयों में हिन्दी शिक्षण'', राजस्थानी हिन्दी ग्रंथ अकादमी जयपुर।
6. बक्शी, एन.एस. (2007) ''हिन्दी शिक्षण'', प्रेरणा प्रकाशन सेक्टर 14, रोहिणी, नई दिल्ली।
7. शर्मा एवं गुप्ता (2007) ''हिन्दी शिक्षण'', साहित्यगार, जयपुर।
8. नागदा, भवंरलाल (2007) ''शिक्षा के नूतन आयाम'' अंकुर प्रकाशन, उदयपुर।
9. भाई योगेन्द्रजीत (2008) ''हिन्दी भाषा शिक्षण'', विनोद पुस्तक मंदिर, आगरा।
10. शर्मा एवं शर्मा (2008) ''हिन्दी भाषा तत्व एवं उपचारात्मक कार्य'' श्रुति पब्लिकेशन, जयपुर–6।
11. शर्मा एम.डी. ''हिन्दी मातृ भाषा शिक्षण'', अग्रसेन शिक्षा प्रकाशन, जयपुर।
12. जोशी ओम प्रकाश (2008) ''हिन्दी भाषा साहित्य शिक्षण'', रॉयल पब्लिकेशन, जयपुर।
13. पाण्डेय, रामशकला (2008) ''हिन्दी शिक्षण'', विनोद पुस्तक मंदिर, आगरा।
14. गुरू, कामता प्रसाद (2009) ''हिन्दी व्याकरण'' साहित्यगार, जयपुर।
15. गुरू कामता प्रसाद (2009) ''वृहद हिन्दी व्याकरण'', साहित्यगार, जयपुर।
16. नागदा, भंवरलाल (2011) ''हिन्दी भाषा त्रुटियां एवं उपचार'', क्लासिकल पब्लिशिंग कम्पनी, नई दिल्ली।

17. नागदा, भंवरलाल नागदा, डॉ. द्वारिका प्रसाद (2015) ''क्रियात्मक अनुसंधान एवं सांख्यिकी'', अंकुर प्रकाशन, उदयपुर।

PAPER CODE-9106

Course 5 & 6 - PEDAGOGY OF ENGLISH

I Year

PEDAGOGY OF TEACHING ENGLISH

OBJECTIVES:

1. To enable the student -teachers to know and understand the basic concepts related to the nature of English , language teaching , objectives of ELT (English Language Teaching), approaches and methods.
2. To enable the student -teachers to apply the knowledge and understanding of the basic concepts of ELT in the actual classroom conditions .
3. To enable the student-teachers to grow as teachers of ELT .

Course Content:

UNIT -1	NATURE OF ENGLISH: Basic knowledge and understanding of the origin of the English Language : Old English, Contemporary English /Modern English , Difference between Oral and Written English, Difference between Formal and Informal English . **Aspects of English:** Phonological aspects(including vowel and consonant sounds, beats, pause, juncture, accent ,stress, intonation and rhythm),morphological , syntactic, grammatical, lexical ,semantic and orthographic aspects of English .
UNIT -2	LANGUAGE TEACHING : **Basic Concepts:** (MT)Mother Tongue /L_1 (First Language)/ , L_2 (Second Language), TL (Third Language) and FL (Foreign Language) . **Language Content:** Basic concept, types including the phonological content (sounds, etc .), lexical content (words) ,syntactic (grammar) and structural content ,and orthographic content (script ,style ,size and shape of script) and their implications for teaching . **Basic Language Skills:** i. **Listening** :Essential Components and sub-skills ,difference between hearing and listening, role of note taking. ii. **Speaking** : Essential Components and sub-skills. iii. **Reading** : Mechanics, Types of reading: skimming, scanning, silent reading, reading aloud, intensive reading and extensive reading. iv. **Writing** : Types of composition: oral, written, controlled, guided, contextualized and integrated composition. **Principles of Language Teaching**
UNIT -3	OBJECTIVES OF ENGLISH LANGUAGE TEACHING (ELT); General and Specific Objectives , Skills based Objectives , Competence based Objectives (

	linguistic and communicative competence), TEMT(Teaching English as Mother Tongue) , TESL (Teaching English as Second Language), TEFL (Teaching English as Foreign Language).
UNIT -4	APPROACHES AND METHODS : Basic philosophy , basic principles, basic aims/ focus , procedure, merits and demerits of Structural Situational Approach ,Communicative Approach , Grammar Translation Method, Direct Method ,Bilingual Method, CALT (Computer Assisted Language Teaching) ,Eclectic Approach.
UNIT -5	PLANNING FOR TEACHING :Annual plan, Unit -plan, Lesson -plan , Techniques of teaching of lexical and structural items , teaching of grammar, teaching of comprehension skills (listening and reading), use of Cloze procedure and Maze method, use of dictionary in teaching and reading skill, phonetic- transcription, teaching of expression skills (speaking and writing), composition (letters, essay, report, e-mail, notice, précis/summary, paragraph, developing stories, note making), teaching of poetry .

Sessional work

Any <u>two</u> of the following :

1. A detailed critical essay on the status of ELT in India or Rajasthan.
2. A detailed essay on the contribution of any one of the following linguists /applied linguists /grammarians :- Ferdinand de Saussure ,H.E.Palmer,Otto Jesperson, Samuel Johnson , C.J.Dodson, A.S.Hornby, Noam Chomsky, David Crystal, A.C.Gimson, and Daniel Jones .
3. Preparation of a scrap book containing 5 flash cards, 5 substitution tables, and 5 basic dialogues.
4. Preparation of any **three** of the following: one Cloze test, one Maze test, one speaking test, one listening test, one communicative skills test , and one grammar test.
5. A report (based on the interviews with teachers) on the problems of ELT in the elementary schools or secondary schools.

A List of Suggested Readings:

1..Bansal, R.K. and Harrison, J.B. (1972). **Spoken English for India.** Madras: Orient Longman Ltd.

2. Baruah, T.C. (1985). **The English Teacher's Handbook.** New Delhi: Sterling Publishing Pvt. Ltd.

3. Bright, J. A. and McGregor, G. P. (1970). **Teaching English as Second Language.** London: Longman.

4.Brown, H. Douglas. (2007). **Principles of Language Learning and Teaching.** New York: Pearson Education

5. Brumfit, C.J. (1984). **Communicative Methodology in Language Teaching.** Cambridge: Cambridge University Press.

6. Crystal ,David (2003). **The Cambridge Encyclopedia of the English Language.** Cambridge : C.U.P.

7. Doff, A. (1988). **Teaching English.** Cambridge: Cambridge University Press.

8. Freeman, Diane-Larsen. (2000). **Techniques and Principles in language Teaching**. Oxford: Oxford University Press.

9. Gimson, A.C. (1980). **An Introduction to the Pronunciation of English.** London: Edward Arnold.

10.Harmer, Jeremy. (2007). **How to Teach English**. Harlow: Pearson Education Limited.

11. Hornby, A.S. (1968). **A Guide to Patterns and Usage in English**. Oxford: Oxford University Press.

12. Krishnaswamy, N. and Krishnaswamy, Lalitha. (2008). **The Story of English in India**. New Delhi: Foundation Books.

13. Krishnaswamy, N. and Krishnaswamy, Lalitha. (2005). **Methods of Teaching English**. New Delhi: Macmillan.

14. Krishnaswamy, N. and Krishnaswamy, Lalitha. (2005). **Teaching English: Approaches, Methods and Techniques.** New Delhi: Macmillan.

15. Lado, R. (1971). Language Teaching. New Delhi: Tata McGraw Hill Publishing.

16. **NCF 2005** .New Delhi: NCERT .

17. Paliwal, A.K. (2012). **Methodology of Teaching English as a Second Language.** Jaipur: Kalpana Publications.

18. Palmer, H.L. (1965). **The Principles of Language Study.** London: Oxford University Press .

19. Quirk, R. and Greenbaum, S. (1973). **A University Grammar of English.** London: Pearson Longman .

20. Raimes, Ann. (2010). **Techniques in Teaching Writing. Oxford:** Oxford University Press.

21. Richards, J.C. and Rodgers, T.S. (2014). **Approaches and Methods in Language Teaching .**Cambridge: Cambridge University Press.

22. Roach, Peter. (1991). **English Phonetics and Phonology.** Cambridge :CUP.

23. Sinclair, John. (2000). **Collins Co-build English Grammar.** London: Harper Collins.

24.Venkteshwaran, S. (1995) .**The Principles of Teaching English.**Vikas Publishing House :New Delhi .

25. Yadav, Saryug. (2014). **Challenges of Teaching English Language and Literature in the Age of Globalization.** New Delhi: Lakshi Publishers.

PAPER CODE-9107

Course 5 & 6 - संस्कृत का शिक्षण शास्त्र

उद्देश्य– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. भाषा की विभिन्न भूमिकाओं को समझ सकेंगे।
2. भारत में संस्कृत भाषा की स्थिति एवं महत्व को समझ सकेंगे।
3. संस्कृत भाषा के तत्वों का प्रत्यास्मरण कर सकेंगे और उनका सही प्रयोग कर सकेंगे।
4. संस्कृत शिक्षण के सिद्वान्त, सूत्र, सामान्य एवं विशिष्ट उद्धेश्यों को समझ सकेंगे।
5. मूलभूत भाषा कौशलों, जैसे– श्रवण, भाषण, वाचन एवं लेखन के सम्प्रत्यय, महत्व एवं विकास को समझ सकेंगे।
6. संस्कृत शिक्षण की विभिन्न विधियों एंव उपागमों का प्रत्यास्मरण कर सकेंगे और इनका समुचित प्रयोग कर सकेंगे।
7. संस्कृत साहित्य की विधाएँ,जैसे– गद्य, पद्य, कथा, नाटक आदि का सम्प्रत्यय, महत्त्व, शिक्षण प्रणालियों व सोपानों को समझ सकेंगे और इनमें इकाई योजनाओं एवं पाठयोजनाओं का निर्माण कर सकेंगे।
8. संस्कृत शिक्षण को रोचक एवं प्रभावी बनाने के लिए उचित शिक्षण सहायक साम्रगी एवं साधनों का चयन निर्माण एवं उपयोग कर सकेंगे।
9. संस्कृत शिक्षण में विभिन्न प्रकार के प्रश्नों की रचना कर सकेंगे।
10. माध्यमिक शिक्षा बोर्ड, राजस्थान के नमूने (पेटर्न) के आधार पर संस्कृत पाठ्यपुस्तक पर प्रश्न पत्र तैयार कर सकेंगे।
11. संस्कृत के प्रश्नपत्रों का विश्लेषण कर सकेंगे।

पाठ्यक्रम

इकाई –I भाषा की भूमिका, संस्कृत भाषा की स्थिति, महत्त्व एवं तत्व

1. भाषा की भूमिका, भाषा एवं समाज, भाषा एवं लिंग, भाषा एवं पहचान (अस्मिता), भाषा एवं शक्ति।
2. घर की भाषा एवं विद्यालय की भाषा, अधिगम में संस्कृत की केन्द्रितता
3. भारत में संस्कृत भाषा की स्थिति
   a) भाषा शिक्षा सम्बन्धी संवैधानिक प्रावधान (धारा 343–351,350 अ)
   b) संस्कृत भाषा संबधी नीतियां –संस्कृत आयोग (1956–57),कोठारी आयोग (1964–66)
      राष्ट्रीय शिक्षा नीति (NPE)- 1986, क्रियान्वयन कार्यक्रम (POA)- 1992
      राष्ट्रीय पाठ्यचर्या रूपरेखा–2005(भाषा शिक्षा) – संस्कृत की स्थिति
4. संस्कृत भाषा का महत्त्व, संस्कृत भाषा एवं साहित्य, संस्कृत भाषा एवं भारतीय भाषाएं, संस्कृत भाषा का संरचनात्मक, सांस्कृतिक एवं सामाजिक महत्त्व, आधुनिक भारतीय भाषा के रूप में संस्कृत का महत्त्व, विद्यालय स्तर पर संस्कृत शिक्षण से सम्बन्धित अनुभूत समस्याएं
5. संस्कृत भाषा के तत्व शब्दरूप, लिङ्ग–ज्ञान, धातु रूप (दश लकार), सर्वनाम रूप, विशेषण रूप, अव्यय, उपसर्ग, प्रत्यय, सन्धि, समास, विभक्ति (कारक), वाक्य संरचना एवं वाच्य परिवर्तन का ज्ञान एवं प्रयोग

इकाई –II संस्कृत भाषा शिक्षण के सिद्वान्त, सूत्र एवं उद्देश्य

1. संस्कृत भाषा शिक्षण के सिद्धान्त, कक्षा शिक्षण के सामान्य सिद्धान्त, बोलने व लिखने में अनुरूपता का सिद्धान्त, अभ्यास का सिद्धान्त आदि ।
2. संस्कृत भाषा शिक्षण के सूत्र

3. संस्कृत शिक्षण के उद्देश्य

a) सामान्य एवं विशिष्ट उद्देश्यों में अन्तर
b) विभिन्न स्तर पर संस्कृत शिक्षण के उद्देश्य (उच्च प्राथमिक, माध्यमिक एवं उच्च माध्यमिक)
c) विशिष्ट उद्देश्यों का व्यवहारगत शब्दावली में निर्धारण

इकाई –III संस्कृत भाषा शिक्षण कौशल, विधियां एवं उपागम

1. संस्कृत भाषा शिक्षण कौशल श्रवण, भाषण, वाचन एवं लेखन कौशलों का सम्प्रत्यय, महत्त्व एवं विकास, भाषायी शिक्षण कौशलों को विकसित करने की पाठ्यसहगामी गतिविधियां श्लोकपाठ, संस्कृत गीत पाठ, अनुच्छेद लेखन, कथा लेखन, पत्र लेखन, कक्षा पत्रिका, भित्ति पत्रिका, विद्यालय पत्रिका, अन्त्याक्षरी, कवि दरबार, समस्यापूर्ति, प्रश्नोतरी, सृजनात्मक लेखन, भाषायी खेल।
2. संस्कृत भाषा शिक्षण की विधियां, पाठशाला विधि, पाठ्यपुस्तक विधि, व्याकरण–अनुवाद विधि, प्रत्यक्ष विधि, द्विभाषा विधि।
3. संस्कृत भाषा शिक्षण के उपागम, मौखिक उपागम, संग्रन्थन उपागम एवं सम्प्रेक्षण उपागम।

इकाई –IV संस्कृत साहित्य की विभिन्न विधाएं, पाठ नियोजन, शिक्षण एवं अधिगम सामग्री

1. संस्कृत साहित्य की विभिन्न विधाएं जैसे – गद्य, पद्य, कथा, नाटक, व्याकरण एवं रचना के सम्प्रत्यय, महत्त्व, शिक्षण प्रणालियां एवं सोपान
2. इकाई योजना एवं पाठ योजना का नियोजन।
   इकाई योजना का सम्प्रत्यय, महत्त्व एवं सोपान।
   पाठयोजना का सम्प्रत्यय, महत्त्व एवं सोपान।
   इकाई योजना एवं पाठयोजनाओं का निर्माण एवं शिक्षण।
3. शिक्षण एवं अधिगम सामग्री और साधन
   प्रिन्ट मीड़िया व अन्य वाचन–सामग्री जैसे – अधिगमकों द्वारा चयनित पुस्तकें, पत्रिकाएं, समाचार पत्र, कक्षा पुस्तकालय इत्यादि।
   दृश्य–श्रव्य साधन जैसे–वस्तु, चित्र, रेखाचित्र, मानचित्र, प्रतिकृति, श्याम पट्ट, फ्लेश कार्ड, टेप रिकार्डर, पारदर्शी, रेडियो, कम्प्यूटर एवं सीड़ी इत्यादि।

इकाई–V संस्कृत में आकलन

संस्कृत में विभिन्न प्रकार के प्रश्नों का निर्माण –
1 वस्तुनिष्ठ प्रश्न – रिक्त स्थान पूर्ति प्रश्न, बहु विकल्पीप्रश्न, सुमेलन पद प्रश्न, सत्य– असत्य प्रश्न,
2 अतिलघूत्तरात्मक एवं लघूत्तरात्मक प्रश्न,
3 निबंधात्मक प्रश्न, समस्या–समाधान, सृजनात्मक,
आलोचनात्मक सोच को विकसित करने वाले, कल्पना को जीवित करने वाले एवं परिवेशीय सजगता के प्रश्न।

a) भाषा विकास की प्रगति का आकलन सतत् एवं समग्र आकलन की तकनीक, मौखिक, लिखित,स्व आकलन, शलाका आकलन, सहपाठी आकलन एवं समूह आकलन
b) विभिन्न तालिकाओं सहित नीलपत्र का निर्माण, प्रश्नपत्र का निर्माण, उत्तर एवं अंकयोजना, पद विश्लेषण

सत्रीय कार्य

निम्नाकित में से किन्ही दो गतिविधियों का चयन कर प्रतिवेदन तैयार करना।

1. रा.मा.शि.बोर्ड द्वारा कक्षा 10 के संस्कृत छात्रों के लिए निर्मित प्रश्नपत्र का विशिष्ट उद्देश्य एवं भाषा शुद्वता को ध्यान में रखकर विश्लेषण करना।

2. कक्षा 8 के संस्कृत छात्रों के लिए विभिन्न तालिकाओं सहित नीलपत्र बनाकर एक आदर्श प्रश्नपत्र संस्कृत में तैयार करना।
3. माध्यमिक स्तर की संस्कृत पाठ्यपुस्तक में प्रयुक्त किसी एक पर–अव्यय, उपसर्ग, प्रत्यय, विभक्ति, सन्धि, समास, लकार और वाक्य में से कक्षा शिक्षण संव्यूहन तैयार करना।
4. शिक्षण प्रदर्शन की चर्चा कर और उपर्युक्त सुझाव देकर एक प्रतिवेदन तैयार करना।
5. संस्कृत की किसी कथा से संबधित चित्रों की पारदर्शी अथवा स्लाइड्स तैयार करना।

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PAPER CODE-9108

Course 5&6 - PEDAGOGY OF URDU

Objectives: After completion of the course the student-teachers will be able to:

1. understand the importance and different roles of language;
2. understand the basic concept and the elements of Urdu language;
3. understand the importance of home language and school language and role of mother tongue in education;
4. understand the importance and role of Urdu language in our country;
5. develop an understanding of the nature of Urdu language system;
6. develop an understanding of various approach of Urdu Language;
7. develop linguistic skills of Urdu language and different teaching skills associated with teaching of Urdu;
8. understand and use teaching strategies of grammar, composition, poetry, prose and drama in Urdu;
9. use methods, approaches and materials for teaching Urdu at different levels;
10. develop an understanding and use of purpose, concept and various techniques of evaluation in teaching of Urdu Language;

COURSE CONTENT

UNIT - I: Role and Nature of Language

1. Role of Language in Society: Importance of Language; Language and gender; Language and identity; Language and power; Language and class (society); Language in School: Medium of instruction in school and language spoken at home; Centrality of language as means of learning and communication.

2. Nature of Language
   - **a)** Aspect of Linguistic Behaviour: Language as a rule governed behaviour and linguistic variability; Pronunciation, linguistic diversity and its impact on Urdu pedagogical implication; Speech and Writing.
   - **b)** Linguistic System: The organization of sound; The structure of sentences; The concept of universal grammar; Nature and structure of meaning; Basic concept in phonology, morphology, syntax and semantics; Discourse.

UNIT – II Nature, Development and Position of Urdu Language

1. Nature and Development of Urdu Language:
   The nature of the subject Urdu and Urdu Education- Urdu as a language of knowledge; Urdu as first, second and third language; Urdu as mother tongue; Urdu as communicative language; Urdu as Media language
2. Origin and development of Urdu Language
3. Importance and functions of Urdu Language
4. Relation of Urdu language with other Indian Languages.
5. Role of Urdu language in promoting national integration.
6. Role of Urdu language in Indian Independence movement

2. Position of Urdu Language in India:

1. Position of Urdu in Pre-and post-partition of India.
2. Present position of Urdu in our country.
3. Position of Urdu language in the present educational system as prevalent in the state of Rajasthan.
4. Suggestions for a better place of Urdu language in syllabi.
5. Different forms of Urdu.

6. Urdu at International level;
7. Challenges of teaching and learning Urdu

UNIT –III An overview of Language Teaching with Reference to Urdu Language

1. Different Approaches to Language Learning and Teaching:
2. Philosophical, social and psychological bases of approaches to Language acquisition and Learning; Inductive and deductive approach to language learning; Whole language approach; Constructive approach; Multilingual approach to Language Teaching
3. Indian thought on language teaching.

2. Approaches of Teaching Urdu Language:

1. Basic concept and elements of Urdu Language :
   Phonetic structure, Morphological structure and Syntactic structure.
2. Linguistic skills of Urdu language and different teaching skills associated with teaching of Urdu:
   1. Listening – Art of Listening;
   2. Speaking – Pronunciation, Recitation and Punctuation;
   3. Reading – Concept, meaning and importance of reading;
   4. Writing – Defects of writing skills and their improvement;
   5. Sub skills of listening and speaking - Task Materials and resources for developing the listening and speaking skills : Storytelling, dialogues, situational conversation, role plays, simulations, speech, games and contexts, language laboratories, pictures, authentic materials and multimedia resources.
   6. Sub skills of reading:
      a) Importance of development of reading skills;
      b) Aloud and silent reading;
      c) Extensive and intensive reading;
      d) Study skills, including using thesauruses, dictionary and encyclopedia, etc.
   7. Writing:
      a) Stages of writing;
      b) Process of writing;
      c) Formal and informal writing such as poetry, short story, letter, diary, notices, articles, reports, dialogue, speech, advertisement;
      d) Defects of writing skills and their improvement
      e) Knowledge of Urdu script such as Khat-e-Naskh, Khat-e-Nastaliq, Khat-e-Shikast;
      f) Reference skills;
      g) Higher order skills.

UNIT – IV Strategies of Teaching Urdu

1. Basis of Teaching Urdu:
   a) Objectives of teaching Urdu at Secondary level;
   b) Behavioural objectives : Meaning and Importance of behavioural objectives; Essentials of behavioural objectives; Determination and Writing behavioural objectives for teaching Urdu;
   c) Problems of teaching and learning Urdu and their solution;
   d) Value outcomes of teaching Urdu at different levels of education;
   e) Various methods of teaching Urdu: Direct Method; Translation Method; Structural Method; Play way Method; Grammar Method; Bi-lingual Method

2. Teaching strategies of Urdu:
   1. Planning of teaching Urdu:
   a) Need and Importance of Planning
   b) Content Analysis
   c) Yearly, Unit and Daily Lesson Plan
   2. Teaching of various forms of Urdu:
   a) Prose,
   b) Poetry – Ghazal, Nazam and other forms of Urdu Poetry,
   c) Drama,

d) Composition, and
e) Grammar

3. Support System of teaching Urdu:
   a) Teacher – Qualities and Characteristics of a good Urdu Teacher,
   b) Teaching Aids – Verbal aids, Visual aids - Pictorial aids (non-projected, two or three dimensional aids), Projected aids (still and motion), Audio and Audio – Visual aids etc.;

UNIT – V Evaluation In Teaching Of Urdu

1. Purpose and Concept of Evaluation in Teaching Urdu.
2. Continuous and Comprehensive Evaluation
3. Techniques of Evaluation:
4. Teacher made test
5. Designing examination paper and Blue – Print
6. Development of test items- Various types of test questions (Essay, short answer, and objective types) and their uses.
7. Preparation of achievement test - its administration, analysis and reporting.
8. Diagnostic testing and remedial Teaching in Urdu.
9. Progress and assessment of development of language;
10. Cloze test, Self evaluation;
11. Peer evaluation;
12. Group evaluation.

Activities

1. Group discussions among student teachers may be arranged on the following topics:
   a) Role and importance of Urdu language in promoting national integration.
   b) Urdu language and poetry and Indian Independence movement;
   c) Challenges of teaching and learning Urdu
   d) Difference between Home and the School Language.
   e) Difference between spoken and written language'
   f) Mother Tongue and Other Tongue'
   g) Centrality of language as means of learning and communication
2. If possible some Panel discussion or lecture of experts from field may arrange on following topics:
   a) Origin and development of Urdu Language
   b) Multilingualism as a Resource
   c) 'War begins when words fail'
   d) Indian thought on language teaching.
   e) Urdu as a language of knowledge;

SESSIONAL WORK

Any two of the following*:*

1. Prepare a report on the status of language given in the Constitution of India and language policies given in Kothari Commission, NPE-1986 and POA-1992
2. Visit five schools in the neighbourhood and prepare a report on the three language formula being implemented in the schools.
3. Prepare a report on the challenges of Urdu as a medium of instruction.
4. Prepare a report on the challenges of teaching-learning process
5. Keeping in view the topics given in the Unit, prepare a questionnaire. Interview ten people from community and write a report on 'Position of Urdu language in India'
6. Analysis of advertisements aired on Radio/Television on the basis of language and gender.
7. Take a few passages from science/ social science/ maths textbooks of Classes VI to VIII and analyse on the following points:
   a) How the different registers of language have been introduced?
   b) Does the language clearly convey the meaning of the topic being discussed?
   c) Is the language learner-friendly?
   d) Is the language too technical?

e) Does it help in language learning?

Now write a report based on the analysis of above issues.

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8. Maulvi Abdul Quwaid-e-Urdu Anjuman Taraqqi Urdu (Hindi) New Delhi.
9. Moulvi Saleem : Urdu Kaise Padhaen , Chaman Book Depot, Delhi
10. Muenuddin Hum Urdu Kaise Padhen National Council for Promotion of Urdu Language West Block, RK Puram,New Delhi.
11. Muenuddin Urdu Zaban Ki Tadrees National Council for Promotion of Urdu Language,West Block, RK Puram, New Delhi.
12. Rasheed Hasan Hum Urdu Kaise Likhaen Maktaba Jamia Limited Jamia Nagar, New Delhi
13. Rasheed Hasan Urdu Imla Maktaba Jamia Limited Jamia Nagar ,New Delhi

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Course 5&6 - राजस्थानी का शिक्षण शास्त्र

उद्देश्यः– प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. राजस्थानी भाषा के स्वरूप को जान सकेंगे।

2. राजस्थानी भाषा की अलग–अलग भूमिकाओं को जान सकेंगे।
3. राजस्थानी सीखने के तरीके एवं प्रक्रिया को जान सकेंगे।
4. भाषायी अभिव्यक्ति के प्रकारों को जान सकेंगे।
5. अनुवाद के महत्व एवं भूमिका को समझना सकेंगे।
6. विद्यार्थियों की भाषायी सृजनात्मक क्षमता को पहचानना सकेंगे तथा विकसित कर सकेंगे।
7. साहित्य व भाषा के सम्बन्ध को समझ सकेंगे।
8. राजस्थानी शिक्षण के उद्देश्यों को जान सकेंगे एवं उपयोग में ले सकेंगे।
9. राजस्थानी शिक्षण के महत्व को समझ सकेंगे।
10. विद्यालय में राजस्थानी भाषा सम्बन्धी गतिविधियों के संचालन की योग्यता विकसित कर सकेंगे।
11. राजस्थानी शिक्षण में अनुभूत समस्याओं के निराकरण हेतु लघु प्रायोजनाएँ, क्रियात्मक अनुसंधान आदि उपायों को काम में लेने की प्रक्रिया को जान सकेंगे।
12. राजस्थानी शिक्षण में दृश्य–श्रृव्य सामग्री तथा भाषा प्रयोगशाला का उपयोग जान सकेंगे।

पाठ्यक्रम–विषयवस्तु

I इकाई प्रथम–राजस्थानी का अर्थ, महत्व, भाषिक समस्या तथा शिक्षण उद्देश्य

(1) राजस्थानी का अर्थ, महत्व तथा मातृभाषा एवं मानक भाषा की समझ।
(2) संविधान और शिक्षा समितियों के प्रतिवेदनों में भाषा की स्थिति।
(3) भारत की भाषिक समस्या, त्रिभाषा सूत्र तथा गाँधी जी द्वारा भाषा के सम्बन्ध में व्यक्त किये विचार।
(4) राजस्थानी शिक्षण के उद्देश्य एवं व्यवहारगत परिवर्तन।
(5) राजस्थानी साहित्य का सम्प्रत्यय एवं विधाएँ तथा पाठ्यक्रम में साहित्य को पढ़ना, पढ़ाना एवं अनुवाद करना।
(6) पाठ्यक्रम में मीडिया की भूमिका, महत्व, उद्देश्य एवं प्रासंगिकता।

II इकाई दो–राजस्थानी भाषा का वैज्ञानिक स्वरूप तथा भाषायी व्यवहार के विविध पहलू

(1) राजस्थानी भाषा का वैज्ञानिक स्वरूप (वर्ण विचार, शब्द विचार एवं वाक्य विचार की दृष्टि से)
(2) राजस्थानी भाषा कौशलों के विकास हेतु मौखिक, लिखित एवं सृजनात्मक अभिव्यक्ति का विकास
(3) राजस्थानी भाषा अर्जन एवं अधिगम का दार्शनिक, सामाजिक तथा मनौवैज्ञानिक आधार
(4) राजस्थानी भाषा सीखने–सिखाने की बहुभाषिक दृष्टि।
(5) भाषायी व्यवहार के विविध पहलू (विभिन्न बोलियां, क्षेत्रीय भाषा एवं मानक भाषा)

III इकाई तृतीय–राजस्थानी शिक्षण के आधारभूत कौशल, सूत्र तथा अन्य विषयों से सम्बन्ध

(1) राजस्थानी शिक्षण के आधारभूत कौशल– सुनना, बोलना, पढ़ना व लिखना एवं भाषा के माध्यम से सृजनात्मकता का विकास
(2) राजस्थानी शिक्षण के सूत्र एवं सिद्धान्त
(3) राजस्थानी भाषा का अन्य विषयों से सम्बन्ध
(4) राजस्थानी शिक्षण में चुनौतियाँ

IV इकाई चार–राजस्थानी शिक्षण की विभिन्न विधाएँ

(1) गद्य शिक्षण–उद्देश्य, विधियाँ एवं पाठ योजना।
(2) पद्य शिक्षण– बोध पाठ, रस पाठ एवं उपयोजना पाठ। (बोध पाठ व रस पाठ का मिश्रित रूप)
(3) नाटक एवं एकांकी शिक्षण–अभिनयात्मक पाठ–मंचीय विधि।

(4) व्याकरण एवं रचना शिक्षण।
(5) इकाई एवं वार्षिक इकाई, दैनिक शिक्षण योजना, इकाई जॉच पत्र तथा नील पत्र का निर्माण।

V इकाई पाँच– राजस्थानी शिक्षण में सहायक सामग्री एवं नवाचार

(1) दृश्य–श्रृव्य सामग्री (रेडियो, टेलीविजन, ओ.एच.पी., लिग्वा फोन, चित्रकथा, टेपरिकॉर्डर आदि।
(2) भाषा प्रयोगशाला।
(3) सह–संज्ञात्मक गतिविधियों की रूपरेखा (चर्चा, वाद–विवाद, अन्त्याक्षरी, निबन्ध, नाटक, एकांकी, समूह कार्य)
(4) राजस्थानी शिक्षण में नवाचार (अभिनयीकरण, समस्या पूर्ति, काल्पनिक लेख आदि)
(5) निदानात्मक परीक्षण एवं उपचारात्मक शिक्षण।

सत्रीय कार्य–निम्नांकित में से– (कोई दो)

1. विद्यालय की किसी एक साहित्यिक गतिविधि की योजना निर्माण, क्रियान्विति करना तथा प्रतिवेदन तैयार करना।
2. राजस्थानी भाषायी कौशल (सुनना, बोलना, पढ़ना, लिखना) के सीखने सम्बन्धित चार–चार गतिविधियाँ तैयार कर प्रतिवेदन प्रस्तुत करना।
3. राजस्थानी भाषा में प्रयुक्त अन्य भाषाओं के शब्दों का संकलन, अध्ययन एवं व्याकरण की प्रकृति के अनुसार वर्गीकरण।
4. राजस्थानी शिक्षण के दौरान आने वाली समस्याओं पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।

संदर्भ पुस्तकें

(1) मेनारिया, डॉ. मोतीलाल ''राजस्थानी भाषा एवं साहित्य'', राजस्थानी ग्रंथागार, जोधपुर।

(2) नागदा, भंवरलाल, ''शिक्षा के नूतन आयाम'', अंकुर प्रकाशन, उदयपुर।

(3) कुमार सुनिति, ''राजस्थानी भाषा'' कॉलेज बुक डिपो, जयपुर।

(4) शर्मा, राजकुमार, ''राजस्थानी भाषा और साहित्य'' कॉलेज बुक डिपो, जयपुर।

(5) स्वामी नरोत्तम, ''राजस्थानी भाषा'' राजस्थानी ग्रंथागार, जोधपुर।

(6) लाल सीताराम, ''राजस्थानी शब्द कोष'', राजस्थानी ग्रंथागार, जोधपुर।

(7) स्वामी नरोत्तम, ''राजस्थानी व्याकरण'' राजस्थानी ग्रंथागार, जोधपुर।

(8) चुण्ड़ावत, लक्ष्मी कुमारी, '' कैचेचकवा बात'' राजस्थानी ग्रंथागार, जोधपुर।

(9) तिवारी, भोलेनाथ, ''भाषा विज्ञान'' किताब महल, इलाहाबाद।

(10) नागदा, भंवरलाल (2011) ''हिन्दी भाषा त्रुटियां एवं उपचार'', क्लासिकल पब्लिशिंग कम्पनी, नई दिल्ली।

(11) नागदा, भंवरलाल नागदा, डॉ. द्वारिका प्रसाद (2015) ''क्रियात्मक अनुसंधान एवं सांख्यिकी'', अंकुर प्रकाशन, उदयपुर।

PAPER CODE-9110

Course 5 & 6 - PEDAGOGY OF MATHEMATICS

Objectives: After completion of course the students will be able to-

1. Gain insight into the meaning, nature, scope and objectives of mathematics education.
2. Appreciate mathematics as a tool to engage the mind of every student.

3. Understand the process of developing the concepts related to Mathematics.
4. Appreciate the role of mathematics in day to day life.
5. Learn important mathematics: mathematics more than formulas and mechanical procedures.
6. Pose and solve meaningful problems.
7. Construct approriate assessment tools for evaluating mathematics learning.
8. Understand methods and techniques of teaching mathematics.
9. Perform pedagogical analysis of various Topics in mathematics at secondary level.
10. Understand and use I.C.T. in teaching of mathematics.
11. Understand and use continuous and comprehensive evaluation, diagnostic testing and remedial teaching in Mathematics.

COURSE CONTENTS

UNIT-I Nature of Mathematics as a Discipline

1. A Mathematics is not merely subject of computations skill , it is much more, it has a logical structure.
2. Nature of mathematics- building blocks of mathematics (Concept, objectives, variables, function & relation, symbolization)
3. Important processes of mathematics-estimation , approximation, understanding or visualizing pattern representation, reasoning & proof, making connections, mathematical communication.
4. Historical development of mathematics as a discipline Contribution of western and Indian mathematicians like Ramanujan, Aryabhatt, Bhaskarcharya, Pythogorous and Euclid.
5. Constructivist approach in learning mathematics.

UNIT-II Mathematics as a School Subject

1. Importance of mathematics in school curriculum.
2. Aims and objectives of Teaching mathematics at secondary level. writing objectives in behavioural terms. Bloom's taxonomy (revised)
3. Correlation of mathematics with other school subjects.
4. Changing trends and goals of teaching mathematics with reference to NCF 2005
5. Concept mapping of themes related to mathematics.

UNIT-III Methodology of Teaching and Learning of Mathematics

1. Nature of concept, concept formation and concept assimilation.
2. Methods of teaching mathematics at secondary level-
   a. Lecture cum demonstration
   b. Inductive-Deductive
   c. Problem Solving
   d. Project
   e. Heuristic
   f. Analytic & Synthetic
3. Techniques of teaching mathematics
   a. Oral work
   b. Written work
   c. Drill work
   d. Home assignment

UNIT-IV Pedagogical analysis and mode of learning engagement

1. Pedagogical analysis of the units with reference to concepts, learning outcomes, activities and learning experiences and evaluation techniques of following content at secondary level-

a. Number system

b. Measures of central tendency

c. congruency and similarity
d. Trigonometrical ratios and identities
e. Area and Volume
f. Profit, loss and partnership
g. Compound interest
h. Graphical representation of data

2. Modes of learning engagement in mathematics
a. Providing opportunities for group activities
b. Group/ Individual Presentation
c. Providing opportunities for sharing ideas
d. Designing different Working Models for concept formation
e. Teaching aids and activities in laboratory work
f. Reflective written assignments

UNIT-V Assessment & Evaluation of Mathematics learning

1. Assessment of critical thinking, logical reasoning and to discourage mechanical manipulation and rote learning-
a. Planning of evaluation in mathematics
b. Formative, Summative and predictive evaluation in mathematics
c. continuous and compressive evaluation (CCE) in mathematics at secondary level
d. Diagnostic Testing, Remedial Teaching and enrichment programme for:
   1. Gifted Learners
   2. Slow Learners
   3. Learners with Dyslaxcia
   4. Difficulties Faced by the Teacher in Teaching of Mathematics and Suggestive Measures to overcome them.
2. Construction of achievement test/ question paper in mathematics

SESSIONAL WORK

Any two of the following:

1. Preparing a Diagnostic or Achievement Test.
2. Preparing one inovative lesson plan.
3. Conduct at least one Experiment on any topic of mathematics.
4. Prepare Instructional Material for teaching one topic in Mathematics.
5. A term paper on a brief History of one mathematician.
6. Preparing a working model.
7. A project report on any project related to mathematics.

SUGGESTED READINGS

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2. मंगल : गणित शिक्षण, आर्य बुक डिपो, नई दिल्ली
3. सीधु : गणित शिक्षण, विनोद पुस्तक भण्डार, आगरा
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25. UNESCO : Trends in Mathematics Teaching
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27. Carey L.M. (1975). Measuring and Evaluating School Learning, Boston: Allyn and Bacon.
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37. Kulshrestha, A. K. (2007). Teaching of Mathematics. Meerut: R. Lall Book Depot
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48. Geometry- History, Culture and Techniques, J.L. Heilborn, Oxford University, Prss-2000
49. Mathematics, Part I and II Textbook for Class XII, 2007, NCERT, New Delhi
50. Mathematics, Part I and II Textbook for Class XI, 2006, NCERT, New Delhi
51. Mathematics, Part I and II Textbook for Class X, 2007, NCERT, New Delhi
52. Mathematics, Part I and II Textbook for Class IX, 2006, NCERT, New Delhi
53. Secondary School Curriculum, 2006, CBSE, New Delhi
54. Mathematics Laboratory in school- towards joyful learning, 2006 CBSE, New Delhi
55. Guidelines for Mathematics Laboratory in school for class IX, 2006 CBSE, New Delhi
56. Guidelines for Mathematics Laboratory in school for class X, 2006 CBSE, New Delhi
57. Mathematics for Class VIII, 2008, NCERT, New Delhi
58. Mathematics for Class VII, 2007, NCERT, New Delhi
59. Mathematics for Class VI, 2006, NCERT, New Delhi
60. National Curriculum Framework- 2005, NCERT
61. Position Paper of NFG on Teaching Mathematics-2005, NCERT
62. Position Paper of NFG on Habitat and Learning-2005, NCERT
63. Position Paper of NFG on Examination Reforms-2005, NCERT
64. Position Paper of NFG on Aims of Education-2005, NCERT
65. Position Paper of NFG on Gender Issues in Education-2005, NCERT
66. Position Paper of NFG on Education and Peacs-2005, NCERT

Journals:
1. Teaching Children Mathematics(TCM), NCTM, USA
2. Mathematics Teaching in the Middle School(MTMS), NCTM, USA
3. Journal of Mathematics Teacher Education, Springer Netherlands

Web Links:
1. Mathematics Thinking and Learning. Philadelphia, USA
2. http://WWW. mathforum.org/dr.math
3. http://WWW. sakshat.ac.in
4. http://web.utk.edu
5. http://www.confluence.org
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PAPER CODE-9111

Course 5&6 - PEDAGOGY OF GENERAL SCIENCE

Objectives:-After completion of the course the student teachers will be able to :-

1. Develop understanding of the nature of science.

2. Develop understanding of the concept of General Science, its importance and its correlation with other subjects.
3. Appreciate the contribution of Indian and foreign scientists in development of Science.
4. Develop scientific attitude and scientific creativity among students.
5. Develop an understanding of aims and objectives of General Science.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop ability to use various methods and approaches of teaching General Science.
8. Develop an ability to construct an achievement test
9. Use continuous and comprehensive evaluation.

COURSE CONTENT

UNIT – I Nature of Discipline

1. Science as a domain of enquiry and characteristics of a scientific enquiry Observation, steps in scientific method.
2. Science as a dynamic body of knowledge
3. Values developed through Science
4. Contributions of Eminent Indian and western Scientists. – Jagdish Chandra Bose, Dr. Hargobind Khorana, Birbal Sahani, Salim Ali, Darwin, Mendel Watson & Crick and Alfred Nobel,

UNIT –II General Science as a Subject in School Curriculum

1. Place and importance of General Science in school curriculum.
2. Correlation of General Science with other subjects.
3. Changing trends and goals of teaching General Science with references to NCF-2005 (position paper).

UNIT – III Pedagogy of General Science

1. Aims and objectives of teaching General Science.
2. Writing objectives in behavioral terms.
3. Developing scientific attitude, scientific temper and creativity through teaching of General Science.
4. Content cum Pedagogical analysis of following topics of General Science -
   a. Matter in our surrounding;
   b. Natural resources;
   c. Our environment;
   d. Heredity and Evolution
   e. Force and Priciples of motion

UNIT – IV Planning and Strategies of Teaching-learning General Science-

1. Preparation of annual plan, unit plan and daily teaching plan.
2. Inquiry approach, constructivist approach, investigatory approach, Computer assisted learning, concept mapping, collaborative learning.
3. Lecture cum demonstration method, Laboratory method, Heuristic method, Project method, problem solving method, Inductive –deductive method, Panel discussion.

UNIT – V Assessment and evaluation in General Science

1. Concept of Evaluation.
2. Types of items.
3. Construction of achievement test.
4. Home assignment – Planning and evaluation.
5. Importance and construction of diagnostic test, remedial program.

6. Concept and advantages of – Continuous and Comprehensive Evaluation (CCE)

SESSIONAL WORK

Any two of the following:-

1. Life sketch and contribution of any one prominent biological Scientist.
2. Make a scrap Book on any Environmental issue.
3. Planning, conducting and reporting of an investigatory project.
4. Abstract of two papers related to General Science published in reputed journals
5. Identify the difficulties of students in conducting General Science practical.
6. Identify weak students of General Science and plan a diagnostic and remedial programe for them.

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5	वाजपेयी, गोलवलकर एवंअन्य Vijhayee	2007 2007	विज्ञानशिक्षण, शारदापुस्तकभण्डार, ईलाहाबाद GolwalkarVigyanSikshanPustakBhandar, Allahabad and other
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10	Dale Edgar	1962	Audio Visual Methods in Teaching, New York, Revised edition Hold, Rivehart and winston.
11	Dani D.N.	1989	"Scientific Attitude and Cognitive Style", Northern Book Centre, New Delhi.
12	Dave, R.H.	1969	Taxonomy of Educational objectives & Achievement, testing London University Press London.
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23	UNESCO		Source Book for Science Teaching.
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25	Venkataih S.	2001	Science Education in 21st Century, Anmol Publishers, Delhi

PAPER CODE-9112

Course 5&6 - PEDAGOGY OF PHYSICS

Objectives: On completion of the course the student teachers will be able to:

1. Understand the nature of Science as discipline and Physics as a branch of Science
2. Appreciate the contribution of Indian and Foreign Physicists in the development of Physics.
3. Acquire the understanding of the methods and processes of science that lead to exploration, generation

and validation of knowledge in science/physics.
4. Appreciate the issues at the interface of science, technology and society
5. Develop the skill of planning teaching learning activities.
6. Develop competencies in
(a) Selection and use of teaching methods, approaches and devices.
(b) Selection, preparation and use of cost effective teaching aids.
(c) Inculcation of scientific attitude, scientific temper and science related values.
7. Understand role and limitations of language in physics
8. Organise interactive child centered teaching learning by understanding of the learner
9. Conduct pedagogical analysis for planning of instruction
10. Prepare teaching plan using process skills.
11. Prepare, administer and analyze achievement tests for evaluation of learning outcomes of Physics

COURSE CONTENT

UNIT -I Nature of Science as Discipline

1. Nature of Science
2. Developmental perspectives of science.
3. Scientific attitude and Scientific Literacy,
4. Impact of Science on Society and Vice Versa
5. Contribution of eminent Indian and Foreign Scientists viz C.V.Raman, Vikram Sarabhai, Homi Jehangir Bhabha, A.P.J.Abdul Kalam , Albert Einstein, Issac Newton

UNIT-II Physics as a Subject in school Curriculum

1. Essential Characteristic of Physics as a subject
2. Importance of Physics in School Curriculum
3. Correlation of Physics with other subjects
4. Physics in daily life.
5. Changing trends and goals of teaching physics with references to NCF 2005 (position paper)

UNIT-III Pedagogy of Physics

1. Aims and Objectives of Teaching learning Physics
2. Content cum Pedagogical analysis of following topics of Physics- Sound, Light, Force , Laws of Motion, Gravitation, Thermodynamics.

UNIT- IV Planning and Strategies of Teaching Learning Physics

1. Preparation of Annual Plan, Unit plan, Daily Teaching Plan.
2. Methods of Teaching Physics
   Lecture cum demonstration method; Inductive – deductive method; Heuristic method; Panel discussion; Project method; Problem solving method ; Brain storming;
3. Constructivist approach, Investigatory approach, Computer Aided Instruction

UNIT-V Assessment and Evaluation

1. Concept of continuous and comprehensive evaluation, Formative and Summative Evaluation
2. Different types of questions, Blue print and construction of Achievement Test.
3. Home Assignment-Planning & evaluation
4. Diagnostic and Remedial measures
5. Assessment of practical work in Physics

SESSIONAL WORK

Any two of the following:

1.Prepare list of famous Physicists in chronological order from all over the world, starting from Galileo and write major contributions of any one these physicists.
2. Life history and contribution in Physics of one noble prize winner in Physics
3. Report of an experimental project to be completed.
4. Collection of current issues related to science from news papers with comments.
5. Identify weak students in Physics of any one class and prepare a diagnostic test of physics and plan for remedial teaching
6. Construction, administration, scoring and item analyses of examination Paper of Physics set on Board Pattern.

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PAPER CODE-9113

Course 5 & 6 - PEDAGOGY OF CHEMISTRY

Objectives: After completion of the course the student teacher will be able to-

1. Develop an understanding of the Nature of Science.
2. Develop an understanding of the nature of Chemistry and its correlation with other subjects.
3. Develop scientific attitude and scientific Literacy

4. Develop an understanding of Pedagogy of Chemistry
5. Appreciate recent achievement of chemistry and the contribution of Indian and Foreign Scientists in development of Science.
6. Develop an understanding of aims and objectives of Chemistry teaching.
7. Develop an ability of preparing annuals plan, unit plan and lesson plan.
8. Develop an ability to plan and conduct innovative projects in chemistry.
9. Develop an ability to construct and use an achievement test, diagnostic test and remedial measures in Chemistry.
10. Use continuous and comprehensive evaluation.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Nature of Science
2. Developmental perspectives of science.
3. Scientific attitude and Scientific Literacy,
4. Impact of Science on Society and Vice Versa
5. Contribution of eminent Indian and Foreign Scientists viz Neel Bohr, Marry Curie, C.V. Raman, Khurana, Ruther ford.

UNIT-II Chemistry as a Subject in school Curriculum

1. Essential Characteristic of Chemistry as a subject
2. Importance of Chemistry in School Curriculum
3. Correlation of Chemistry with other subjects
4. Recent Scientific achievements in Chemistry (God Particle Boson, New elements in periodic table. Fuel form Bio-waste, Liquid air as a fuel)
5. Chemistry in daily life.

UNIT-III Pedagogy of Chemistry

1. Aims and Objectives of Teaching learning chemistry
2. Content cum Pedagogical analysis of following topics of Chemistry

   Atofmic Structure; Radioactivity ; Chemical Bonding; Periodic Table; Hard and Soft water; Aromatic Compounds

UNIT- IV Planning and Strategies of Teaching Learning Chemistry

1. Preparation of Annual Plan, Unit plan, Daily Teaching Plan.
2. Methods of Teaching Chemistry

   Lecture cum demonstration method; Inductive – deductive method; Heuristic method; Panel discussion; Project method; Problem solving method ; Brain storming;
3. Constructivist approach, Investigatory approach, Computer Aided Instruction

UNIT-V Assessment and Evaluation

1. Concept of continuous and comprehensive evaluation, Formative and Summative Evaluation
2. Different types of questions, Blue print and construction of Achievement Test.
3. Home Assignment-Planning & evaluation
4. Diagnostic and Remedial measures
5. Assessment of practical work in Chemistry

SESSIONAL WORK

Any Two from following –

Practicum No. 1 is compulsory for all

1. Preparation of kit for Demonstration of five experiments on any Topic related to chemistry covered in the syllabus of class VI to X.
2. Preparation of a low cost apparatus/Improvised apparatus. (Other than submitted during internship)
3. Prepare and report any one project in chemistry.
4. Identification of Protein, Carbohydrate, Fat in a given substance.
5. Identification of Adulteration in some food article such as Ghee, Oil, Milk, Red Chilli powder, Turmeric powder and Pulses etc.

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PAPER CODE-9114

Course 5&6 - PEDAGOGY OF BIOLOGY

Objectives: - After completion of the course the student teachers will be able to :-

1. Develop understanding of the nature of science.
2. Develop understanding of the concept of Biology, its importance and its correlation with other subjects.
3. Appreciate the contribution of Indian and foreign Biologists in development of Biology
4. Develop scientific attitude and scientific creativity among students.
5. Develop an understanding of aims and objectives of Biology.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop ability to use various methods and approaches of teaching Biology.
8. Develop an ability to construct an achievement test
9. Use continuous and comprehensive evaluation.

COURSE CONTENT

UNIT – I Nature of Discipline

1. Science as a domain of enquiry and characteristics of a scientific enquiry. Observation, steps in scientific method.
2. Science as a dynamic body of knowledge
3. Values developed through Science
4. Contributions of Eminent Indian and western Biologists. – Jagdish Chandra Bose, Dr. Hargobind Khorana, Birbal Sahani, Salim Ali, Darwin, Mendel and Watson & Crick.

UNIT –II Biology as a Subject in School Curriculum

1. Place and importance of Biology in school curriculum.
2. Correlation of Biology with other subjects.
3. Changing trends and goals of teaching Biology with references to NCF-2005 (position paper).

UNIT – III Pedagogy of Biology

1. Aims and objectives of teaching Biology.
2. Writing objectives in behavioral terms.
3. Developing scientific attitude, scientific temper and creativity through teaching of Biology.
4. Content cum Pedagogical analysis of following topics of Biology.
    a) Diversity of living organism
    b) Biological Classification
    c) Genetics and Evolution
    d) Ecology and Environment

UNIT – IV Planning and Strategies of teaching-learning Biology-

1. Preparation of annual plan, unit plan and daily teaching plan.
2. Inquiry approach, constructivist approach, investigatory approach, Computer assisted learning, concept mapping, collaborative learning.
3. Lecture cum demonstration method, Laboratory method, Heuristic method, Project method, problem solving method, Inductive –deductive method, Panel discussion.

UNIT –V Assessment and evaluation in Biology

1. Concept of Evaluation.
2. Types of items.
3. Construction of achievement test.
4. Home assignment – Planning and evaluation.
5. Importance and construction of diagnostic test, remedial program.
6. Concept and advantages of – Continuous and Comprehensive Evaluation (CCE)

SESSIONAL WORK

Any two of the following:-

1. Life sketch and contribution of any one prominent biological Scientist.
2. Make a scrap Book on any Environmental issue.
3. Planning, conducting and reporting of an investigatory project.
4. Abstract of two papers related to Biology published in reputed journals
5. Identify the difficulties of students in conducting biology pracitcals.
6. Identify weak students of biology and plan a diagnostic and remedial programme for them.

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25	Venkataih S.	2001	Science Education in 21st Century, Anmol Publishers, Delhi

Course 5&6 - PEDAGOGY OF HOME SCIENCE

Objectives : After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Science and Home Science.
2. Develop an understanding of the importance of Home Science and its correlation with other subjects.
3. Develop scientific attitude and creativity among students.
4. Develop an understanding of aims and objectives of teaching Home Science.
5. Develop an understanding of pedagogy of Home Science.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop an understanding of various methods and approaches of teaching Home Science at Senior Secondary level.
8. Develop an understanding of continuous and comprehensive evaluation.
9. Develop an ability to construct an achievement test, diagnostic test and remedial measures.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Nature of Science.
2. Concept, Nature, and Scope of Home Science.
3. Developmental perspective of Home Science.
4. Development of Scientific attitude and Fostering Creativity through Home Science.
5. Contribution of Eminent Indian Home Scientists – Dr. Rajammal P. Devadas, Dr. Hansa ben J. Mehta, Dr. Durga bai Deulkar and Dr. S. Ananda Lakshmy.

UNIT –II Home Science as a Subject in School Curriculum

1. Essential Characteristics of Home Science as a subject.
2. Importance of Home Science in school curriculum.
3. Correlation of Home Science with other subjects.
4. Changing goals in teaching home science.

UNIT-III Pedagogy of Home Science

1. Aims and objectives of teaching Home Science.
2. Content cum Pedagogical analysis of the following topics of Home Science-
   (a) Meal planning
   (b) Food adultration.
   (c) Common childhood diseases
   (d) Consumer Problems
   (e) Fibres and its Classification.

UNIT-IV Planning and Strategies

1. Annual plan, unit plan, daily teaching plan, Concept and Importance.
2. Methods of teaching Home Science: Lecture cum demonstration method, Laboratory method, Project method, Panel discussion, Problem solving, , Role play, Brain storming.
3. Constructivist approach, Investigatory approach, Computer assisted instruction.

UNIT-V Assessment and Evaluation

1. Concept of Evaluation.
2. Concept and advantages of Continuous and Comprehensive Evaluation.
3. Different types of questions, Blue print and Construction of Achievement Test.
4. Importance and construction of Diagnostic test and Remedial measures.
5. Evaluation of practical work in Home Science.
6. Home assignment-Planning and Evaluation.

SESSIONAL WORK

Any two of the following –

1. Life sketch of an eminent Home Scientist.
2. Abstract of two published papers related to Home Science in reputed Journals.
3. Any hand made preparation of stitching / embroidery, painting, tie and dye and batik etc.
4. Identify weak students of Home Science and plan a diagnostic and remedial programme for them
5. Prepare a scrap book on current issues highlighted by media related to Home Science.
6. Any one Best out of waste' preparation and submission.

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PAPER CODE-9116

Course 5&6 - PEDAGOGY OF COMPUTER SCIENCE

Objectives: After completion of course the student teacher will be able to-

1. Gain insight into the nature and scope of Computer Science education.
2. Understand Computer as a tool to engage the mind of the student.
3. Understand the concepts related to Computer science.
4. Explain the role of computer science in day to day life.
5. Develop an understanding of the importance of Computer Science and its correlation with other subjects.
6. Develop an understanding of aims and objectives of teaching computer science learning.
7. Develop an understanding of pedagogical computer science at school level.
8. Develop an understanding of methods and techniques of teaching computer science.
9. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
10. Understand continuous and comprehensive evaluation in Computer science.
11. Develop an ability to construct an achievement test, diagnostic test and remedial measures.

COURSE CONTENT

UNIT –I Nature of Discipline and subjects

1. Nature of Science, NCF (2005) position paper on science
2. Nature of Computer science as a subject
   a) Concepts and scope of computer science.
   b) Generation, Characteristics and Uses of computer.
   c) Classification of Computer.
   d) Development of scientific attitude and fostering creativity and logical thinking through computer science.
   e) Contribution of eminent scientists and IT personalities – Charles Babbage, Jean Bartik, Hal Abelson, Larry Page and Sergey Brin, Mark Zuckerberg, Tim Berners-Lee etc.

UNIT –II Computer Science as a Subject in School Curriculum

1. NCF, 2005 position paper of computer science.
2. Importance of Computer Science in school curriculum.
3. Correlation of Computer Science with other school subjects
4. Social needs of computer education.

UNIT –III Pedagogical analysis and mode of learning engagement of the following topic-

1. Aims and objectives of teaching computer science at school level
2. Pedagogical analysis of the following content with reference to concepts, learning outcomes, activities and learning experiences and evaluation -
   a) Computer System
   b) Measures of Memory
   c) Binary Number system
   d) Processor
   e) Windows Operating System
   f) Application software
3. Modes of learning engagement in Computer Science
   a) Providing opportunities for group activities through networking

b) Group/ Individual Presentation through ICT
c) Providing opportunities for sharing ideas using internet
d) Teaching aids and activities in laboratory work
e) Reflective written assignments

UNIT –IV Planning and strategies of Teaching Computer Science

3. Methods- Inductive and Deductive, Lecture cum Demonstration, Problem Solving, Project, Laboratory, Searching and surfing, E-Learning.
4. Techniques and approaches of teaching computer science- CAI, Inquiry approach, Investigatory approach
3. Team Teaching, panel discussion, seminar and workshop.
4. Annual Plan, Unit Plan, Daily Teaching Plan: concepts and features.
5. Digital teaching Planning : Meaning, Process and Importance

UNIT- V Evaluation in computer science

1. Concept of evaluation
2. Concept and Advantages of Continuous and comprehensive evaluation (CCE).
3. Achievement test (Oral, Written and Practical) and attributes of good achievement test and construction of achievement test.
4. Importance and Construction of Diagnostic test and conducting remedial program.
5. Home assignment – Planning and evaluation.
6. Online testing.

SESSIONAL WORK

Any two of the following-

1. Life sketch of an eminent scientist / IT personalities
2. Access and reporting an E-learning content using internet educational resources.
3. Developing Digital teaching plan.
4. Abstract of two published papers related to Computer Science in reputed Journals.
5. A term paper on a topic related to computer science.
6. Analysis of difficulties of students in practical work of computer science.
7. Identify weak students in computer science and diagnose their difficulties

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PAPER CODE-9117

Course 5&6 - PEDAGOGY OF SOCIAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Social Science.
2. Develop an understanding of the importance of Social Science and its correlation with other subjects.
3. Understand the origin and development of Social Science.
4. Develop an understanding of aims and objectives of teaching Social Science.
5. Develop an understanding of pedagogy of Social Science.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop an understanding of various methods and approaches of teaching Social Science at Secondary level.
8. Develop an understanding of continuous and comprehensive evaluation.
9. Develop an ability to construct an achievement test, diagnostic test and remedial teaching.

COURSE CONTENT

UNIT-I Nature of Discipline-

1. Nature of Social Science, NCF (2005.) position paper of social science.l
2. Concept, Nature, Scope and Importance of Social Science.
3. Developmental perspective of Social Science.
4. Eminent Social reformists: Raja Ram Mohan Rai, Swami DayanandSaraswati, VinobaBhave, Abraham Linkon and Nelson Mandela.

UNIT – II Social Science as a Subject in School Curriculum-

1. Need and Importance of Social Science at secondary level.
2. Correlation of Social Science with other subjects – History, Geography, Political science, Economics, Art, Literature, Science and Mathematics.
3. Scope of Social Science – Social Culture, Social Identity, Resource and Development.

UNIT-III Pedagogy of Social Science –

1. Aims and objectives of teaching Social Science.
2. Pedagogical analysis of the following topics of Social Science-
   a) World war and Liberation Struggle.
   b) Khilafat and Non-Cooperation Movement.
   c) Movements of peasants, workers and tribals.
   d) Patterns of Urbanization.
   e) Migration and the growth of towns.
   f) Social change and urban life.

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan, Concept and Features.
2. Social Survey, Observation, Case Study.
3. Methods of teaching Social Science: Lecture cum demonstration method, Project method, Story Telling, Role Playing, Supervised Study, Source Method, Discovery and Socialized Recitation Method, Dramatization, Field Trips.
4. Constructivist approach, Investigatory approach, Computer assisted instruction,

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.
2. Concept and advantages of Continuous and Comprehensive Evaluation.
3. Different types of questions, Blue print and Construction of Achievement Test.

4. Importance and construction of Diagnostic test and Remedial teaching.
5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to Social Science in reputed Journals.
2. Identify the students with less than 60% marks in Social Science, diagnose their difficulties and suggest appropriate remedial measures.
3. Preparationof a scrap book related to the current issues of Social Science.
4. Term paper on any one Topic/ Issues related to Social Science.
5. Preparing a Radio or TV script related to current Social Science issue.

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PAPER CODE-9118

Course 5&6 - PEDAGOGY OF SOCIOLOGY

Objectives After completion of course the student teacher will be able to:

Develop an understanding of the nature of the discipline of social science.

2. Develop a conceptual understanding of sociology.
3. Develop an understanding of the relationship of sociology with other subjects.
4. Understand the origin and development of Sociology.
5. Understand Need and importance of Sociology in School Curriculum.
6. Understand and use different strategies of teaching sociology
7. Develop Skills for preparation of different types of planning.
8. Understand and analyse the current Social Problems concerns and Issues.
9. Measure the Students Social Behavior.
10. Understand evaluation techniques and Examination Reforms
11. Develop the concept and skills needed for Diagnostic and Remedial Teaching

COURSE CONTENT

UNIT –I Nature of Discipline

1. Nature of Social Science, National curriculum Framework 2005,Position paper on Social Science.
2. Social concerns and current issues.
3. Concept, Nature and Scope of Sociology, Sociological Perspective.
4. Origin and Development of Sociology with reference to pioneers of Sociology-
5. Foreign-Augest comte,Emile Durkhiem, Max Weber, Karl Marks Giddens.
6. Indian- G.S.Ghuriye, D.P. Mukhrji, A.R.Desai, M.N.Shrinivas
7. Development of Scientific View-Positivism (Augest Comte), Social Fact (Emile Durkhiem), Ideal Type (Max Weber)
8. Sociology as a base to understand Social relations.

UNIT-II Sociology as a Subject in School Curriculum

Sociology as a subject in School Curriculum: Need and Importance.

Correlation of Sociology with other Subjects viz. History, Political Science, Economics, Geography, Statistics, Anthropology and psychology etc.

Scope of Sociology…… Social institutions…. social relations… social structure…. social change….

UNIT-III Pedagogy of Sociology.

1. Aims and Objectives of Teaching Sociology.
2. Pedagogical Analysis of the following topics –
   a. Gender issues
   b. Child Labour
   c. Population
   d. Role of Media in Society

UNIT- IV Planning and Strategies

1. Annual Plan, Unit Plan, Daily Teaching Plan
2. Social Survey, Observation, Case Study
3. Use of Songs Analysis, Stories, Socialized, recitation, Dramatization, Role play, Lecture, Problem solving, Project Field trip, Group Quiz and panel discussions as strategies of teaching.

UNIT -V Evaluation in Teaching Sociology

1. Concept of Evaluation
2. Different Evaluation tools and techniques –Observation, Written Test, Open Book Test, Sociometric measuring devices, Rating Scale,
3. Preparation of Achievement Test-Blue Print, different type of question, Marking scheme, scoring scheme.
4. Diagnostic testing and Remedial Teaching.
5. Continues and comprehensive Evaluation.

SESSIONAL WORK

Any Two of the following:-

1. Social Survey of any Social Institution viz. family, caste, school etc
2. Prepare Scrape Book on any one Social Issue.
3. Collection of Socio-Cultural Material and Prepare a report.
4. Case Study of an NGO working in the field of Education or an institution related to social science. Socio-Educational Agency.
5. Collection and analysis of Local Folk songs / Folklore / Festivals with reference to cultural aspects.
6. Prepare a script of drama on Social Problems.

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PAPER CODE-9119

Course 5&6 - PEDAGOGY OF PSYCHOLOGY

Objectives: After completion of the course the student teachers will be able to

1. Develop an understanding of the Nature of Psychology.

2. Knows the place, aims and objectives of teaching psychology.
3. Acquires the knowledge of current higher secondary school syllabus of psychology.
4. Develop an understanding of the importance of Psychology in daily life and its correlation with other subjects.
5. Understand the Historical perspective and development of Psychology.
6. Gets acquainted him with different methods and approaches of teaching psychology at the higher secondary level.
7. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
8. Develop an understanding of continuous and comprehensive evaluation in psychology Teaching.
9. Applies the valuation procedures to assess the achievements of the pupils in psychology.
10. Develops various skills for the use of different audiovisual aids, administration, scoring and interpretation of teaching the subject.
11. Identifies the weaknesses of pupils by using various tests and takes remedial measures.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Concept, Nature, Branches and Importance of psychology.
2. Subject matter of Psychology
3. Historical perspective of psychology.
4. Place of Psychology in modern life (a brief and general account)
5. Contributions of Psychology in the various personal, familial, social, educational, occupational and clinical aspects of human life
6. Eminent Psychologist : B. F. Skinner, Sigmund Freud, Albert Bandura, Jean Piaget, Carl Rogers, William James, Erik Erikson, Ivan Pavlov, Kurt Lewin

UNIT – II Psychology as a Subject in School Curriculum-

1. Need and Importance of Psychology in the school curriculum – its unique nature and place in human life, its importance in developing understanding about self and other people
2. Relation of Psychology with Education, Sociology, Physiology and other biological science, Anthropology, Management, Mathematics, Media sciences and Cybernetics (general)
3. Scope and utility of psychology in various human field.

UNIT-III Pedagogy of Psychology

1. Aims and objectives of teaching Psychology.
2. Pedagogical analysis of the following topics of Psychology-
   a) Intelligence
   b) Ego and Personality
   c) Mental Disorder
   d) Sensation and Perception
   e) Motivation and Emotion
   f) Memory Process

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan- Concept , Need and current Features.
2. Basic Teaching strategies
3. Class – room based lecture, discussion, seminar, workshop, modelling
4. Laboratory based – experimental studies

5. Field based – survey, project, field visit of various form
6. Observation
7. Clinical – case study
8. Methods of teaching Psychology:
   a) Lecture cum demonstration method,
   b) Inductive-Deductive Method
   c) Project method,
   d) Story Telling,
   e) Role Playing,
   f) Source Method,
   g) Dramatization.
9. Various Approaches to teach Psychology –
   a) Constructivist approach,
   b) Investigatory or Inquiry approach,
   c) Computer assisted instruction,

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.
2. Concept and advantages of Continuous and Comprehensive Evaluation.
3. Different types of questions, Blue print and Construction of Achievement Test.
4. Importance and construction of Diagnostic test and Remedial teaching.
5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to Psychology in NPC Journals.
2. Identify the Special Needy students Psychology diagnose their difficulties and suggest appropriate remedial measures.
3. Preparation of a scrap book related to the Psychological Disorder.
4. Term paper on any one Topic/ Issues related to Psychological Problem in Adolescent.
5. Preparing a presentation related to Psychological issue at Se. Secondary level.

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PAPER CODE-9120

Course 5&6 - PEDAGOGY OF HISTORY

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of the Nature of Social Science and History.
2. Develop an understanding of the importance of History and its correlation with other subjects.
3. Develop an understanding of aims and objectives of teaching History.

4. Develop an understanding of pedagogy of History.
5. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
6. Develop an understanding of various methods and approaches of teaching History at Senior Secondary level.
7. Develop an understanding of continuous and comprehensive evaluation.
8. Develop an ability to construct an achievement test, diagnostic test and remedial teaching.

COURSE CONTENT

UNIT-I Nature of Discipline-

1. Nature of Social Science, NCF 2005 position paper of Social Science.
2. Concept, Nature, Philosophy, Scope, Importance of History and Historical development of History as a discipline.
3. Contribution of Eminent Historians–Herodotus, Rake, Croche, Collingwood, Col.Todd, Bipin Chandra, Satish Chandra, Sardesai, P.K. Basu, R.C Majumdar, Jadugar Sarkar

UNIT – II History as a Subject in School Curriculum-

1. Need and Importance of History at Senior Secondary level.
2. Correlation of History with other subjects – Geography, Political science, Economics, Social science, Art& Literature, Mathematics.
3. Scope of History – Development of human civilization, History of development of - Society, Cities and Urban Centers,
4. Renaissance
5. Industrial Revolution.

UNIT-III Pedagogy of History –

1. Aims and objectives of teaching History.
2. Pedagogical analysis of the following topics of History-
   a) Changing cultural traditions.
   b) Confrontation of cultures.
   c) Paths to modernization.
   d) The industrial revolution.
   e) Issues in Social History :Caste, Class, Kinship and Gender.

UNIT-IV Planning and Strategies –

1. Annual plan, unit plan, daily teaching plan, Concept and Features.
2. Historical Survey, Observation, Case Study.
3. Methods of teaching History : Lecture cum demonstration method, Project method, Story Telling, Role Playing, Supervised Study, Source Method, Discovery and Socialized Recitation Method.
4. Constructivist approach, Investigatory approach, Computer assisted instruction.
5. Field Trips
6. Historical Sourses (Primary and secondary) and their critical Evaluation.

UNIT-V Assessment and Evaluation –

1. Concept of Evaluation.
2. Concept and advantages of Continuous and Comprehensive Evaluation.
3. Different types of questions, Blue print and Construction of Achievement Test.
4. Importance and construction of Diagnostic test and Remedial teaching.
5. Different Evaluation tools and techniques – Observation, Written Test, Open Book Test.

SESSIONAL WORK

Any two of the following –

1. Abstract of two published papers related to History in reputed Journals.
2. Identify the students with less than 60% marks in History, diagnose their difficulties and suggest appropriate remedial measures.
3. Preparationof a scrap book related to the current issues of History.
4. A study of any one aspect of current Historical issue and preparation of report.
5. Life sketch of a prominent historian.
6. Preparation of a report on local heritage.

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PAPER CODE-9121

Course 5&6 - PEDAGOGY OF POLITICAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Understand the nature of the discipline of Social Science.
2. Understand the nature, need and importance of Political Science in School curriculum.
3. Develop an understanding of relationship of Political Science with other school subjects.
4. Develop an understanding of aims and objectives of Political Science teaching.
5. Understand and adopt proper methods and techniques of teaching various topics of Political Science.
6. Understand the contributions of Indian and western Political Thinkers such as Kautilya, Mahatma Gandhi, Bhimrao Ramjee Ambedkar, Plato, Aristotle, Rousseau, Marx.
7. Prepare Annual Plan, Unit plan and daily teaching plan in Political Science.
8. Conduct Pedagogical analysis of content for teaching in the classroom.
9. Develop the concept and skill needed for Diagnostic and Remedial Teaching.

COURSE CONTENT

UNIT- I Nature of Social Science as a Discipline –

1. Nature of Social Science as a discipline, NCF (2005) position paper of Social Science.
2. Importance of political science in school curriculum.
3. Developmental Perspectives of Political Science.
4. Contribution of eminent Political Thinkers-
   a) Indian –Kautilya, Mahamta Gandhi, Bhimrao Ramjee Ambedkar
   b) Western-Plato, Aristotle, Rousseau and Carl marx.

UNIT-II Political Science as a School subject –

2. Nature and scope of political science.
3. Aims and objectives of teaching of Political Science.
4. Co-relation of Political Science with other School Subjects.

UNIT –III Planning and strategies -

1. Annual plan, Unit plan, Daily Teaching Plan- Concepts and features.
   1. Methods of Teaching Political Science
   a) Lecture –cum demonstration method.
   b) Project Method.
   c) Problem Solving method.
   d) Socialized Recitation method.
   e) Discussion method.
2. Techniques and Devices of teaching Political Science.
   a) Questioning Technique.
   b) Interview Technique.
   c) Illustration with example.
   d) Role Playing Technique.

UNIT-IV Pedagogical Analysis and mode of Learning engagement –

1. Pedagogical analysis of the Units with reference to concepts, learning outcomes, activities and learning experiences and evaluation techniques of following content at Secondary and Sr. Secondary level.

a) Liberty
b) Equality
c) Social Justice
d) Rights
e) Secularism
f) Nationalism
g) Citizenship
h) Peace

UNIT-V Assessment and evaluation in Political Science.

1. Purpose and concept of evaluation.
2. Preparation of an achievement test in Political Science along with Blue Print, Content analysis, Scoring key and marking scheme.
3. Diagnostic testing and Remedial Programme.
4. Concept and advantages of continuous and comprehensive evaluation (CCE).

SESSIONAL WORK

Any two of the following:-

1. Make a Scrap Book on any National Political issue.
2. Construction of an achievement test with Blue Print, content analysis, marking scheme and scoring key, its administration and interpretation.
3. A Power Point presentation related to any topic of Political Science.
4. Abstracts of two published papers related to Political issue.
5. To present a report of functioning of the institutions like municipal council/ gram panchayat/ coopertative society.
6. Life sketch and contribution of any one prominent Indian Political Thinker.

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PAPER CODE-9122

Course 5&6 - PEDAGOGY OF ECONOMICS

Objectives: After completion of the course, the student teachers will be able to -

1. Understand the nature of the discipline of Social Science and Economics.
2. Understand Origin and Development of Economics.

3. Understand the contributions of western and Indian Economists such as Marshal, Pigou, Robinson, Chanakay, Amartaya Sen.
4. Understand Need and importance of Economic in School Curriculum.
5. Develop an understanding of the relationship of Economics with other subjects.
6. Develop an understanding of aims and objectives of Economics.
7. Develop an understanding of Pedagogy of Economics.
8. Develop ability to preparing Annual Plan, Unit Plan and Daily Teaching plan in Economics.
9. Understand and use different strategies for teaching Economics.
10. Develop an ability to construct an achievement test, Diagnostic and Remedial measures.

COURSE CONTENT

UNIT -I Nature of Discipline

1. Nature of Social Science, NCF 2005 position paper of Social science.
2. Meaning, Nature, Scope and importance of Economics
3. Origin and Development of Economics.
4. Methods of study in Economics-Economic Survey, Observation, Case Study and interview
5. Contribution of eminent economists-
   a) Western - Thomas Malthus, Alfred Marshall, Adam Smith.
   b) Indian- Chanakay, Amartaya Sen.
6. Human Values and Economics.

UNIT–II Economics as a Subject in School Curriculum.

1. Need and importance of Economics at secondary level.
2. Correlation of Economics with other subjects: Commerce, Geography, Mathematics, Statistics, History, Civics etc.
3. Scope of Economics- Economic institutions such as Banking, Small Industry etc. Economic relation-local, national and international level, Economical structure of a financial sector.

UNIT- III Pedagogy of Economics.

1. Aims and Objectives of Teaching Economics.
2. Pedagogical Analysis of the following topics of Economics -
   a) Budget
   b) Supply and Demand
   c) Inflation and Deflation
   d) Indian Marketing System
   e) Money and Credit
   f) Indian Economic Policy
   g) Planning
   h) Consumer Rights
   i) Globalization with reference to Indian economics

UNIT -IV Planning and Strategies

1. Annual Plan, Unit Plan, Daily Teaching Plan–Concepts and features.
2. General principles and maxims of economics teaching.
3. Methods of teaching Economics –
   a) Inductive and Deductive method

b) Problem solving method
c) Project method
d) Discussion Method
e) Constructivism

4. Selection of appropriate techniques at secondary level in Economics Teaching
   a) Illustration with examples
   b) Questioning Technique
   c) Data Representation and Interpretation
   d) Computer Assisted Instruction(CAI)

UNIT -V Evaluation in Economics

1. Concept of Evaluation
2. Different Evaluation tools and techniques –Observation, Written Test, Open Book Test.
3. Achievement Test in Economics: Concept, Need and Steps for constructing achievement test.
4. Diagnostic testing and Remedial Teaching.
5. Continuous and Comprehensive Evaluation (CCE).

SESSIONAL WORK

Any Two of the following:

1) Preparation of a scrapbook related to any current issue of Economics.
2) A power point presentation related to any one topic of Economics.
3) Preparing a Radio or T.V. Script related to a current Economic issue.
4) Abstracts of two published papers related to Economics in reputed journals.
5) Market survey related to a product/economic activity.
6) Life sketch of an eminent economist.

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26. पाण्डेय, कामता प्रसाद : अर्थशास्त्र शिक्षण, मेरठ
27. सिंह हरनारायण एवं सिंह राजेन्द्र : अर्थशास्त्र शिक्षण, प्रकाशन–लक्ष्मीनारायण अग्रवाल – आगरा

INTERNET RESOURCES

Online! A Reference Guide to Using Internet Resources.

Wikipedia – online encyclopedia website - http://www.wikipedia.org/

E learning India Website - http://elearning-india.com/

Constructive approach -

http://en.wikipedia.org/w/index.php?title=Constructivist_teaching_methods&oldid=436907250

PAPER CODE-9123

Course 5 & 6 - PEDAGOGY OF GEOGRAPHY

Objective: After completing the course the student teacher will be able to:

1. Develop understanding about social science as discipline
2. Understand the contribution of different schools of geography
3. Understand the characteristics of geography as a discipline.
4. Develop understanding about meaning, nature, scope and objectives of geography education.
5. Understand basic concepts of geography.
6. Understand the importance of geography education in schools.
7. Develop skills in planning and involving learner in inside and outside classroom activities.
8. Employ various techniques of 'Transaction of Geography'
9. Construct appropriate tools for evaluating geography teaching
10. Develop skills in organizing practical activities in geography.

COURSE CONTENT

UNIT-I Nature of Social science as a discipline

Nature of Social Sciences as a discipline. Position of Geography in social sciences, correlation of geography with other disciplines, salients features of NCF (2005) Position Paper on Social Sciences.

UNIT-II Geography as a subject in schools

1. Meaning and Nature of Geography, Modern concept and main branches, Contribution of different schools in development of geography-determinist, possibilist & neo determinist, place of geography in school curriculum, Importance of geography in daily life. Correlation of geography with other school subjects.
2. Aims and Objectives of Teaching geography at Secondary and Senior Secondary Level. Role of geography teaching in developing international understanding. Geogrpahy teaching in the light of sustainable future.

UNIT-III Pedagogy of geography

1. Basic concepts of geography
   a. Geosphere
   b. Physical, human and regional geography
2. Pedagogical analysis of the following
   a. Temperature zones of the earth
   b. Weather, climate and season
   c. Maps as tools in geography learning
   d. Latitude and longitudes

UNIT-IV Planning for Teaching Geography

1. Analysis and organization of subject matter
2. Planning for teaching and learning-annual plan, unit plan and daily plans.
3. Important skills for classroom teaching – Lecture and narration questioning, discussion, dialogue, demonstration.
4. Interactive, constructivist, critical pedagogies in geography.
5. Development of different skills – Observation, oral, practical and cartographical.

6. Planning outdoor activities and geographical excursions.
7. Study of Local geography
8. Geography club.

UNIT-V Assessment in Geography

1. Evaluation in Geography - Need and importance
2. Continues and comprehensive evaluation in Geography.
3. Construction of Blue Print and achievement Test, Essay, Short Answer and objective type test.
4. Diagnoses of Learning difficulties and Organization of remedial teaching in geography.

SESSIONAL WORK

Any two out of the following

1. Preparation of a plan to study local geography
2. Construction of an achievement test in geography
3. Preparing a project report/field visit report related to geography.
4. Preparing a scrapbook related to some geographical issue.
5. Preparation of PPP slides on a topic of geography
6. Geographical interpretation of a toposheet.
7. Study of the activities of a geography club of a school.
8. Critical Analysis of RBSE Question Paper of Geography of Senior Secondary Examination.

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PAPER CODE-9124

Course 5&6 - PEDAGOGY OF ART

Objectives: After completion of the course the student-teachers will be able to:

1. Understand the nature of Art as a discipline.
2. Get acquainted with the origin and evolution of various Forms of Art.
3. Understand the place of Art in general education.
4. Understand the concept and basics of different art forms (visual and performing arts);

5. Develop the ability to use visual art processes to generate new knowledge, understanding and perception of the world;
6. Understand the significant implications of art to nurture children's creativity and aesthetic sensibilities through genuine exploration, experience and free expression;
7. Get acquainted with the strategies of classroom teaching of art.
8. Prepare Yearly plan, Unit-plan and teaching-plan for teaching art.
9. Prepare and use suitable teaching aids in the classroom effectively.
10. Understand the creative aspect of the Teaching of child art.
11. Understand the strategies of developing appreciation of beauty of nature and the basic elements of art forms among the students;
12. Understand the strategies of developing ability to appreciate the inherent rhythm, beauty and harmony in visual art forms: specifically regional, traditional and classical art forms among the students.

COURSE CONTENT

UNIT-I Concept, Nature, and Scope of art as a Discipline:

1. Meaning and Etymology of word 'Art' (Indian and Western context)
2. Various forms of Visual Art: Art of Painting; Sculpture; and Architecture;
3. Concept of Art or Aesthetics (Indian and Western context)
4. Classifications of art:
   a) Visual, Performing and Literary arts;
   b) Classical, Traditional and Folk arts.
5. Appreciation of Art.
   a) Elements of Art (Shadang ("kM+kax) - 6 elements of Indian Painting)
   b) Principles of Aesthetic Order (Principles used in composing art work)
   c) Language of Art (Special reference to Indian Art)
6. Art and Education:
   a) Modern concept of Integrated Art or Aesthetic Education
   b) The Changing status of art in general Education
   c) Systematic study in Art-education.
   d) Educational values of art and its relations with other school subjects.
7. Aims and objectives of teaching Art at secondary/senior secondary level.

UNIT-II Meaning and Nature of Visual Arts:

1. Meaning and concept of Visual Arts.
2. Evolution of various forms of Visual Arts.
3. Nature of Visual Arts:

I. Two dimensional Techniques of Visual Arts:
   a. Drawing and Painting: Water colour, Oil colour and other mediums.
   b. Collage, Mosaics, Print arts (Stencils, Lino-cut, Wood-cut, Colograph and Etching etc.).
   c. Rajasthani Folk and Traditional Visual Arts – Mandana, Alpana, Rangoli, Phad and Kawad Paintings, Murals, Rajasthani miniature and Pichwai Paintings etc

II. Three dimensional Techniques of Visual Arts:
   a. Clay work, Paper mashie work, Creation with waste material, Mask making, Puppet making etc.
   b. Rajasthani Kathputli, Terracotta sculptures (Molela)

UNIT-III Nurturing Creative Expression and Aesthetic Sensibilities of Child through Art activities:

1. Art and Creativity :
   a) Concept and importance of creativity in human life
   b) Art and creativity
   c) Developing Self Expression through Creative art activities;
   d) Role of Art in developing the child's creative personality;
   e) Importance of creative art activities at various stages of school education.
   f) Characteristics of the Child Art.

g) The Child as creative Artist.
h) Different developmental stages of child's creative expression:
i) The Scribbling Stage (Beginning of Self-Expression)
j) The Pre-Schematic Stage (The stage of first representational attempts).
k) The Schematic Stage (The stage of achievement of form concept).
l) The stage of Dawning Realism (The Gang age).
m) The Pseudo-realistic stage. (The stage of Adolescent)
n) The stage of reasoning. (The Final stage of decision making).

2. Art and Aesthetics:
   a) Concept and importance of Aesthetic Sensibility in human life.
   b) Art and Aesthetics (Indian and Western context).
   c) Developing Aesthetic values and Aesthetic Sensibilities through Art Teaching.
   d) Developing harmonious personality of child through teaching of Art;

UNIT – IV Planning and Instructional Support System in Art:

1. Principles of classroom teaching of Art.
2. Planning of teaching Art:
   a) Need and Importance of Planning in Teaching Art activity
   b) Analysis and organization of Creative Art Activities.
   c) Planning of Yearly, Unit and Daily teaching Plan in Teaching of various Creative Art activities.
3. Classroom, its management and organization.
4. The methods of teaching in art:
   a) Traditional method of teaching Art : Copy and Dictated method
   b) Method of Free-Expression
   c) Method of Assigned topic
   d) Demonstration method.
   e) Media Method

5. Innovative Practices in Teaching Art
   a) Constructivist Approach
   b) Group Teaching
6. Life history of eminent artists and their contribution-

UNIT – V Evaluation in Teaching of Art:

1. Purpose and Concept of Evaluation in Teaching of art.
2. Continuous and Comprehensive Evaluation
3. Techniques of Evaluation:
   a) Teacher made test
   b) Designing examination paper and Blue – Print
   c) Development of test items- Various types of test questions (Essay, short answer, and objective types) and their uses.
   d) Progress assessment of development of art activities through:
   e) Self evaluation;
   f) Peer assessment;
   g) Group evaluation.
   h) Criteria-based checklist.
   i) Self-reflection
   j) Respond to the work of others
   k) Portfolio
   l) Evidence of learning: art works, performances, presentations, photographs, videos etc.
   m) Preparation of achievement test - its administration, analysis and reporting.

SESSIONAL WORK

Any two of the following:

1. Prepare at least two innovative activity plans in either Collage; Mosaics or Print media.
2. Documentation of the processes of any one Visual Art form with the pedagogical basis such as Oil Painting, Murals, Collage, Mosaics and Print making etc.
3. Prepare a scrap-book on the one of the great Tradition of Indian Painting, Sculptures and Architectures with a write-up on its introduction, location and art works of the period with all types of photographs and illustrations of the paintings, sculptures, and architectural monuments.
4. Life and contribution of any one eminent artist/Sculptor.
5. Submission of any two self prepared art works by the student teacher.
6. A critical review of any school of art (Indian or Western classical/ traditional/folk ar schools).

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21. डॉ. अविनाश बहादुर वर्माः भारतीय चित्रकला का इतिहास; प्रकाश बुक डिपो, बरेली
22. ई. कुमारिल स्वामीः 'भारतीय चित्रकला और कलाकार'; प्रकाशन विभाग, सूचना और प्रसारण मंत्रालय भारत सरकार, पटियाला हयाला हाउस, नई दिल्ली
23. डॉ. शिवकुमार शर्मा एवं डॉ. रामावतार अग्रवालः 'रुपप्रद कला के मूलाधार' लायल बुक डिपो, निकट गवर्नमेण्ट कॉलेज मेरठ, उ.प्र.
24. 'भारतीय चित्रकला का आलोचनात्मक इतिहास' ललित कला प्रकाशन 27–ए, साकेत कॉलानी, अलीगढ़

PAPER CODE-9125

Course 5&6 - PEDAGOGY OF MUSIC

The student teacher will be able to –

1. Develop an understanding of the nature of the discipline of Music.
2. Get acquainted with the meaning, basic concept importance and origin of Indian music Education.
3. Understand the importance of music in individual and social life.
4. Develop appreciation for Indian classical music.
5. Use music in stress management and development of aesthetic sense.
6. Develop an understanding of the relationship of music with other subjects.

7. Develop skills in singing different ragas of Indian classical music.
8. Develop skill in evaluating music teaching and prepare diagnostic and remedial programme.
9. Encourage students to participate in music activities.
10. Develop skills for preparation of different types of teaching plans.
11. Understand evaluation techniques and Examination Reforms.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Origin and development of Indian classical music from samved to present time as a discipline.
2. Relationship of music with other discipline such as Art, dance, theater and literature.
3. Muslim influence on Indian music.
4. Rejuvenation of Indian classical music & critical appraisal of the means adopted for the rejuvenation.
5. Role of music in developing social Harmony.

UNIT-II Music as a subject in school curriculum

1. Nature, scope and importance of music at school stage.
2. Correlation of music with other school subjects.
3. Characteristics of Indian classical music, main feature of Hindustani and South Indian styles of music.
4. Aims and values of teaching music at secondary and senior secondary school.
5. Music and Aesthetic development.
6. Role of music in stress management.
7. Therapeutic values of music.

UNIT-III Pedagogy of Music

Pedagogical analysis of the following topics of music -

1. Raga
2. That
3. Taal
4. Swar

UNIT-IV Planning and Strategies

1. Principles of teaching music.
2. Developing Annual Plan, unit plan and daily teaching plan.
3. Methods and techniques of teaching of music:-
   (i) Demonstration, explanation, questioning, & dramatization
   (ii) Methods of teaching Indian classical music and folk music
4. Voice training, Ear training, mind training and aesthetic appreciation.

UNIT-V Concept of Evaluation in Music

1. Evaluation tools and techniques in music
   (1) Written test (2) Practical tests
2. Preparation of an achievement test: Blue print, Types of questions and Scoring.
3. Diagnostic and remedial teaching of music.
4. Discovering musical talents and aptitude and their measurement.

SESSIONAL WORK

Any two out of the following-

1. Survey of activities of any music institution.
2. Collection of patriotic songs /CD (Five)
3. Developing a Remedial Programme in Music
4. Administration & Reporting of Musical aptitude test
5. Case study of musical talent
6. Collection of five Indian classical songs and writing their notations.

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2. History of Music by Padma Iyer
3. A Historical study of Indian music by Swami Pragnanandan
4. Evaluation of Rag and Tal in Indian music by M.R. Gautam
5. Fundamentals of Indian music by Swatavitra Sharma
6. Music its form, Function and Value by Swami Pragnanandan
7. Music Education New Horizons by Manorma Sharma
8. Music Perception & Cognition by Padma Iyer
9. Psychology of music by R.C. Mehta
10. Voice culture by S.A.K. Durga
11. Indian Theatre by C.B. Gupta
12. Music Research by R.C. Mehta
13. Music in Indian Art by M. Hariharam
14. Indian Aesthetics & musicology by Prof. Prem Lata Sharma
15. संगीत शास्त्र विज्ञान इल डॉ. पन्नालाल मदन
16. संगीत शिक्षा अंक सम्पादक डॉ. लक्ष्मीनारायण गर्ग
17. भारतीय संगीत और मनोविज्ञान श्रीमती वसुधा कुलकर्णी
18. भारतीय संगीत का इतिहास लेखक भगवत शरण शर्मा
19. भारतीय संगीत का सौन्दर्य विधान, मधुरलता भटनागर
20. हिन्दुस्तानी संगीत पद्धति क्रमिक पुस्तक मल्लिका : 4, भातखण्डे
21. भारतीय संगीत शिक्षण प्रणाली एवं उकसा वर्तमान स्तर लेखक डॉ. मधुबाला सक्सेना
22. शास्त्रीय संगीत का विकास, अमिता शर्मा
23. राष्ट्रीय एकता में संगीत की भूमिका : डॉ. सत्य भार्गव
24. संगीत शास्त्र विज्ञान, पन्नालाल मदन
25. संगीत का योगदान मानव जीवनके विकास में, उमाशंकर शर्मा
26. संगीत में वैज्ञानिक उपकरणों का प्रयोग : अनीता गौतम

PAPER CODE-9126

Course 5&6 - PEDAGOGY OF BUSINESS STUDIES

Objectives: After completion the course, the student teacher will be able to-

1. Understand concept, nature, and scope of Business Studies.
2. Know about the aims and objectives of teaching Business Studies.
3. Understand future perspectives of Business Studies.
4. Prepare annual plan, unit plan and daily teaching plan.
5. Acquire knowledge of the methods and devices of teaching Business Studies.
6. Understand and use I.C.T in teaching of Business Studies.

7. Perform pedagogical analysis of various topics in Business Studies.
8. Develop and ability to construct and use an Achievement test, Diagnostic test and remedial teaching in Business Studies.
9. Understand and use continuous and comprehensive assessment in Business Studies teaching.

COURSE CONTENT

UNIT– I Nature of Business as a Discipline:

1. Nature and concept ofBusiness.
2. Importance of studying commerce as a subject in the context of changing global scenario.
3. Scope of commerce education in developed and developing country like India.
4. Integrating values in Commerce education.
5. Contribution of Eminent Indian and Westernbusiness Personalities; Ghanshyam Dasirla,JamsetjiTata, DherubhaiAmbani, AlanMichaclSugar,An Wang, A.AlferedTabumam,AnduerWillian Mello, Bill Gates.

UNIT-II Business Studies as a school subject:

1. Nature, Concept and Scope of Business Studies Teaching.
2. Importance and essential characteristics of Business Studies.
3. Correlation with other subjects viz. Economics, Accountancy, Sociology, Psychology, Geography, Statistics, and Science etc.
4. Aims of Business Studies.
5. Aims and objectives of teaching business Studies at senior secondary level.

UNIT-III Methodology and techniques of teaching of Business Studies:

1. Maxims of teaching and general principles of teaching Business studies
2. Concept, importance, and characteristics of Annual Plan.
3. Concept, importance, and various step of Unit Plan
4. Concept, importance, characteristics and essential point of daily teaching plan.
5. Methods for teaching Business Studies:
   a) Lecture-cum - Demonstration Method
   b) Project Method
   c) Discussion Method
   d) Problem Solving Method
6. Techniques of teaching Business Studies:-
   a) Questioning technique
   b) Drill technique
   c) Illustration technique
   d) Role-playing technique
   e) Assignment technique

UNIT–IV Pedagogical analysis and mode of learning.

Pedagogical analysis with reference to:

1. Identification of concept involve
2. Learning behavioral outcomes
3. Teaching learning experiences
4. Evaluation techniques

Of the following topics at senior secondary RBSE/CBSE

1. Nature and Purpose of Business
2. Forms of Business Organisations

3. Public, Private and Global
4. Emerging Modes of Business
5. Sources of Business Finance
6. Internal Trade

UNIT-V Evaluation and Assessment of student performance in Business Studies.

1. Nature, Concept,Aims, Importance, and Functions of evaluation.
2. Various Tools, Devices and Techniques of evaluation.
3. Characteristics of Good Questions and Qualities of Good test.
4. Preparation of Achievement test along with blue print, content analysis, scoring key and marking scheme.
5. Diagnostic test and remedial programs.
6. Continuous and comprehensive evaluation (CCE)

SESSIONAL WORK

Any Two of the following-

1) Preparation of Unit Test along with blue print, content analysis, scoring key and marking scheme.
2) Developing a set of transparencies on any one unit related to subject.
3) Study of reaction of consumers about the services surroundingthe malls.
4) Study of the Structure and functioning of a commercial activities / Institution.
5) Pedagogical analysis of any one topic / content.
6) A life sketch of leading Businessmen.

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1) Sharma B.L. (2007) Vanijyashikshan R.L. book Depot, Meerut.
2) Dr. Jain K.C.S.(2008) Vanijyashikshan, Rajasthan Hindi Academy, Jaipur.
3) ParsarAshish Ashok (2007) VanijyashikshanRadhaPrakashan, Agra
4) Singh I.B.(1968) Vanijyakaadhyayan, Laxmi Narayan, Agra .
5) Asubel D.P.(1963) "The Psychology of Meaningful Verbal Learning" N.V. Grune and Stration.
6) Agarwal J.C.(2003)- Teaching of commerce, Vikas publication, New Delhi.
7) Saxena, Udaiveer : Vanijyashikshan
8) Baghela, Het Singh : Vanijyashikshan
9) RaoSema – Teaching of Commerce, Anmol Publication Pvt. Ltd. 1995.
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PAPER CODE-9127

Course 5&6 - PEDAGOGY OF FINANCIAL ACCOUNTING

Objectives: After completion the course, the student teacher will be able to-

1. Understand concept, nature, and scope of Financial Accounting.
2. Know about the aims and objectives of teaching Financial Accounting.
3. Understand future perspectives of Financial Accounting teaching.
4. Prepare annual plan, unit plan and daily teaching plan.
5. Develop the skills of preparing practice sets in Accountancy with the help of vouchers and business documents.
6. Acquire knowledge of the approaches, methods and techniques of teaching Financial Accounting.

7. Understand and use I.C.T in teaching of Financial Accounting.
8. Perform pedagogical analysis of various topics in Financial Accounting.
9. Develop an ability to construct and use an Achievement test, Diagnostic Test and remedial measures in Financial Accounting.
10. Understand and use continuous and comprehensive assessment in Financial Accounting teaching.

COURSE CONTENT

UNIT – I Nature of Financial Accounting as a Discipline.

1. Nature and types of Accounting as a discipline with reference to Commerce.
2. Importance of studying Accounting as a subject in the context of changing global scenario.
3. Nature and Concept of Financial Accounting.
4. Development of Financial Accounting Education in India with reference to sr. secondary level.
5. Contribution of Important Institutions for developing in Accountancy-
   a) The Institute of Chartered Accountants of India (ICAI).
   b) Institution of Chartered Financial Analysis of India (ICFAI).
   c) Institute of Cost Accountants of India (ICAI).
   d) The Institute of Company Secretaries of India (ICSI).
   e) American Institute of Certified Public Accounts (AICPA).

UNIT-II Financial Accounting as a School subject

1. Nature, Concept and Importance of Financial Accounting in school curriculum.
2. Essential characteristics of Financial Accounting as a subject.
3. Aims and objectives of Financial Accounting at senior secondary level.
4. Correlation of financial subject with other subjects viz. Business Studies, Banking, Economics, Mathematics and Statistics.
5. Basic conceptual scheme & future perspectives of Financial Accounting.

UNIT-III Approaches and Methodology of teaching Financial Accounting

1. Various Approaches of teaching Financial Accounting:-
   a) Equation Approach
   b) Journal Approach
   c) Ledger Approach
   d) Cash Book Approach
   e) Why and How Approach'
2. Methods of teaching Financial Accounting –
   a) Lecture –cum-Demonstration method
   b) Discussion method
   c) Problem Solving Method
   d) Project Method
   e) Modern Method of teaching (ICT)
   f) Teaching through practice sets
3. Techniques and devices of teaching financial Accounting-
   a) Questioning technique
   b) Drill technique
   c) Illustration technique
   d) Role- playing technique
   e) Assignment technique

4. Maxims of teaching and principles of teaching Financial Accounting.
5. Planning for teaching Annual Plan, Unit Plan and Daily Teaching Plan.
6. Difference between approach, method, technique and maxims.

UNIT-IV Pedagogical Analysis and Mode of Learning in Financial Accounting.

1. Pedagogical analysis with reference to:
   a) Identification of concepts involved
   b) Learning behavioral outcomes
   c) Teaching Learning experiences
   d) Evaluation techniques

   Of the following topics of senior secondary course prescribed by RBSE/CBSE-

   a) Introduction to Accounting
   b) Theory Base of Accounting
   c) Recording of Business Transactions
   d) Trial Balance and Rectification off Errors
   e) Accounting for Bills of Exchange Transactions
   f) Accounting for Not-for- Profit Organization's

2. Modes of learning in Financial Accounting
   a) Providing opportunities for group activities for preparation of Practice Set including business document vouchers
   b) Group / Individual Presentation
   c) Providing opportunities for sharing ideas
   d) Knowledge and use of different Subsidiary Books of Accountancy.
   e) Teaching aid and activity in laboratory work
   f) Reflective written assignments

UNIT– V Evaluation &Assessment of student performance in Financial Accounting:

1. Importance and concept of evaluation.
2. Various devices of testing and their need.
3. Preparation of Achievement test along with blue print, content analysis, scoring key and marking scheme.
4. Qualities of good test.
5. Diagnostic Test and remedial programs
6. Continuous and comprehensive evaluation.

SESSIONAL WORK

Any two of the following:

1. Preparation of Unit Test along with blue print, content analysis, scoring key and marking scheme.
2. Prepare practice sets on any one of the unit with solutions.
3. One Project related to any financial topic.
4. Study of a balance sheet of any business organization.
5. Report of a visit to a business organization with a view to study its financial system.

Assessment and Evaluation

1. Concept of continuous and comprehensive evaluation, Formative and Summative Evaluation
2. Different types of questions, Blue print and construction of Achievement Test.
3. Diagnostic and Remedial measures
4. Self Evaluation, Peer Group Evaluation and Teacher Evaluation
5. Assessment Indicators of practical examination in Chemistry Such as Handling of Apparatus, following Systematic Approach, Correct Conclusion, Understanding Cause Effect Relationship of given Experiment, Viva-Voce and Reporting.

PRACTICUM/SESSIONAL

Any Two from following -

Practicum No. 1 is compulsory for all

1. Preparation of kit for Demonstration of five experiments on any Topic related to chemistry covered in the syllabus of class VI to X.
2. Preparation of a low cost apparatus/Improvised apparatus. (Other than submitted during internship)
3. Analysis of a given Salt – Identifying Acid and Basic Radicals
4. Identification of Protein, Carbohydrate, Fat in a given substance.
5. Identification of Adulteration in some food article such as Ghee, Oil, Milk, Red Chilli powder, Turmeric powder and Pulses etc.

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Aggrawal J.C.(1990), Curriculum Reforms in India, Dasba House Delhi.
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NCERT, National Curriculum Framework-2005
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Pandey (2003), Major Issues in Science Teaching, Sumit Publication , New Delhi.
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Sharma, H.S. Teaching of Chemistry
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Their, DH, (1973) Teaching Elementary School Science A Laboratory Approach Steering Publication Pvt. Ltd.
Thurber, W.A. and Collets A.T.- Teaching Secondary Schools.
UNESCO – Source Book for Science Teaching.
Vaidya N., Science Teaching for 21st Centaury (1999)] Deep & Deep Publications.
Vaidya, N. – The impart Science Teaching
West. J. – New Oxford Modern Science Chemistry

Course 7 - DRAMA AND ART IN EDUCATION

(Internal Assessment)

Objectives: After completion of this course, the student teachers will be able to:

1. Understand the role of fine arts in enhancing the creative potentials of an individual;
2. Understand the concept and basics of different art forms (all the visual and performing arts);
3. Understand the significant implications for the role of art, music and drama in education, to nurture children's creativity and aesthetic sensibilities through genuine exploration, experience and free expression;
4. Respond to the beauty in different Art forms;
5. Develop ability to appreciate the inherent rhythm, beauty and harmony in visual and performing art forms(specifically regional, traditional and classical art forms)
6. Enhance skills for integrating different Art forms across school curriculum at secondary level ;
7. Develop skill to create artistic pieces through waste materials;
8. Develop awareness regarding the rich cultural and artistic heritage of India and the specific regions;
9. Develop awareness regarding the role of arts and crafts in the society and day-to-day life situation;
10. Get acquainted with the life and work of the local artists/artistes;
11. Deepen understanding, appreciation and skills in one chosen medium through self work and evaluate self as an artist;
12. Develop the ability to use drama and other visual and performing art processes to generate new knowledge, understanding and perception of the world;
13. Get acquainted with the vast range of the regional and traditional art forms in the light of National Integration.
14. Gets an opportunity for self expression resulting in emotional harmony.
15. Communicate important social issues through drama.

COURSE CONTENT

Note : The entire course will be based on practical oriented.

UNIT - I: Visual Arts and Crafts

Experiencing visual and plastic resources and means of creative expression:

1. Exploration and Experimentation with different '*materials'* of two dimensional and three dimensional Visual Arts - such as lines, strokes, colours, shades, tones, textures etc. by rendering through pencil, charcoal, crayon and pastel, pen and ink, water, poster and acrylic colours, rangoli, alpana, and mandana materials, clay and metal scraps wire, thread, cloured papers, printed materials from magazines and news paper, cardboards and other available throw away materials.
2. Exploration, experimentation and expressing with different techniques of Visual Arts like Sketching; Drawing; Painting; Poster making; Chart making; Block and Stencil printing; Collage and Mosaic work with a variety of coloured papers and coloured printed pictures/ photographs from magazines and news papers; Clay modeling; Hanging mobiles and Stables; Paper cutting and folding, and other local crafts work etc.
3. Framing and displaying of Art works.

UNIT–II Performing Arts: Dance, Music, Theatre and Puppetry Performing arts: Music and Dance

Experiencing Rhythmic and Kinetic resources and means of creative expression through:

1. Exploration and Experimentation with the terms used in Music and Dance like-Nada, Swara (Shudha, Komal, Tivra), Saptak, Sargham, Mandra, Madhyama, Tar, Arohi Avarohi, Raga, Ragini, Laya, Maatra, Tal, Avartal, Mishra Sam Tal, Gati, Padghat, Classical, Regional and Folk forms of Music and Dance and other related elements.
2. Listening/viewing and exploring Regional Art forms of music and dance through live and recorded performances.

3. Viewing/listening to live and recorded performances of Classical, Traditional and Folk Performing Art forms.
4. Participation and performance in any one of the Regional forms Music/ Dance.

1. Drama: Creative drama

Experiencing all the visual, plastic, Rhythmic, Kinetic and Verbal resources and means of creative expression through:

1. Exploration and Experimentation with terms used in drama like – Movement (Gati), Gestures (Mudra), Mime (Mukabhinaya), Mono-acting, Improvisation, Acting (Abhinaya) : (Angika, Vachika Aharya and Satwika Abhinaya), Emotions (Bhava), Dialogue (samvad), Play (Nataka), One-act play (Ekanki), Drama-script (Natyalekha), Characterization (Charita chitran), Stage setting (Manch sajja), Stage props (Manch samagri), Costume (Vaish bhusha), Stage lighting (Manchiya prakash) and related elements.
2. Explore and Experiment with observing, Improvising and re-creating the various characters from society by participating in group workshop.
3. Listening/viewing and exploring Regional theatrical and puppetry forms through live and recorded performances.
4. Viewing/listening to live and recorded performances of Modern and Folk drama through live and recorded performances.
5. Participate in live performance in any one of the stage performance of drama prepared during the work shop conducted or for staging on annual function or any cultural event of the institute.
6. Planning stage-setting, costumes designing, make-up and light designing for a performance/presentation prepared by the student-teacher during the work shop or staging on annual function or any cultural event of the institute.

UNIT - III: APPRECIATION OF ARTS

1. Meaning and concepts of Arts and aesthetics and its significance at secondary level of school education (based on group discussion and expert's lectures).
2. Difference between Education in Arts and Arts in Education (based on group discussion and expert's lectures).
3. Heritage of Indian visual and performing arts (based on discussion in the group with the help of the sets of slides, selected for the purpose).
4. Identification of different performing Art forms and Artists; dance, music and musical instrument, theatre, puppetry, etc. (based on a set of slides, selected for the purpose and watching live performances of these forms in while performed in your region).
5. Knowledge of Indian Craft Traditions and its relevance in day-to-day life and education (based on a set of slides, selected for the purpose and visiting the local craft bazaars).
6. Knowledge of Indian Contemporary Arts and Artists; Visual Arts (based on a set of slides, selected for the purpose).
7. Indian and Regional festivals and its artistic significance (based on group or panel discussions in classroom).

FOLLOWING WORKSHOPS WILL BE CONDUCTED:

One for visual arts and one for Performing arts and drama, conducted of half a day each, of one week duration, for working with artists/artisans to learn basics of Arts and Crafts and understand its pedagogical significance. The Art forms learnt during the course should be relevant to the student-teachers in their profession. Activities, such as drawing, and painting, rangoli, clay modeling, pottery, mixed collage, woodcraft, toy making, drama, puppetry, dance, music, etc. specifically regional forms should be given more emphasis for making arts learner-centered. The focus of the workshops should be on how art forms can be used as tool/ method of teaching-learning of Languages, Social Sciences, Mathematics and Sciences.

SESSIONAL WORK

Any one of the following:

1. Theme-based projects from any one of the curricular areas covering its social, economic, cultural and scientific aspects integrating various Arts and Craft forms;
2. Textbook analysis to find scope to integrate Art forms either in the text or activities or exercises;
3. Documentation of the processes of any one Art or Craft form with the pedagogical basis such as weaving or printing of textiles, making of musical instruments, folk performances in the community, etc. on the basis of –

1. how the artist design their products;
2. manage their resources, including raw materials;
3. marketing, problems they face; and
4. how make them aware of these aspects of historical, social, economic, scientific and environmental concerns;
5. Student-teacher should prepare at least two lesson plans in their respective streams of subjects (Science/ Maths / Social Sciences/ Languages etc.) while integrating different art forms.
6. To prepare a scrap-book on the great artists, musicians, dancers theatricians and craftsman with a write-up on their introduction and art work with all types of photographs and illustrations of their paintings, sculptures, musical concerts, musical instruments, performances and artifacts.

NOTE: In this paper there will be no external examination. Internally college will conduct a written examination carrying a weightage of 10 marks and a practical examination carrying a weightage of 20 marks, Viva Voce carrying a weightage of 10 marks and 10 marks will be awarded for sessional work.

College will conduct Internally

Total Marks: 50	Internal Assessments: 50
Written examination	**10 Marks**
Practical examination(VISUAL ARTS AND CRAFTS PERFORMING ARTS: DANCE, MUSIC, THEATRE AND PUPPETRY APPRECIATION OF ARTS)	**20 Marks**
Viva Voce	**10 Marks**
PRACTICUM/SESSIONAL WORK	**10 Marks**

SUGGESTED RESOURCES FOR CONDUCTING THIS COURSE

- Gradually a Resource Centre for Arts and Crafts should be develop in institution, where materials, including books, CDs, audio and video cassettes, films, software, props, art works of Regional and National level, books and journals must be displayed for the purpose of reference and continuous motivation. For this institutions can take help from Internet and other art education centers like SIERT, CCRT, RIEs, State Lalit Kala, Sangeet Natak and Sahitya Academies etc.

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2. ACurriculum in Arts, A conceptual Framework, Virmani J.D.; Dept. of Education in Social Sciences and Humanities, NCERT Pblication
3. Teacher handbook of Art Education: Class VI: NCERT Pblication
4. Let us Sing Together, vkvks feydj xk,a ; 1999 Education: NCERT Pblication
5. Sangeet ka Laharata Sagar ; Vishnu Digam Paluskar (Hindi): NCERT Pblication
6. Hindustani Shastriya Sangeet ke pramukh Kanth Sangeetagya.: NCERT Pblication
7. Uttar Bhartiya Shastrriya Kanth Sangeet : Ek Adhyyan.: NCERT Pblication
8. Raja Ravi Verma (Hindi): NCERT Pblication
9. Kala Shiksha ki Shikshak Sndarshika (Class V): NCERT Pblication
10. Fun with Art and Crafts : NCERT Pblication

Central Inst. Of Educational Technology (CIET) Publication

11. Audio-Visual Materials on visual and performing arts.

Center for Cultural Resources and Training (CCRT) Publication

Audio-Visual Materials:

12. Oddisi dance Part – 1 & 2
13. Bharat Natyam Dance – 1 & 2
14. Rass Manipuri Dance
15. Khajuraho (World Heritage)
16. Mahabalipuram (World Heritage)

Audio Cassettes:

17. Azadi ke geet (song of freedom movement)
18. My pledge to freedom
19. Regional songs Part – 1 & 2

Colour Slides:

20. Slides on Performing Arts
21. Slides on Plastic Arts
22. Forts, Palaces and Havelies of Rajasthan
23. Traditional toys
24. Art of Puppetry
25. Musiacal Instruments of India Part – 1 & 2
26. Traditional Theatre forms of India Part – 1 & 2

Publication:

27. Indian Classical Dance ; Kapila Vatsayan
28. Living Dolls: Story of Indian Puppets ; Jiwan Pani
29. The Language of Music ; V. K.Narayan Menon

National Book Trust of India Publication:

30. Indian Folk arts and crafts: Jasleen Dhamija
31. Indian Painting ; Srinivasan Murti
32. Art : The basis of Education ; Devi Prasad
33. Performance Tradition of India; Suresh Awasthi
34. Creative Drama and Puppetry in Education; R. Contractor
35ण षिक्षा का वाहन कला : देवीप्रसाद; नेषनल बुक ट्रस्ट प्रकाषन
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38ण शिल्प कथा नन्दलाल बसु, साहित्य भवन लि., इलाहाबाद ;उ. प्र.द्ध 341
39ण कला और कलम डॉ. गिर्राज किशोर अग्रवाल, भारतीय चित्रकला का आलोचनात्मक इतिहास ललिता कला प्रकाशन, 27–ए, साकेत कालोनी, अलीगढ
40ण भारत का मूर्तिशिल्प डॉ. चार्ल्स एल, फाबरी, राजपाल एण्ड सन्स, कश्मीरी गेट, दिल्ली– 110 006

Course: 8 CRITICAL UNDERSTANDING OF ICT
(Internal Assessment)

Objectives The student teacher will be able to :-

1. Understand the use of ICT in education.
2. Use computer for enhancing teaching learning process.
3. Have access to information and plan teaching learning according.
4. Effectively use ICT tools, software applications and digital resources.
5. Integrate ICT into teaching-learning and evaluation.
6. Acquire, organize and create digital resources.
7. Use ICT for making classroom process more inclusive and to address multiple learning abilities.
8. Use internet to communicate and collaborate with others.
9. Get acquainted with the new trends in ICT.
10. Use ICT for joyful and participatory learning.

COURSE CONTENT

UNIT- I ICT in Education

1. Concept of ICT.
2. Need and importance of ICT in Education and E-Learning.
3. Scope of ICT: Teaching learning Process, Academic Support, Evaluation, Research and Administration, Publication.
4. Role of ICT in following areas :
   a) Curriculum Development
   b) Curriculum Transaction
   c) Classroom Environment
   d) Education Management
   e) Evaluation

UNIT -II ICT based Resources

Concept, Use, Functioning of the Following ICT resources

1. Computer- Block Diagram, Generation, Characteristics and Uses of Computer, Peripheral Devices, Functions and Types of Operating System, Computer Care: - Viruses, Security, Maintenance and PC's and its Brief Specifications as per current Technologies.
2. Radio, TV, News Papers, Overhead Projector, LCD Projector, Slide Projector, Visualiser, Smart Board, Smart Phones, Tablets.
3. Introduction of Networking and Wi-Fi Zone.
4. Recent developments in ICT.

Unit III: Use of ICT in School

1) Using Word Processor, PowerPoint and Excel, using open source Software.
2) Computer as a Teaching Machine – CAI, CBI, CMI, CALT.
3) Internet: - Introduction, Internet Surfing, Search Engine, Web Browsers, Educational Websites, Social Networking, Cloud Computing, E-Mail, Server, Virtual Classroom, Video Conferencing, Teleconferencing, E-Governance.
4) Challenges in Integrating ICT in School Education.

Practical

1. Use of internet for educational content-(a) Use of search engines (b) Searching of e- content-tutorials, PPT, Articles etc.
2. Word Processor-(a) Working with Notepad, WordPad and Paint (b) Working with files and folders: creating, copying, remaining deleting etc.(c) Creating a document in Word, saving remaining, deleting, Cut, Copy ,Paste (d) Applying basic formatting on to a word document, Alignment, Fonts, Boarders and Shadings ,Headers and Footers, Print settings and Previewing (e) Inserting Tables and Chart

(f)Mail Merge (g) Creating a Biodata, Letter Head, Newspaper Advertisement (h) Creating Interview Call Letters using Mail Merge

3. Excel (spreadsheet)-(a) Creating a worksheet, entering data in a work sheet (b) Inserting formula and functions using
   Formula (c) Inserting graphs and charts into a worksheet (d) Sorting and subtotals (e) Creating a mark sheet
4. PowerPoint presentation-(a) creating a new slide show, opening an existing slide show, running a slide show (b) Changing slide design and layout, inserting custom animation (c) Inserting pictures, Diagrams, Movies and sounds, Chart, Table.

SESSIONAL WORK

Activity Based Sessional (Any One)

1. Prepare an E-Learning Lesson using Internet educational resources in any teaching subject.
2. Prepare mark-sheet and marks register of a class and its statistical analysis and graphical presentation.
3. Prepare a Biodata and a calendar and time table of a school.

NOTE: In this paper there will be no external examination. Internally college will conduct a written examination carrying a weightage of 10 marks and a practical examination carrying a weightage of 20 marks, Viva Voce carrying a weightage of 10 marks and 10 marks will be awarded for sessional work.

College will conduct Internally

Internal Assessment	Internal Assessments: 50
Written examination	10 Marks
Practical examination	20 Marks
Viva Voce	10 Marks
PRACTICUM/SESSIONAL WORK	10 Marks

External Assessments	Total Marks 50
Theory External Examination	50 Marks

Total External + Internal **100 Marks**

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13. हरपाल शर्मा, कम्प्यूटर कॉर्सेस। बंसल प्रिन्टर्स, अलवर।

Journals:-

- Educational Technology and Society, Vol. 13, No. 2, April 2010. Rodriguez, Patricio ; Nussbaum, Misguel ; Lopez, Ximena; Sepulveda, Marcos. A Monitoring and Evaluation Scheme for an ICT – Supported Education Program in schools.
- International Journal of Education and development using Information and Communication Technology, Vol. 9, No. 1 , April 1, 2013. Fu, Jo Shan. ICT in Education: A critical Literature Review and its Implications.

Web Links

- www.learn-ict.org.uk
- www.elmoglobal.com
- www.teachersofindia.org
- www.teach.ict.com
- www.adobe.com

Course 9- OPEN AIR SESSION / SUPW CAMP

Every college will organize 5 days camp in the first year of B.Ed. Course. Participation in such camp will be compulsory for all students.
Performance of students will be evaluated internally.
Objectives of the camp will be as follows:-

1. To develop understanding about local environment and Community for connecting classroom teaching with outside world.
2. To develop sensitivity towards self, society and environment.
3. To develop feeling of togetherness and working collaboratively.
4. To develop organizational skills and leadership abilities.
5. To develop skill of conducting surveys.
6. To develop an understanding about sustainable future.
7. To develop dignity of labour through community service.

Suggested activities for Open Air Session/SUPW Camp

1. Study of the local environment/ socio cultural issues through survey.
2. Community awareness performance – cleanliness campaigns, plantation, value education, etc.
3. Participation in Health and Spiritual activities like morning Assembly, Yoga, P.T., Meditation, Silence hour.
4. Participation in Aesthetic and recreational activities.
5. Documentation and organization of exhibition for local community.
6. Productive and creative craft activities.

Note : Student teachers will participate in the above mentioned activities in collaborative manner (to develop the feeling of working and living together)

Guideline for assessment Max Marks 50

S. No.	Activity	Marks
1.	Participation in preparation of Camp	5
2.	Presentation of report of survey/ creative work	20
3.	Participation in Community Awareness Programme	15
4.	Participation in organizational process/community living/cultural and aesthetic activities	10
	Total Marks	50

Course : 10 INTERNSHIP PROGRAMME (School Intership Phase-I)

School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives –

After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.
9. Get acquainted with the functioning of SMC.

Execution of the Internship Programme

The internship programme shall be divided into 2 years. In the first year, 4 weeks will be allotted. This will include one week of school observation and three weeks of practice - teaching during which each student - teacher has to teach 2 periods per day (one period each for 2 pedagogy subjects). Besides teaching, the student - teacher has to complete his/her tasks and assignments related to the courses mentioned in the first year. The three weeks practice teaching will also include the delivery of criticism lessons (one in each pedagogy subject) and also observation of 5 lessons of peers of each of the two subjects.

This practice of teaching programme is adopted so as to give a proper training of teaching skills and thorough guidance to the student-teachers by the subject lecturer.

Execution of the Internship Programme

I Year
(4 Weeks)

(1 Week)

- School Observation (Understanding the School Environment and observing the Class room teaching of regular teachers)
- Engagement with the field to complete the tasks and assignments related to the prescribed courses

(3Weeks)

Practice teaching in both pedagogy subjects in schools

- Teaching the units in both subjects (20 DLP)
- Preparation of Unit Plan
- Blue print + Achievement test + Remedial teaching
- 2 Criticism lessons (1 in each of the 2 subjects)
- Preparation of TLM
- Lesson observations by the peers (5-5 lesson in both subjects)

Marks Distribution for Internship Programme (Phase-I)

Practice Teaching

(C) Peer group lesson observation 10

Ordinary + Criticism – 5 lesson in each round (5+5)

(D) Practice Teaching two round one in each subject

In each subject 13 lesson + 1 test + 1criticism

Lessons- (50 + 50)	=	100
Test - (10 + 10)	=	20
Criticism- (10 + 10)	=	20
Total	**=**	**150**

PAPER CODE-9132

Course: 11 EXTERNAL ASSESSMENT

ONE FINAL LESSON OF PEDAGOGY OF A SCHOOL SUBJECT

[I YEAR]

4. The weightage of final lesson will be 100 marks. Final lesson will be conducted at the end of first academic year i.e. after the completion of 1st phase of internship.
5. **During the final practical examination each candidate will have to teach one Lesson in any one of the two teaching subjects. However, he shall have to prepare lesson plan in both the teaching subjects and should be prepared to deliver lesson in both the subjects if required.**
6. The Board of examiners for external examination will consist of:

   d) The Principle of the college concerned.

   e) One senior member of the college.

   f) Two external examiners appointed by the university.

   Note: - The selection of the faculty member and two examiners be such that, as for as possible, Board of Examiners represent all the three faculties-Humanities, Languages and Science.

External Practical Exam

Presentation in one subject - 100 Marks

SECOND YEAR

Course 12	***Pedagogy of a School Subject One – Part II***
Course 13	***Pedagogy of a School Subject Two – Part II***

Course 14	*Knowledge and Curriculum*
Course 15	*Assessment for Learning*
Course 16	*Educational Management and Creating an Inclusive School*
Course 17	*Understanding the Self* *Internal assessment*
Course 18	*Optional Course** *1. Vocational/Work Education* *2. Health and Physical Education* *3. Peace Education* *4. Guidance and Counseling* *5. Innovations and Action Research*
Course 19	*School Internship 16 Weeks* *Internal assessment* ***Engagement with the Field: Tasks and Assignments for Course 12 & 13***
Course 20	*External Assessment* *Viva-Voce for School Internship*

Course – 12 & 13

To opt for the pedagogy of a school subject, the student teacher shall have to offer any two teaching subjects out of the following papers, which he/she has studied at Graduation /P.G. level for at least two years:

1- Pedagogy of Hindi.

2- Pedagogy of English.

3- Pedagogy of Sanskrit.

4- Pedagogy of Urdu.

5- Pedagogy of Rajasthani.

6- Pedagogy of Mathematics.

7- Pedagogy of General Science.

8- Pedagogy of Physics.

9- Pedagogy of Chemistry.

10- Pedagogy of Biology.

11- Pedagogy of Home Science.

12- Pedagogy of Computer Science

13- Pedagogy of Social Science.

14- Pedagogy of Sociology

15- Pedagogy of Psychology

16- Pedagogy of History.

17- Pedagogy of Political Science.

18- Pedagogy of Economics.

19- Pedagogy of Geography.

20- Pedagogy of Art.

21- Pedagogy of Music.

22- Pedagogy of Business Studies

23- Pedagogy of Financial Accounting

PAPER CODE-9201

Course 12 & 13 - हिन्दी का शिक्षण शास्त्र

प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. हिन्दी पाठ्यचर्या निर्माण के सिद्धांत जान सकेंगे।
2. हिन्दी पाठ्यचर्या एवं पाठ्यपुस्तक को जान सकेंगे।
3. हिन्दी भाषा के मूल्यांकन की प्रक्रिया को जान सकेंगे।
4. माध्यमिक शिक्षा बोर्ड द्वारा प्रस्तावित पाठ्यचर्या का समालोचनात्मक विश्लेषण कर सकेंगे।
5. एक अच्छी हिन्दी की पाठ्य पुस्तक की विशेषता जान सकेंगे।
6. हिन्दी भाषा शिक्षक की विशेषता जान सकेंगे।
7. हिन्दी प्रश्नों के आधार बिन्दु जान सकेंगे।
8. हिन्दी प्रश्न पत्र निर्माण एवं अंकन प्रक्रिया को जान सकेंगे।
9. हिन्दी भाषा शिक्षक की व्यवसायिक एवं नैतिक जिम्मेदारियों का निर्वहन कर सकेंगे।

10. हिन्दी भाषा शिक्षक के शैक्षिक उन्नयन हेतु विविध उपागमों की जानकारी प्राप्त कर सकेंगे।

पाठ्यक्रम–विषयवस्तु

इकाई–I हिन्दी शिक्षण में मूल्यांकन

1. मूल्यांकन का अर्थ, महत्व एवं विशेषताएँ
2. मूल्यांकन की विधियाँ, लिखित, मौखिक व सृजनात्मक (पाठान्तर्गत एवं पाठोपरान्त) सतत् एवं व्यापक मूल्यांकन, पुनर्बलन, पारस्परिक समूह, इकाई वार, वस्तुनिष्ठ, अति लघूत्तरात्मक, लघूत्तरात्मक व निबन्धात्मक।
3. प्रश्नों के आधार बिन्दु– समस्या समाधान प्रश्न, सृजनात्मक चिन्तन वाले प्रश्न, काल्पनिक, विचारोंत्तेजक, परिवेशीय सजगता वाले प्रश्न तथा गतिविधि आधारित प्रश्न। प्रश्न पत्र निर्माण, नील पत्र, विषय वस्तु का विश्लेषण, प्रश्न पत्र, अंकन, योजना एवं उत्तर कुंजी।

इकाई– II हिन्दी की पाठ्यचर्या एवं पाठ्यपुस्तक

1. हिन्दी पाठ्यचर्या निर्माण के सिद्धांत।
2. राजस्थान शिक्षा बोर्ड द्वारा प्रस्तावित माध्यमिक/उच्च माध्यमिक कक्षाओं की पाठ्यचर्या का समालोचनात्मक विश्लेषण।
3. एक अच्छी हिन्दी भाषा की पाठ्यपुस्तक की विशेषताएँ।
4. राजस्थान माध्यमिक शिक्षा बोर्ड द्वारा प्रस्तावित माध्यमिक/उच्च माध्यमिक कक्षाओं की हिन्दी पाठ्यपुस्तक की समालोचना।
5. क्षेत्रीय साहित्यकारों की जीवनी, व्यक्तित्व एवं कृतित्व।

इकाई– III हिन्दी भाषा शिक्षक

1. हिन्दी भाषा शिक्षक की विशेषताएं।
2. भाषा शिक्षक की व्यवसायिक एवं नैतिक जिम्मेदारियां।
3. हिन्दी शिक्षक के शैक्षिक उन्नयन हेतु उपागम–
   - सेवारत प्रशिक्षण कार्यक्रम
   - संगोष्ठियां एवं कार्यशालाऐं
   - व्यवसायिक संगठनों की सदस्यता एवं सहभागिता
   - महाविद्यालय में परिचर्चा
   - पुस्तकालय एवं वाचनालय का उपयोग
   - ऑन लाईन वैचारिक आदान प्रदान

सत्रीय कार्य निम्नांकित में से (कोई एक)

1. किसी एक हिन्दी दैनिक समाचार पत्र– समाचार पत्रों के विभिन्न स्तम्भों की समीक्षा करते हुए शैक्षिक उपादेयता को ध्यान में रखकर प्रतिवेदन तैयार करना।
2. किसी एक बाल फिल्म/बाल साहित्य का समीक्षात्मक अध्ययन।
3. क्षेत्रीय किसी एक साहित्यकार के व्यक्तित्व एवं कृतित्व पर लेख लिखिये (समाज संस्कृति, शांति शिक्षा, नारी शिक्षा में योगदान)
4. भाषा शिक्षण के दौरान आने वाली समस्या पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।
5. दो वर्षीय प्रशिक्षण काल के दौरान जो सीखा/ग्रहण किया उसको ध्यान में रखते हुए प्रतिवेदन तैयार करना।

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PAPER CODE-9202

Course 12 & 13 - PEDAGOGY OF ENGLISH

PEDAGOGY OF TEACHING ENGLISH

OBJECTIVES:

4. To enable the student -teachers to know and understand the basic concepts related to the resources for ELT , status ,issues , problems and challenges of ELT (English Language Teaching) , assessment and evaluation , and remedial work .
5. To enable the student -teachers to apply the knowledge and understanding of the basic concepts of ELT in the actual classroom conditions .
6. To enable the student-teachers to grow as teachers of ELT .

Course Content:

UNIT -1	RESOURCES : **Audio Aids**: radio, tape recorder, lingua-phone, language lab **Visual Aids:** pictures, word cards, flash cards, charts, picture strips, models, textbooks, workbooks, flannel board, blackboard, objects, projectors, newspapers, 'realia' , advertisements, and dictionary. **A.V Aids**: computer, T.V. mobile phone, and websites for ELT. **Multilingualism as a resource** : basic concept, scope , need , basic procedure/process of using multilingualism in the classroom, precautions , merits and demerits.
UNIT -2	STATUS, ISSUES, PROBLEMS AND CHALLENGES : Status of ELT in the curriculum at the elementary school stage and secondary school stage , policy related issues, actual problems in the field and strategies for dealing with the present and future challenges.
UNIT -3	ASSESSMENT AND EVALUATION : Basic concept , types , need , scope, difference between assessment and evaluation, approaches to assessment and evaluation , methods ,techniques and strategies for assessment and evaluation at the elementary and secondary stage, testing of language content and language skills, and Unit -test . Remedial Work : Basic concept, types ,need ,scope and strategies.

Sessional work

Any **one** of the following:

1. A critical analysis of any **one** of the English Textbooks prescribed at the elementary stage or secondary stage or senior secondary stage .
2. A critical analysis of the previous two years Question papers of English used at the elementary stage or secondary stage or senior secondary stage in Rajasthan .
3. Submission of **three** recently published articles on ELT and their abstracts.

A List of Suggested Readings:

1. Baruah, T.C. (1985). **The English Teacher's Handbook**. New Delhi: Sterling Publishing Pvt. Ltd.

2. Bright, J. A. and McGregor, G. P. (1970). **Teaching English as Second Language.** London: Longman.

3. Brumfit, C.J. (1984). **Communicative Methodology in Language Teaching.** Cambridge: Cambridge University Press.

4. Crystal ,David (2003). **The Cambridge Encyclopedia of the English Language.** Cambridge : C.U.P.

5. Doff, A. (1988). **Teaching English.** Cambridge: Cambridge University Press.

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10. **NCF 2005** .New Delhi: NCERT .

11. Paliwal, A.K. (2012). **Methodology of Teaching English as a Second Language**. Jaipur: Kalpana Publications.

12. Raimes, Ann. (2010). **Techniques in Teaching Writing.** Oxford: Oxford University Press.

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PAPER CODE-9203

Course 12 & 13 - संस्कृत का शिक्षण शास्त्र

उद्देश्य – पाठ्यक्रम पूर्णता के पश्चात प्रशिक्षणार्थी :–

1. संस्कृत की ध्वनियों, शब्दों, वाक्यों का वर्गीकरण कर प्रयोग कर सकेंगे।
2. संस्कृत के विद्वानों, संस्थाओं का परिचय प्राप्त कर प्रेरणा ग्रहण कर सकेंगे।
3. संस्कृत की पत्रिकाओं की समीक्षा कर सकेंगे।
4. संस्कृत शिक्षक के गुणों एवं दायित्वों को समझ सकेंगे
5. संस्कृत शिक्षक की व्यवसायिक दक्षता के कार्यक्रमों में सहभागी बन सकेंगे।
6. संस्कृत शिक्षक की मूल्य–संदर्भित जवाबदेही को समझ सकेंगे।
7. संस्कृत कक्ष की आवश्यकता व साज–सज्जा को समझ सकेंगे।

8. संस्कृत पाठ्यक्रमों की समीक्षा कर सकेगे।
9. पाठ्यपुस्तकों की समीक्षा कर सकेंगे।
10. छात्रों की संस्कृत सम्बन्धी उच्चारण, वर्तनी अथवा वाक्य रचना सम्बन्धी त्रुटियों का निराकरण करने हेतु उपचारात्मक शिक्षण योजना निर्माण कर सकेंगे।
11. संस्कृत शिक्षण के अनुभूत समस्याओं के निराकरण हेतु क्रियात्मक अनुसंधान (Action Research) के आकल्प का निर्माण कर सकेंगे।

विषयवस्तु

इकाई – I संस्कृत पाठ्यक्रम एवं पाठ्यपुस्तक

1. पाठ्यचर्या एवं पाठ्यक्रम का सम्बन्ध, पाठ्यक्रम का सम्प्रत्यय, माध्यमिक, उच्च माध्यमिक कक्षाओं के संस्कृत पाठ्यक्रम की समीक्षा (रा.मा.शि.बोर्ड द्वारा प्रस्तावित)
2. अच्छी संस्कृत पाठ्यपुस्तक की विशेषताएं, माध्यमिक, उच्च माध्यमिक कक्षाओं के संस्कृत पाठ्य पुस्तक की समीक्षा (रा.मा.शि. बोर्ड द्वारा प्रस्तावित)

इकाई– II संस्कृत शिक्षण हेतु शिक्षण–अधिगम सामग्री –

1. सहायक सामग्री – द्रश्य, श्रव्य सामग्री, एलसीडी,पीपीटी, संप्रेषण तकनीकी निर्माण एवं प्रयोग।
2. पुस्तकालय, पत्रपत्रिकाएं, ज्ञान कोष, शब्द कोष आदि।
3. भाषा प्रयोगशाला
4. सामुदायिक संसाधन

इकाई – III संस्कृत शिक्षक

1. संस्कृत शिक्षक की विशेषताएं
2. संस्कृत शिक्षक की व्यावसायिक नैतिकता
3. संस्कृत शिक्षक के व्यावसायिक उन्नयन हेतु उपागम– सेवारत प्रशिक्षण कार्यक्रम, संगोष्ठी,पेनल चर्चा, कार्यशाला, आदि में सहभागिता, व्यावसायिक संगठनों की सदस्यता, महाविद्यालय में परिचर्चा, ऑन लाईन वैचारिक आदान–प्रदान।
4. संस्कृत भाषा परिषद, संस्कृत संभाषण समूह, संस्कृत –अभिनयीकरण,सृजनात्मक लेखन क्लब आदि।

सत्रीय कार्य

निम्नाकित में से किसी एक गतिविधि का चयन कर प्रतिवेदन तैयार करना।

1. संस्कृत की किसी एक पुस्तक की समीक्षा।
2. संस्कृत शिक्षा से सम्बन्धित एक अनुभूत समस्या के निराकरण हेतु क्रियात्मक योजना तैयार करना।
3. संस्कृत की मानक (Standard) पत्रिका से किन्हीं दो लेखों का सारांश संस्कृत में तैयार करना।
4. राजस्थान के किसी एक संस्कृत विद्वान/संस्थान का परिचय एवं योगदान पर साक्षात्कार आधारित प्रतिवेदन तैयार करना।

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4. दवे, अमृतलाल, पाटनी, उषा एवं नागदा, उदयलाल (2013) संस्कृत का शिक्षण शास्त्र, आगरा, राधा प्रकाशन मन्दिर प्रा.लिमिटेड

5. द्विवेदी, कपिल देव (2008) रचनानुवादकौमुद्री, जयपुर विश्वविद्यालय प्रकाशन
6. गोयल, प्रीतिप्रभा (2000) संस्कृत व्याकरण, जोधपुर राजस्थान ग्रन्थागार
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8. कर्णसिंह (1997) संस्कृत शिक्षण, लखीमपुर–खीरी, गोविन्द प्रकाशन
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11. पाण्डेय, रामशकल (1995), संस्कृत शिक्षण, आगरा, विनोद पुस्तक मन्दिर
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29. National Curriculum Framework, 2005, Position Paper on Teaching of Indian Language, NCERT, New Delhi
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PAPER CODE-9204

Course 12 & 13 - PEDAGOGY OF URDU

Objectives: After completion of the course the student-teachers will be able to:

1. understand the relation of language and literature;
2. understand the relation between literature and language;
3. understand role and importance of translation;
4. develop insight and appreciation through examining authentic literary and non literary texts in Urdu literature;
5. develop and use teaching aids in the classroom both print and audiovisual material, and ICT (Internet and Computer Technology);
6. acquire knowledge of the process of Language assessment: concept of continuous evaluation system, its various techniques, diagnostic testing and Remedial measures;
7. develop an insight into the symbiotic relationship of curriculum, syllabus and textbooks;
8. understand need and function of language lab;

9. understand the nature and mechanism of Urdu Language;

COURSE CONTENTS

UNIT - I Curriculum and Text Book in Urdu language

1. Cognitive Map of Concepts and Curricular elements in Teaching of Urdu language.
2. Principles of developing curriculum in Urdu language.
3. Selection of subject matter-subjective and objective approach.
4. Organization of subject matter.
5. Critical appraisal / evaluation of present syllabus of Urdu language prescribed by RBSE/ CBSE.
6. Characteristics and selection criteria of a text book of Urdu language.
7. A Critical review of a text book of Urdu language prescribed by RBSE/CBSE for secondary/ senior secondary classes.

UNIT –II Learning Resources in Urdu language.

1. Media and media integration: - use of audio –visual aid, ICT including multimedia, OHP,Computer interaction board,LCD Projector, Internet, E-learning, social media, networking etc.in Urdu language teaching.
2. Using community resources for Urdu language, teaching-Interaction with persons of Urdu language profession.
3. Library resources and dictionary
4. Concept and design of Urdu language Laboratory.
5. Recreational Activities through language Club related to Urdu language teaching- Exhibition; Fair; Models; Games; Field –Trip.

UNIT–III Professional development of English language Teacher:

1. Qualities, responsibilities and ethics of a Urdu language teacher.
2. Role and functions of a Urdu language teacher.
3. Developing competencies of a Urdu language teacher.
4. Professional growth of a Urdu language teacher- Inservice Education Programmes, Inhouse discussions, study of library resources, contribution in professional Journals, membership and participation in professional organization, Use of library resources, newspapers etc.
5. Developing and use of Action Research Plan.

SESSIONAL WORK

Any one of the following:

1. Prepare a short deewan on collection of work of classical or modern poets/ story writers of your choice with a brief introduction and biography of the selected artists.
2. Take any two pieces of creative writing from any other language. Read these pieces carefully and then translate these pieces in Urdu.
3. Develop the instructional materials for teaching Urdu language to Non-Urdu students.
4. Study and write a detail report on the qualities and aesthetic values of Urdu Drama of pre and post independence period of India.

5. Do a comparative study of one textbook of Urdu from any class (VI to VII) developed by any two states.
6. Write a report on the contribution of Urdu poetry in independence movement of India with appropriate examples.
7. Analyse the question papers of Urdu language (Previous 3 Years) of Classes X and XII (of any board) in the light of new approach of assessment.

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8. Maulvi Abdul Quwaid-e-Urdu Anjuman Taraqqi Urdu (Hindi) New Delhi.
9. Moulvi Saleem : Urdu Kaise Padhaen , Chaman Book Depot, Delhi
10. Muenuddin Hum Urdu Kaise Padhen National Council for Promotion of Urdu Language West Block, RK Puram, New Delhi.
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12. Rasheed Hasan Hum Urdu Kaise Likhaen Maktaba Jamia Limited Jamia Nagar, New Delhi
13. Rasheed Hasan Urdu Imla Maktaba Jamia Limited Jamia Nagar ,New Delhi

PAPER CODE-9205

Course 12 & 13 - राजस्थानी का शिक्षण शास्त्र

प्रशिक्षणार्थी इस पाठ्यक्रम को पढ़ने के उपरान्त–

1. राजस्थानी पाठ्यचर्या निर्माण के सिद्धांत जान सकेंगे।
2. राजस्थानी पाठ्यचर्या एवं पाठ्यपुस्तक को जान सकेंगे।
3. राजस्थानी भाषा के मूल्यांकन की प्रक्रिया को जान सकेंगे।
4. माध्यमिक शिक्षा बोर्ड द्वारा प्रस्तावित पाठ्यचर्या का समालोचनात्मक विश्लेषण कर सकेंगे।
5. एक अच्छी राजस्थानी की पाठ्य पुस्तक की विशेषता जान सकेंगे।
6. राजस्थानी शिक्षक की विशेषता जान सकेंगे।
7. राजस्थानी प्रश्नों के आधार बिन्दु जान सकेंगे।
8. राजस्थानी प्रश्न पत्र निर्माण एवं अंकन प्रक्रिया को जान सकेंगे।
9. राजस्थानी भाषा शिक्षक की व्यवसायिक एवं नैतिक जिम्मेदारियों का निर्वहन कर सकेंगे।
10. राजस्थानी भाषा शिक्षक के शैक्षिक उन्नयन हेतु विविध उपागमों की जानकारी प्राप्त कर सकेंगे।

पाठ्यक्रम–विषयवस्तु

इकाई प्रथम–राजस्थानी शिक्षण में मूल्यांकन

1. मूल्यांकन का अर्थ, महत्व एवं विशेषताएँ
2. मूल्यांकन की विधियाँ, लिखित, मौखिक व सृजनात्मक (पाठान्तर्गत एवं पाठोपरान्त) सतत् एवं व्यापक मूल्यांकन, पुनर्बलन, पारस्परिक समूह, इकाई वार, वस्तुनिष्ठ, अति लघूत्तरात्मक, लघूत्तरात्मक व निबन्धात्मक।
3. प्रश्नों के आधार बिन्दु– समस्या समाधान प्रश्न, सृजनात्मक चिन्तन वाले प्रश्न, काल्पनिक, विचारोंत्तेजक, परिवेशीय सजगता वाले प्रश्न तथा गतिविधि आधारित प्रश्न। प्रश्न पत्र निर्माण, नील पत्र, विषय वस्तु का विश्लेषण, प्रश्न पत्र, अंकन, योजना एवं उत्तर कुंजी।

इकाई द्वितीय–राजस्थानी की पाठ्यचर्या एवं पाठ्यपुस्तक

1. राजस्थानी पाठ्यचर्या निर्माण के सिद्धांत।
2. राजस्थान शिक्षा बोर्ड द्वारा प्रस्तावित माध्यमिक/उच्च माध्यमिक कक्षाओं की पाठ्यचर्या का समालोचनात्मक विश्लेषण।
3. एक अच्छी राजस्थानी भाषा की पाठ्यपुस्तक की विशेषताएँ।
4. राजस्थान माध्यमिक शिक्षा बोर्ड द्वारा प्रस्तावित माध्यमिक/उच्च माध्यमिक कक्षाओं की राजस्थानी पाठ्यपुस्तक की समालोचना।
5. क्षेत्रीय राजस्थानी साहित्यकारों की जीवनी, व्यक्तित्व एवं कृतित्व।

इकाई तृतीय–राजस्थनी भाषा शिक्षक

1. राजस्थानी भाषा शिक्षक की विशेषताएं।
2. राजस्थानी शिक्षक की व्यवसायिक एवं नैतिक जिम्मेदारियां।
3. राजस्थानी शिक्षक के शैक्षिक उन्नयन हेतु उपागम–
   - सेवारत प्रशिक्षण कार्यक्रम
   - संगोष्ठियां एवं कार्यशालाऐं
   - व्यवसायिक संगठनों की सदस्यता एवं सहभागिता
   - महाविद्यालय में परिचर्चा
   - पुस्तकालय एवं वाचनालय का उपयोग
   - ऑन लाईन वैचारिक आदान प्रदान

सत्रीय कार्य निम्नांकित में से (कोई एक)

1. किसी एक हिन्दी दैनिक समाचार पत्र– समाचार पत्रों के विभिन्न स्तम्भों की समीक्षा करते हुए शैक्षिक उपादेयता को ध्यान में रखकर प्रतिवेदन तैयार करना।
2. किसी एक बाल फिल्म/बाल साहित्य का समीक्षात्मक अध्ययन।
3. क्षेत्रीय किसी एक राजस्थानी साहित्यकार के व्यक्तित्व एवं कृतित्व पर लेख लिखिये (समाज संस्कृति, शांति शिक्षा, नारी शिक्षा में योगदान)
4. राजस्थानी शिक्षण के दौरान आने वाली समस्या पर क्रियात्मक अनुसंधान का क्रियान्वयन कर प्रतिवेदन तैयार करना।

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PAPER CODE-9206

Course 12 & 13 - PEDAGOGY OF MATHEMATICS

Objectives: After completion of course the student teachers will be able to-

1. Identify difficulties in learning concepts and generalization, and provide suitable remedial measures.
2. Develop ability to teach proof of theorems and to develop mathematical skills to solve problems.
3. Develop understanding of the strategies for teaching exceptional students in mathematics.
4. Develop capacity to evaluate and use instructional materials in mathematics education.
5. Develop skills to be a successful mathematics teacher.
6. Construct appropriate assessment tools for evaluating mathematics learning.
7. Familiarize with the development of curriculum in mathematics.
8. Understand and use of learning resources in Mathematics.

COURSE CONTENTS

UNIT-I Mathematics curriculum at Secondary Level

1. Principles and approaches of curriculum construction.
2. New trends in mathematics curriculum.
3. A critical appraisal of existing mathematics curriculum at secondary stage prescribed by board of secondary education Rajasthan.
4. Enrichment in mathematics teaching for developing creativity.
5. Some highlights of curriculum like vision of school mathematics, main goals of mathematics education, core areas of concerns in school mathematics, curricular choices at different stages of school mathematics education

UNIT-II Learning resources in mathematics

3. Recreational Activities
   a. Mathematics Club:
   b. Mathematics Fairs
   c. MathematicalGames
   d. Mathematical Quiz
   e. Mathematical Puzzles
   f. Mathematical Project
   g. Mathematical Model

4. Importance and Setting up of Mathematics Laboratory.
5. Importance of Support Material: On-line and off-line Resources.

   a) Text books of Mathematics.
   b) Reference Material -Journals ,Reference books, Encyclopedia, News Letters and on line resources
   c) Using community resources for mathematical teaching e.g. interviewing local persons to know the indigenous knowledge of Mathematics etc.

UNIT-III Professional Development of Mathematics Teacher

1. Importance of in-service programmes for mathematics teacher.
2. Role of mathematics teacher's association.
3. Development of professional competencies of mathematics teacher.
4. Professional ethics of mathematics teacher.
5. Research in teaching and learning of mathematics.

SESSIONAL WORK

Any one of the following

1. Identification of learning difficulties experienced by students in a unit.
2. Preparing a report of a remedial teaching programme.
3. Preparing an Action research project proposal related to Mathematics teaching.
4. A case study of slow/ gifted learner in mathematics.
5. Preparing a working model related to mathematics.
6. A project report on any Topic at Sec. Level.

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3. Journal of Mathematics Teacher Education, Springer Netherlands

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PAPER CODE-9207

Course 12 & 13 - PEDAGOGY OF GENERAL SCIENCE

Objectives :- After completion of the course the student teachers will be able to :-

1. Develop ability to evaluate the existing syllabus of General Science.
2. Develop an understanding of curriculum construction.
3. Use audio-visual aids, community resources and ICT in teaching-learning of General Science.
4. Organize co-curricular activities related to General Science teaching.
5. Develop abilities to equip and manage General Science laboratory and organize practical work in General Science.
6. Construct and use instructional / learning materials.
7. Understand responsibilities, qualities and professional ethics of General Science teacher.
8. Understand the modes of professional development of General Science Teacher

COURSE CONTENT

UNIT – I Curriculum and text books of General Science

1. Principles and steps of curriculum construction.
2. Trends in General Science curriculum
3. Critical appraisal of General Science curriculum at Sr. Secondary level prescribed by RBSE/CBSE.
4. Criteria of a good General Science text book.
5. Review of a text book of General Science prescribed by RBSE/CBSE.

UNIT – II Learning resources in General Science

1. Text book, community resources, organization and importance of – Science club, Science Fair, Science Exhibition, field trips and science quiz.
2. Teaching Learning Resources- Chart, models, Specimen, Bulletin Boards, flannel Board, Slide Projector, O.H.P., L.C.D., Transparencies, slide, Computer and Internet.
3. Organization and Managing of General Science laboratory, Precautions and safety measures in laboratory.
4. Conducting practical work in General Science

UNIT –III Professional development of General Science Teacher

1. General Science teacher – Qualities, responsibilities and professional ethics of General Science teacher

2. Professional development programs for General Science teacher, In service education programs, Participation in seminars, conferences, on line sharing, membership and participation in activities of professional organization, in house discussions.

SESSIONAL WORK

Any one of the following

1. Preparation of a plan of field trip / Science Fair.
2. Preparation of a Science puzzle.
3. Power point presentation of any topic of General Science.
4. Review of a standard book on science.
5. Preparation of a herbarium.

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PAPER CODE-9208

Course 12 & 13 - PEDAGOGY OF PHYSICS

Objectives: On completion of the course, the student teacher will be able to :

1. Critically appraise Physics curriculum at senior secondary level.
2. Study science laboratory in schools, facilities and materials available in class that facilitate learning of Physics.
3. Plan, manage physics laboratory and organize physics practical work
4. Analyse the text book with reference to the content, its organization, learning experiences and other characteristics
5. Select and effectively make use of multi media and other learning resourses in classroom teaching
6. Conduct Physics related activities through science clubs, science fairs, science exhibitions during school attachment
7. Conduct physics practicals prescribed by RBSE
8. Become aware of various professional organizations and professional development programs for Physics Teacher.
9. Identify themes in Physical Science for which community can be used as a learning resource

COURSE CONTENT

UNIT – I Curriculum and text books of Physics

1. Principles and steps of curriculum construction.
2. Critical appraisal of Physics curriculum at Sr. Secondary level prescribed by RBSE/CBSE.
3. Criteria of a good Physics text book.
4. Review of a text book of Physics prescribed by RBSE/CBSE.

UNIT – II Learning resources in Physics

1. Text book, organization and importance of – Science club, Science Fair, Science Exhibition, field trips and science quiz.
2. Teaching Learning Resources- Chart, models, Bulletin Boards, flannel Board, Slide Projector, O.H.P., L.C.D., Transparencies, slide, Computer and Internet.

3. Science Lab. – Structure and design of Physics laboratory. Organization and Managing of Physics laboratory, Precautions and safety measures in laboratory
4. Low cost apparatus
5. Conducting practical work in Physics.

UNIT –III Professional development of Physics Teacher

1. Physics teacher – Qualities, responsibilities and professional ethics of Physics teacher
2. Professional development programs for Physics teacher, In service education programmes, Participation in seminars, conferences, on line sharing, membership and participation in activities of professional organization, In house discussion on current issues related to Physics teaching

SESSIONAL WORK

Any one of the following:

1. Case study of any one Senior Secondary School Laboratory of Physics.
2. Planning , conducting and reporting an innovative project in Physics
3. Critical review of a book on physics.
4. Conducting one experiment prescribed by RBSE for senior secondary classes and preparing a report.

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PAPER CODE-9209

Course 12 & 13 - PEDAGOGY OF CHEMISTRY TEACHING

Objectives: After completion of the course the student teacher will be able to-

1. Understand qualities and ethics of Chemistry Teacher.
2. Foster creativity through Teaching of Chemistry.
3. Relate chemistry to conservation of environment
4. Review a chemistry text book.
5. Organize various activities related to chemistry viz field trip, Science Fair, Science Club, Science Quiz.
6. Create Awareness in community through various programmes about the issues such as Food Adulteration, Superstitions, Hazards from Chemical substances and Chemical Industries etc.

COURSE CONTENT

UNIT – I Curriculum and text books of Chemistry

1. Principles and steps of curriculum construction.
2. Critical appraisal of Chemistry curriculum at Sr. Secondary level prescribed by RBSE/CBSE.
3. Criteria of a good Chemistry text book.
4. Review of a text book of Chemistry prescribed by RBSE/CBSE.

UNIT – II Learning resources in Chemistry

1. Text book, organization and importance of – Science club, Science Fair, Science Exhibition, field trips and science quiz.
2. Teaching Learning Resources- Chart, models, Bulletin Boards, flannel Board, Slide Projector, O.H.P., L.C.D., Transparencies, slide, Computer and Internet.
3. Science Lab. – Structure and design of Chemistry laboratory. Organization and Managing of Chemistry laboratory, Precautions and safety measures in laboratory
4. Low cost apparatus
5. Conducting practical work in Chemistry.

UNIT –III Professional development of Chemistry Teacher

1. Chemistry teacher – Qualities, responsibilities and professional ethics of Chemistry teacher
2. Professional development programs for Chemistry teacher, In service education programmes, Participation in seminars, conferences, on line sharing, membership and participation in activities of professional organization, In house discussion on current issues related to chemistry teaching

SESSIONAL WORK

1. Organization and reporting of any one activities -
   Science exhibition, Science quiz, Science Fair and Field Trip
2. Review a standard book of Chemistry.
3. Power-Point Presentation of any topic of Chemistry.

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PAPER CODE-9210

Course 12 & 13 - PEDAGOGY OF BIOLOGY

Objectives :- After completion of the course the student teachers will be able to :-

1. Develop ability to evaluate the existing syllabus of Biology.
2. Develop an understanding of curriculum construction.
3. Use audio-visual aids, community resources and ICT in teaching-learning of Biology.
4. Organize co-curricular activities related to Biology teaching.
5. Develop abilities to equip and manage biology laboratory and organize practical work in Biology.
6. Construct and use instructional / learning materials.
7. Understand responsibilities, qualities and professional ethics of biology teacher.
8. Understand the modes of professional development of Biology Teacher

COURSE CONTENT

UNIT – I Curriculum and text books of Biology

1. Principles and steps of curriculum construction.
2. Trends in Biology curriculum such as BSCS, Nuffield Science Project.
3. Critical appraisal of Biology curriculum at Sr. Secondary level prescribed by RBSE/CBSE.
4. Criteria of a good biology text book.
5. Review of a text book of Biology prescribed by RBSE/CBSE.

UNIT – II Learning resources in Biology

1. Text book, community resources, organization and importance of – Science club, Science Fair, Science Exhibition, field trips and science quiz.
2. Teaching Learning Resources- Chart, models, Specimen, Bulletin Boards, flannel Board, Slide Projector, O.H.P., L.C.D., Transparencies, slide, Computer and Internet.
3. Organization and Managing of Biology laboratory, Precautions and safety measures in laboratory.
4. Conducting practical work in Biology

UNIT –III Professional development of Biology Teacher

1. Biology teacher – Qualities, responsibilities and professional ethics of Biology teacher

2. Professional development programs for Biology teacher, In service education programmes, Participation in seminars, conferences, on line sharing, membership and participation in activities of professional organization, in house discussions.

SESSIONAL WORK

Any one of the following

1. Preparation of a plan of field trip / Science Fair.
2. Preparation of a Science puzzle.
3. Power point presentation of any topic of Biology.
4. Review of a standard book on science.
5. Preparation of a herbarium.

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21	Singh U.K. &Nayab, A.K.	2003	Science Education, Common wealth Publishers Daryaganj, New Delhi
22	Sood J.K.	1987	Teaching Life Science, Kobli Publisher, Chandigarh
23	UNESCO		Source Book for Science Teaching.
24	Vadav, M.S.	2000	Modern methods of teaching Science, Anmol Publisher, Delhi
25	Venkataih S.	2001	Science Education in 21st Century, Anmol Publishers, Delhi

PAPER CODE-9211

Course 12 & 13 - PEDAGOGY OF HOME SCIENCE

Objectives : After completion of the course the student teachers will be able to –

1. Develop an understanding of Home Science curriculum development
2. Develop an ability to evaluate the existing curriculum of Home Science.
3. Construct and use Instructional/ Learning material.
4. Develop an ability to use community resources in teaching of Home Science.
5. Organize various activities related to Home Science viz Field Trip, Home Science Fair, Exhibitions and Home Science Club.
6. Use audio visual aids and ICT in teaching of Home Science.
7. Develop abilities to equip and manage Home Science laboratory and organize practical work in Home Science.
8. Develop an understanding of responsibilities and professional ethics of Home Science teacher.
9. Develop an understanding of modes of professional development of Home Science teacher.

COURSE CONTENT

UNIT –I Curriculum and Text Book –

1. Principles and steps of Curriculum Development.
2. Critical appraisal of Home Science Curriculum at Senior Secondary level prescribed by RBSE/CBSE.
3. Text book- Importance and qualities of a good textbook of Home Science.
4. Review of Home Science Textbook at Senior Secondary Level prescribed by RBSE/CBSE.

UNIT-II Teaching and Learning Resources –

1. Use of Library Resources: Textbook, Newspapers, Journals, Books and references, Magazines.
2. Community resources: Organization and importance of Home Science Club, Home Science Fair, Home Science Exhibition and Field trips.
3. Use of audio visual aids-charts, models, bulletin boards, flannel board, overhead projector, radio, television, computer and e-learning.
4. Organizing and managing Home Science Laboratory and safety measures.

UNIT-III Professional Development of Home Science Teacher-

1. Home Science teacher: Qualities, responsibilities and professional ethics of Home Science teacher.
2. Professional development of Home Science teacher (In service education programmes, In house discussions, participation in Seminar, conferences, workshop, online sharing, membership of and participation in activities of professional organization - Home Science Association of India (HSAI)

SESSIONAL WORK

Any one of the following –

1. Review of any standard book on Home Science.
2. Report of any study of an in- service education program organized by an IASE/CTE/ SIERT related to Home Science.
3. A study of training needs of a Home Science teacher.
4. Organize an exhibition on hand made articles and reporting.
5. Power point presentation/ Slide/ Film presentation on any topic of Home Science.
6. Visit to any one institution related to Home Science and report submission (Aanganwadi Centre, School of Special Children, Orphanage Centre, Nutrition and Diet Counseling Centre, Food Preservation Centre, NGO's working for child welfare etc).

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PAPER CODE-9212

Course 12 & 13 - PEDAGOGY OF COMPUTER SCIENCE

Objectives: After completion of course the student teachers will be able to-

1. Develop an understanding of Computer Science curriculum development.
2. Develop an ability to evaluate the existing curriculum and text books of computer science.
3. Develop an ability to use community resources in teaching computer science.
4. Develop an ability to use computer based resources in teaching computer science.
5. Develop abilities to equip and manage Computer Science laboratory and organize practical work in Computer Science.
6. Understand the responsibilities and professional ethics of Computer Science teacher.
7. Develop an understanding of mode of professional development of computer science Computer Science.

COURSE CONTENT

UNIT -I Curriculum and Text book -

1. Concept, Principles and steps of development of computer science curriculum.
2. Recent trends in Computer Science curriculum.
3. A critical appraisal of existing computer science curriculum at secondary/senior secondary level prescribed by RBSE/CBSE.
4. Text book-criteria of a good text book of computer science, critical review of the text book of computer science prescribed by RBSE/CBSE.

UNIT –II Teaching and Learning Resources in computer science

1. Library resources- Text Books, Journals, Magazines, Self Instructional Material, and computer assisted instructional material and e-learning.
2. Community Resource – Importance of IT fair and exhibition.
3. Laboratory- Organizing and managing computer science laboratory and safety measures.
4. Computer based resources –

a. Networking and Multimedia as a Teaching-Learning Support System.
b. Social networking: Advantages and Disadvantages.
c. Internet: tutorial, web based instructions, You tubes, smart classes

UNIT -III Professional Development of Computer Science Teacher

1. Qualities, Responsibilities and Professional ethics of computer science teacher.
2. Professional development of computer science teacher (In service Education Programs, Participation in Seminar, Conferences, Workshop, in house discussion membership of and participation in activities of professional organization and on-line sharing).
3. Researches in teaching and learning of computer science.

SESSIONAL WORK

Any one of the following –

1- Prepare program instruction material with the help of hyperlink.
2- Power point presentation on any topic of Computer Science.
3- Review of any standard book on Computer Science.

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Web Links

1. http://code.org/educate/20hr
2. www.computingataeschool.org.uk/.../case...
3. Csta.acm.org/.../CSmethodologyCoureSY
4. www.cs.manchester.ac.uk/study/.../course
5. www.ucd.ie/.../problembasedlerning/

6. www.researchgate.net/.../what_are_the_best_methods
7. www.informatics-europe.org/.../research_
8. page.mi.fu-berlin.del/…/1994-17.pdf
9. www.csd.cs.cmu.edu/colloquium/
10. thevirtualexplorer.blogspot.com/…/
11. www.crito.uci.edu/tlc/

PAPER CODE-9213

Course 12 & 13 - PEDAGOGY OF SOCIAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of Principles of Social Science curriculum development.
2. Develop an ability to evaluate the existing curriculum of Social Science.
3. Construct and use Instructional/ Learning material.
4. Develop an ability to use community resources in teaching of Social Science.
5. Use audio visual aids and ICT in teaching of Social Science.
6. Develop an understanding of responsibilities and professional ethics of Social Science teacher.
7. Develop an understanding of modes of professional development of Social Science teacher.

COURSE CONTENT

UNIT – I Curriculum and Text Book –

1. Principles and steps of Curriculum Development .
2. Critical appraisal of Social Science Curriculum at Secondary level prescribed by RBSE/CBSE.
3. Characteristics of Good Text Book of Social Science.
4. Review of Text Book of Social Science prescribed by RBSE/CBSE.

UNIT-II Teaching and Learning Resources –

1. Use of Library Resources: Textbook, Newspapers, Journals, Books and references, Magazines, Encyclopedia and Dictionary.
2. Community Resources: Use of local diversity and contents (Gram Sabha, Gram Panchayat, Municipal Corporation), Community Library and Museum.
3. Organization of tours and exhibition of a social issue.

4. Use of audio visual aids-charts, models, bulletin boards, flannel board, overhead projector, radio, Maps, Models, Film Strips, Documentaries Films, Black Board, OHP, Computer, LCD Projector etc.

UNIT-III Professional Development of Social ScienceTeacher-

1. Social Science teacher: Qualities, responsibilities and professional ethics of Social Science teacher.
2. Professional development of Social Science Teacher-
   a. In service education programs-
   b. in house discussions,
   c. e-sharing of Ideas,
   d. Use of library resourses
   e. Involvement with professional organization or agencies such as Indian Social Science Associations, Rajasthan Social Science Association, Indian Council of Social Science Research,
   f. Participation in Seminar, Conference etc.

SESSIONAL WORK

Any one of the following –

1. Write a report on functioning of any one Local NGO/local body.
2. Critical review of a book on Social Science.
3. Write a script for drama on any one Social Issue.
4. Write a term paper on education and social change.

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PAPER CODE-9214

Course 12 & 13 - PEDAGOGY OF SOCIOLOGY

Objectives: After completion of course the student teacher will be able to-

1. Develop a conceptual understanding about curriculum development with special reference to Teaching of Sociology.
2. Use Learning Resources in teaching learning process.
3. Develop professional understanding required as sociology teacher
4. Develop an understanding of modes of Professional development of Sociology Teacher.

COURSE CONTENT

UNIT- I Curriculum and Text Book

1. Principles of Curriculum Development
2. Critical Appraisal of Sociology Curriculum prescribed by RBSE
3. Characteristics of a good text book
4. Critical Appraisal of Sociology Text book prescribed by RBSE

UNIT -II Teaching and Learning Resources

1. Use of Library Resources: News Paper, Journals, Books and References and Magazines and encyclopedia.
2. Community Resources-use of local diversity and content, Community library, Museums. Organization of Tours and Exhibition of a Social Issue
3. E-Learning –Social Media and networking
   Use of Audio Visual Aids and ICT in Teaching Sociology – OHP, Computer , Visualizer, Interactive Board, LCD Projector etc.

UNIT- III Professional Development of Sociology Teacher

1. Qualities of Sociology Teacher

2. Ethics of Sociology Teacher
3. Professional development of Sociology teacher.
4. In-service Education Programmes, In House discussions, e-Sharing of Ideas, use of Journals, Encyclopedia etc.
5. Involvement with Professional organization or agencies such as -India Sociological Association, Rajasthan Sociological Association, Indian Council of Social Science Research , Manikyalal Varma Tribal Research Institute, Anthropological Survey of India.

SESSIONAL WORK

Any one of the following

1. Prepare Abstracts of two recent Articles published in reputed Sociological Journals.
2. Prepare a Power Point Presentation of teaching a topic of sociology prescribed in senior secondary syllabus.
3. Critical review of a book on sociology

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PAPER CODE-9215

Course 12 & 13 - PEDAGOGY OF PSYCHOLOGY

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of Principles of psychology curriculum development.
2. Develop an ability to evaluate the existing curriculum of psychology.
3. Develops various skills for the use and construct of different audiovisual aids and Instructional/ Learning material.
4. Develop an ability to use community resources in teaching of psychology.
5. Use audio visual aids and ICT in teaching of psychology.
6. Develop an understanding of humanity and professional ethics of psychology teacher.
7. Develop an understanding of modes of professional development of psychology teacher.

COURSE CONTENT

UNIT – I Curriculum and Text Book –

1. Principles and steps of Curriculum Development .
2. Critical Review of existing curriculum of Psychology at Senior Secondary level.
3. Characteristics of Good Text Book of Psychology.
4. Review of Text Book of Psychology prescribed by RBSE.

UNIT-II Teaching and Learning Resources –

1. Use of Library Resources : Textbook, Newspapers, Journals, Books and references, Magazines, Encyclopedia and Dictionary.
2. Psychology Room / Lab
3. Psychology Club-Concept, Importance and activities
4. Teaching Aids : Visual (OHP, Slide Projector, Charts, Models), Audio (Radio, Tape Recorder), & Audio Visual (TV, LCD, Film Projector),Importance and Limitation of each aid

UNIT-III Professional Development of Psychology Teacher-

1. Psychology teacher : Educational Qualifications, Proficiency, Efficiency and professional ethics.
2. Necessary Skills to be a successful psychologist.
3. Teaching psychology to eliminate social evils like prejudice, social conflicts, unhealthy life style, injustice etc.
4. Teaching Psychology for the development of egalitarianism, democratic spirits, healthy interpersonal relationship, group and community living and familial and social adjustment
5. Professional development of Psychology Teacher-
   a) In service education programs- workshop, symposium etc.
   b) in house discussions,
   c) e-sharing of Ideas,
   d) Use of e-library recourses
   e) Involvement with professional organization or agencies such as Indian School Psychology Association, Society of Indian Psychologists , Indian Association of Positive Psychology (IAPP), National Academy of Psychology (NAOP), Indian Association of Clinical Psychology (IACP), National Positive psychology Association.
6. Participation in International and National Seminar, Conference etc.

SESSIONAL WORK

Any one of the following –

1. Write a report on functioning of any one Local NGO/local body work as clinical psychology.
2. Critical review of a book on psychology at Sr. Secondary level.
3. Attend a national or international seminar of psychology and present a paper.
4. To observe human behaviour in everyday life and interpret from psychological points of view
5. To help people solve everyday problems with their psychological knowledge at various spheres of life.

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PAPER CODE-9216

Course 12 & 13 - PEDAGOGY OF HISTORY

Objectives : After completion of the course the student teachers will be able to –

1. Develop an understanding of principles of development of curriculum of history.
2. Develop an ability to evaluate the existing curriculum of History.
3. Construct and use Instructional/ Learning material.
4. Develop an ability to use community resources in teaching of History.
5. Use audio visual aids and ICT in teaching of History.
6. Develop an understanding of responsibilities and professional ethics of History teacher.
7. Develop an understanding of modes of professional development of History teacher.

COURSE CONTENT

UNIT – I Curriculum and Text Book –

1. Principles and steps of Curriculum Development.
2. Different Approaches to organize the curriculum of History: Chronological, Biographical, Topical and Concentric.
3. Critical appraisal of History Curriculum at Senior Secondary level prescribed by RBSE/CBSE.
4. Characteristics of Good Text Book of History.
5. Critical Analysis of Text book of History prescribed by Board of RBSE/CBSE.

UNIT-II Teaching and Learning Resources –

1. Use of Library Resources: Textbook, Newspapers, Journals, Books and references, Magazines, Encyclopedia and History Dictionary.
2. Community Resources: Organization and importance.
3. History room, Club.
4. Visits of Historical Sites and Museums.

5. Use of audio visual aids-charts, models, bulletin boards, flannel board, overhead projector, radio, timeline, Maps, Models, Film Strips, Battle Plans, Documentaries Films, Coins, Puppets and Black Board.

UNIT-III Professional Development of History Teacher-

1. History teacher: Qualities, responsibilities and professional ethics of History teacher.
2. Professional development of History Teacher.
3. In service education programmes, in house discussions, e-sharing of Ideas, Use of Journals, Encyclopedia.
4. Involvement with professional organization or agencies such as Indian History Associations, Rajasthan History Association, Indian Council of Social Science Research, Participation in Seminar, Conference etc.

SESSIONAL WORK

Any one of the following –

1. Review of any standard book of History.
2. Report of any study of an in service education program organized by an IASE/CTE/SIERT for history teacher.
3. Visit to any one Historical site/ museum and prepare a report of the visit.
4. A study of training needs of History teachers.
5. A study of a historical development of a village/community/town.

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PAPER CODE-9217

Course 12 & 13 - PEDAGOGY OF POLITICAL SCIENCE

Objectives: After completion of the course the student teachers will be able to –

1. Develop an understanding of curriculum construction.
2. Develop ability to evaluate the existing curriculum in Political Science at the Sr. Secondary level.
3. Use ICT and community resources in teaching of Political Science.
4. Organize Co-curricular activities related to Political Science teaching.
5. Develop an ability to construct and use instructional/ learning material.
6. Develop professional understanding required as Political Science teacher.
7. Develop an understanding of modes of professional development of Political Science teacher.

COURSE CONTENT

UNIT-I Curriculum and Text Book –

1. Principles of curriculum construction in Political Science.
2. Critical appraisal of Political Science curriculum at Secondary and Sr. Secondary Level prescribed by RBSE/CBSE.
3. Text book-importance and qualities of a good text book of Political Science.
4. Review of Political Science text book at Secondary and Sr. Secondary Level prescribed by RBSE/CBSE.

UNIT – II Learning Resources in Political Science –

1. Use of Library Resources : Text book, News papers, Journals, Books and References, Magazines, Encyclopedia.
2. Organization of Tours and Exhibition

3. Use of Audio-Visual Aids and ICT including multi-media in Teaching Political Science-OHP, Computer, LCD Projector etc.

UNIT-III Professional development of Political Science –

1. Political Science teacher-Qualities, responsibilities and professional ethics of Political Science teacher.
2. In Service Education Programmes, In house discussion, e-sharing of ideas, Use of Journals, Encyclopedia.
3. Professional development programme, the Political Science teacher, Participation in Seminar, conferences, membership of professional organization.

SESSIONAL WORK

Any one of the following –

1. Review of any standard book on Political Science.
2. Report of a study of an in service education programme organized by an I.A.S.E./ C.T.E./ S.I.E.R.T. in political science.
3. A study of training needs of Political Science teachers.

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PAPER CODE-9218

Course 12 & 13 - PEDAGOGY OF ECONOMICS

Objectives: After completion of the course, the student teachers will be able to -

1. Develop the ability to evaluate the present curriculum in economics at the Secondary and Senior Secondary level.
2. Use Learning Resources in teaching learning process.
3. Develop professional understanding required as economic teacher.
4. Develop an understanding of modes of Professional development of Economic Teacher.
5. Develop awareness about recent advancements in teaching of Economics.

COURSE CONTENT

UNIT- I Curriculum and Text Book of Economics

1. Principles of Curriculum Development
2. Critical Appraisal of Economics Curriculum at Secondary and Sr. Secondary level prescribed by RBSE/CBSE.
3. New trends in economics curriculum-
4. Text book- Importance and qualities of a good text book of economics.
5. Review of Economics Text book at Secondary and Sr. Secondary level.

UNIT -II Teaching and Learning Resources

1. Use of Library Resources : Text Book, News Paper, Journals, Books and References, Magazines, Encyclopedia and Economics Dictionary (Glossary).
2. Community Resources- Post Office, Bank, Cottage industries, Community library etc.
3. Organization of Tours and Exhibition
4. E-Learning –Social Media and networking
5. Use of Audio Visual Aids and ICT including multi-media in Teaching Economics – OHP, Computer, Interactive Board, LCD Projector, etc.

UNIT- III Professional Development of Economics Teacher

1. Qualities of Economics Teacher
2. Ethics of Economics Teacher
3. Professional development of Economics teacher.

In-service Education Programmes, In House discussions, e-Sharing of Ideas, use of Journals, Encyclopedia etc.

4. Involvement with Professional organization or agencies such as Institute of Economic Growth, Centre for Policy Research , Policy Commission, Indian Economical Association, Rajasthan Economical Association, Indian Council of Social Science Research, Manikyalal Varma Tribal Research Institute, Economical Survey of India.

SESSIONAL WORK

Any one of the following

1. Review of any standard book on economics.
2. Report of a study of an in service education program organized by an I.A.S.E./C.T.E/ S.I.E.R.T.
3. A study of training needs of economics teachers.
4. Report of a study of a program organized by MGNREGA/Sampoorna Grameen Rozgar Yojana(SGRY)/ Pradhan Mantri Gramodaya Yojana.

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Internet Resources:
Online! A Reference Guide to Using Internet Resources.
Wikipedia – online encyclopedia website - http://www.wikipedia.org/
E learning India Website - http://elearning-india.com/
Constructive approach -
http://en.wikipedia.org/w/index.php?title=Constructivist_teaching_methods&oldid=436907250

PAPER CODE-9219

Course 12 & 13 - PEDAGOGY OF GEOGRAPHY

Objective: After completing the course the student teacher will be able to:

1. Develop understanding about Principles of Curriculum construction in geography.
2. Develop skill in constructing & analyzing geography curriculum
3. Develop skills in using different resource for teaching geography
4. Understands importance of Professional development of geography teachers
5. Develop skills to be a successful geography teacher

COURSE CONTENT

UNIT-I Geography curriculum and Text books Principles of Curriculum construction, criteria for Analysis of geography curriculum.

Critical appraisal of geography curriculum at Secondary and Senior Secondary stage in Rajasthan.

Geography text books and work books – Review of existing text books and workbook prescribed by RBSE at Senior Secondary level.

UNIT-II Learning Resource in Geography

1. Use of Audio-visual aids and ICT
2. Use of maps and map interpretation
3. Geography laboratory and equipment
4. Practical work in geogrpahy

UNIT-III Professional development of Geography Teachers

1. Development of Professional competence in Geography Teachers.
2. Professional Commitment and ethics of geography Teacher

3. Agencies of professional development of Teachers.
4. Importance of in-service education programme participation in Seminar/workshop membership in professional organization, in-home discussion.
5. Importance of Journals, professional organizations.

SESSIONAL WORK

Any one out of the following

1. Conduct survey of organization of geography Lab in a school
2. Review of a standard book on geography.
3. Abstracts of any two papers on geography published in reputed journals.
4. Identification of learning difficulties in geography.

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PAPER CODE-9220

Course 12 & 13 - PEDAGOGY OF ART

Objectives: After completion of the course the student-teachers will be able to:

1. Develop understanding about Principles of Curriculum Construction in Art.
2. Develop Skill in constructing and analyzing Art curriculum.
3. Understands importance of Professional development of Art Teachers
4. Develop skill to be a successful Art Teacher.
5. Understand the significant role and Educational values of Art Room; Art Museums, Art Exhibitions and Art Galleries.
6. Understand the role of Art in society, culture and international understanding.
7. Develop awareness regarding the rich cultural and artistic heritage of India and the specific regions;

COURSE CONTENT

UNIT –I Curriculum Construction and Textbook

1. Concept and Relationship of Curriculum, Syllabus and Text materials;
2. Principles of Curriculum Construction in Teaching of Art.
3. Components of Art curriculum: Art Production; Art History; Art Criticism and Aesthetic Values.
4. Criteria for Art curriculum at Primary, Secondary and Senior Secondary level (in view of various developmental stages of creative expression).
5. Critical appraisal of Art curriculum at Secondary and Senior Secondary stages prescribed by R.B.S.C.
6. Characteristics of a good text-book of Art education;
7. Selection of materials for a good text-book of Art teaching at Senior Secondary level;
8. Review of existing textbook prescribed by RBSE/CBSE

UNIT –II Support System of teaching Art

5. The Art-Teacher:
   a. Specific qualities of an Art-Teacher
   b. Role of Art-Teacher in classes of creative art activities.
   c. Development of Professional competencies in Art Teachers.
   d. Professional Commitment and ethics of Art Teachers.
   e. Importance of in-service education programme for Art Teachers: Participation in Seminar/Workshop/Art Exhibitions; membership in professional Artists organizations; in-house discussions.
6. Learning Resources in teaching of art:
   a. Use of Audio-visual aids and ICT;
   b. Use of Art museums/Art exhibitions/Art galleries
   c. Use of Art Objects;
   d. Use of Exhibits;

e. Use of Reproductions, Photographs and Other Visual aids.

7. Art Room:
   a. Importance and necessity of a separate Art Room in Schools;
   b. The equipments needed for an Art Room.

UNIT –III Educational Values of Art

6. Educational values of :
   a) Art-Exhibition;
   b) Art-Museum
   c) Art-Galleries.
7. Art and Community:
   a) Art and society;
   b) Art and culture;
   c) Art and National integration
   d) Art and international understanding

SESSIONAL WORK

Any one of the following:

1. Prepare a report on the critical appraisal on the rich artistic heritage of India.
2. Review the process, technique and specific features of Ajanta/ Mughal miniature paintings/ Rajasthani Paintings with suitable illustrations.
3. Visit any Art Exhibition/Art museum/Art gallery and prepare a report on the educational importance of these institutions.
4. Critically examine the role of Art in society/culture/promoting National integration/promoting International understanding with suitable illustrations.
5. Write a detail Essay on the various stages of Child's Creative Expression.

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16. यषवन्ती गौड़ : कला शिक्षा शिक्षण।
17. कुसुम शर्मा : कला शिक्षा।
18. राम चन्द्र शुक्लः कला का दर्शन; कॉरोना आर्ट पब्लिशर्स, जीमखानाए मेरठ उ.प्र.

19. राम चन्द्र शुक्लः 'नवीन भारतीय चित्रकला शिक्षण; किताब महल प्रा. लि. इलाहबाद
20. राय कृष्णदासः 'भारत की चित्रकला'; भारती भण्डार, लीडर प्रेस, इलाहबाद
21. डॉ. अविनाश बहादुर वर्माः भारतीय चित्रकला का इतिहास; प्रकाश बुक डिपो, बरेली
22. ई. कुमारिल स्वामीः 'भारतीय चित्रकला और कलाकार'; प्रकाशन विभाग, सूचना और प्रसारण मंत्रालयए भारत सरकार. पटियाला हयाला हाउस नई, नई दिल्ली
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PAPER CODE-9221

Course 12 & 13 - PEDAGOGY OF MUSIC

Objectives: After completion of the course the student teachers will be able to-

1. Develop understanding of principles of curriculum development of music.
2. Develop ability in preparing and critically reviewing the curriculum of music.
3. Develop skill in organizing music room and related resources.
4. Appreciate the contribution of role models in music.
5. Understand different modes of professional development of music teachers.

COURSE CONTENT

UNIT-I Curriculum and Text book

1. Principles of curriculum development in Music.
2. Critical appraisal of music curriculum at Sr. Secondary level prescribed RBSE.
3. Characteristics of good text book
4. Review of music text book at Sr. Secondary level prescribed RBSE.

UNIT-II Teaching and Learning Resources

1. Use of Audio visual Aids in teaching music
2. Music room and equipments
3. Important instruments of Indian music Harmonium, Tabla, Tanpura etc.
4. Use of folk song and local resources.
5. Handling and maintenance of musical instruments.

UNIT-III Professional Development of Music Teacher

1. Qualities of music teacher , their professional and ethical responsibilities.
2. Role models of Indian classical music and their contribution in Indian classical music (listing the performances of role model)
   (a) Pt. Vishnu Digambar Paluskar (b) Pt. V.N. Bhatkhande (c) Pt. Bhimsen Joshi
   (d) Pt. Jasraj (e) Dr. Kishori Amonkar (f) Dr. Prabha Atrey
3. Role of professional organization in promoting music education
   (a) Prayag Sangeet Samitee (b) Gandharva Mahavidhyalaya
4. Modes of professional development of music teacher (in service education programmes, in house discussion, participation in Seminar, conferences, Workshop, online sharing, membership of and participation in professional organization , attending musical concerts / conferences.

SESSIONAL WORK

Any one of the following -

1. Life Sketch of any two role model of Indian classical music.
2. Analysis of learning difficulties of music students.
3. Writing a report and collection of local folk song/dance

4. Participation and report of a classical music concert

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3. High School Sangeet Shastra by Bhagwat Sharan Sharma
4. Bharty Sangeet Ka Itihas by Bhagwat Sharan Sharma
5. Sangeet Parikha Ank Patrika Ad. Dr. Lakshmi Narayan Garg
6. Sangeet Shiksha Ank Patrika Ad. Dr. Lakshmi Narayan Garg
7. Bhartiya Sangeet Shikshan Pranali or Uska Vartman Star Dr. Madhubala Saxsena
8. Hkhelsu tks'kh] O;fäRo vkSj laxhr % eksgu ukMd.khZ
9. Bhat Khande's contribution to music : S. Nayar
10. Music Education New Horizons : Manorma Sharma
11. Music Education by Dinesh Swaroop

PAPER CODE-9222

Course 12 & 13 - PEDAGOGY OF BUSINESS STUDIES

Objectives:-After completion 0f the course the student teacher will be able to:

1. Understand and use of concept mapping and curricular elements in Business Studies teaching.
2. Develop the ability to plan Curriculum in Business Studies at senior secondary level.
3. Undertake a critical appraisal of existing Business Studies curriculum at sr.secondary stage prescribed by RBSE / CBSE.
4. Know the qualities of text book of Business Studies.
5. Understand and use I.C.T. in Business Studies Teaching.
6. Develop the ethics & Professional growth of a Business Studies teacher.
7. Organize various activities related to Commerce viz. Field trip, Commerce club, Commerce Exhibition, Commerce Fair.
8. Understand and uselearning resources in Business Studies.

COURSE CONTENTS

UNIT-I Curriculum and Text Book in Business Studies:

1. Cognitive Map of Concepts and Curricular elements in Teaching of Business Studies
2. Principles of developing curriculum in Business Studies.
3. Selection of subject matter-subjective and objective approach.
4. Organization of subject matter.
5. Critical appraisal/Evaluation of present syllabus of Business Studies prescribed by RBSE/CBSE.
6. Characteristics and selection criteria of a good text book of Business Studies.
7. Review a critical appraisal of the text book prescribed by RBSE/CBSE for senior secondary classes.

UNIT II Learning Resources in Business Studies:-

1. Media Integration in Business Studies teaching :-Use of Audio – Visual aids and ICT including Multi Media in teaching Business Studies OHP, Computer interactions boards, LCD Projector , Internet.
2. Use of Community Resources e.g. Interaction with Business personalities of Business houses.
3. Research articles from journals on Business Studies education.
4. Concept and Design of Business Studies Laboratory.
5. Recreational Activities through Business Studies Club:
   a. Commerce Exhibition
   b. Commerce Fair
   c. Business Games
   d. Business Studies Model
   e. Field Trip

f. E-Learning, Social Media, T.V. channels (Business channels) & Networking.

UNIT III Professional development of Business Studies Teacher.

1. Qualities and responsibilities of a Business Studies Teacher.
2. Role and functions of a Business Studies teacher.
3. Ethics of a Business Studies teacher.
4. Importance and participation of in-service programs for Business Studies teacher.
5. Professional growth of a Business Studies teacher- In- service Education programs, In- house discussions, Use of library resources and studying subject based new papers and magazines,contribution in professional Journals, membership and participation in professional organizations.

SESSIONAL WORK

Any one of the following:

1. Action plan for Commerce lab / Commerce exhibition / Commerce fair.
2. Preparing Scrap book related to business activities.
3. Planning, organization and reporting of Panel discussion on any current issue related to Business.

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PAPER CODE-9223

Course 12 & 13 - PEDAGOGY OF FINANCIAL ACCOUNTING

Objectives:-After completion 0f the course the student teacher will be able to:

1. Develop an understanding and use concept mapping and curricular elements in Financial Accounting teaching.
2. Develop the ability to plan Curriculum in Financial Accounting at senior secondary level.
3. Undertake Critical appraisal of existing Financial Accounting curriculum at senior secondary stage prescribed by RBSE / CBSE.
4. Know the qualities of text book of Financial Accountancy.
5. Develop necessary skills to prepare and use various instructional/learning methods and Media Integration.
6. Develop the ethics & Professional growth of a Financial Accounting teacher.
7. Develop an Understandingand use learning resources in Financial Accounting.
8. Organize various activities related to Financial Accounting subject viz.Field trip, Exhibition, Fair, Financial Games.

COURSE CONTENTS

UNIT-I Curriculum and Text Book in Financial Accounting

1. Cognitive Map of Concepts and Curricular elements in Teaching of Financial Accounting.
2. Principles of developing curriculum in Financial Accounting.
1. Selection of subject matter-subjective and objective approach.
2. Organization of subject matter.
3. Critical appraisal / evaluation of present syllabus of Financial Accounting prescribed by RBSE/ CBSE.
4. Characteristics and selection criteria of a text book of Financial Accounting.
5. A Critical review of a text book of financial accounting prescribed by RBSE/CBSE for senior secondary classes

UNIT –II Learning Resources in Financial Accounting.

1. Media and media integration: - use of audio –visual aid, ICT including multimedia, OHP,Computerinteraction board,LCD Projector, Internet, E-learning, social media, networking etc.in Financial Accounting teaching.
2. Using community resources for Financial Accounting teaching-Interaction with persons of accounting profession.
3. Library resources.
4. Concept and design of Financial Accounting Laboratory.
5. Recreational Activities through Commerce Club related to Financial Accounting teaching-
   a) Commerce Exhibition
   b) Commerce Fair
   c) Financial Accounting Models
   d) Games
   e) Field –Trip.

UNIT–III Professional development of Financial Accounting Teacher

1. Qualities and responsibilities of a Financial Accounting teacher.
2. Role and functions of a Financial Accounting teacher.
3. Ethics of a financial accounting teacher.
4. Professional growth of a Financial Accounting teacher- In-service Education Programs, In-house discussions, Use of library resources and studying subject based new papers and magazines, contribution in professional Journals, membership and participation in professional organization.
5. Developing and use of Action Research Plan.

SESSIONAL WORK

Any one of the following:

1. One project related to any Financial Accounting topic.
2. To prepare an Action Research Plan.
3. Review of any one Research article from Journals on Financial Accounting Education.

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15. ordinator(1998-99) Regional Council of Educational Research (NCERT) AJMER.
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PAPER CODE-9224

Course 14 - KNOWLEDGE AND CURRICULUM

Objectives: On completion the course the student teacher will be able to:

1. Develop understanding of meaning philosophical basis and sourses of knowledge.
2. Develop understanding of the relationship between knowledge and curriculum.
3. Develop understanding of Activity, Discovery and Dialogue related to modern child centered education with reference to Gandhi, Tagore, Dewey, Plato and Freire.
4. Understand the concept of Nationalism, Secularism and Universalisation with special reference to Tagore and J.krishnamurthi.
5. Understand the changes brought about by Industrialization,
6. Implications of Democracy, Individual autonomy, Equality, Social justice for education.
7. Understand the difference between Curriculum framework, Curriculum, Syllabus and textbook.
8. Understand the Principles of Curriculum Construction.
9. Understand the assessment modes of Curriculum Evaluation.

COURSE CONTENT

UNIT- I Epistemology, Knowledge and Knowing

1. Epistemology: Meaning; Philosophical basis of Knowledge according to Western and Indian Philosophy.
2. Distinction between : Knowledge and Belief; Knowledge and Information ; Knowledge and Skill; Knowledge and Reason; Knowledge and Education; knowledge and Training
3. Facets of Knowledge Such as Local and Universal ; Concrete and Abstract ; Theoretical and Practical; Contextual and Textual; School and out of School.
4. Process of Knowing Process of Construction of Knowledge; Factors involved in construction of Knowledge; The role of Knower and Known in Construction and Transmission of Knowledge; The role of Culture in Knowing

UNIT -II Forms of Knowledge and Its Organization in Schools.

1. Categorization of Knowledge; Basis of Categorization;

2. The essential forms of Knowledge.
3. Basis of selection of categories of Knowledge in School Education.
4. The responsibility of Selection Legitimacy of inclusion of knowledge in School curriculum.

UNIT- III Educational Thinkers and Child Centered Education

Basis of Child Centered Education in relation to Activity, Discovery and Dialogue with reference to Gandhi, Tagore, Dewey, Plato and Freire.

Social basis of Education in the context of society in relation to Democracy, Industrialization and Ideas of Individual Autonomy Equality and Social- justice.

1. Concepts of Nationalism, Universalization and Secularism and their interrelationship with education.
2. Critical Multiculturalism and Democratic education as the basis of analyzing concepts of learning rooted in school practices.

UNIT- IV Principles of Curriculum construction

1. Meaning and need of Curriculum.
2. Principles of Curriculum construction
3. Differentiation between curriculum framework, Curriculum and Syllabus.
4. Determinates of Curriculum
5. Social-Political-cultural-economic diversity.
6. Socio-Political aspirations including ideologies.
7. Economic necessities and Technological possibilities.
8. National priorities and International contexts.
9. Considerations in curriculum making.
10. Relevance and specificity of educational objectives for concerned level.
11. Critical issues: Environmental concerns, Gender differences, Values and Social sensitivity.

UNIT –V Curriculum Development and its Implementation

1. Different approaches of curriculum development: Subject centered: Environmentalist (incorporating local concerns) Behaviorist ; Competency based, Learner centered and Constructivist
2. Role of external agencies in providing curriculum and pedagogic supports to teachers within schools; teacher's role in transacting, developing and researching curriculum.
3. Operationalisation of curriculum into learning situations; selection and development of learning resources i.e. text books, teaching – learning materials and resources outside the school- local environment, community and media.
4. Process of Curriculum evaluation; Evolving assessment modes, need of model of Continuous Comprehensive Evaluation; Feedback from learners, teachers, community and administrators.

SESSIONAL WORK

Attempt any two of the following.

1. Report on analysis of operationalisation of Curriculum into learning situations in school and outside school in any one school.
2. Conduct a survey on feedback of curriculum from learners/ Teachers/ community and prepare a report.
3. Prepare a report of a group discussion conducted on 'democratic ducation'/'multiculturalism' as the basis of analyzing school practices.
4. Prepare three activities to develop awareness about Environmental concerns, Gender ensitivity and Social Sensitivity (one on each issue).

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PAPER CODE-9225

Course 15 - ASSESSMENT FOR LEARNING

Objectives: After completion of the course the student teacher will be able to-

1. Understand the historical aspect and current practices of Assessment.
2. Understand assessing children's progress in terms of psychological development and the criteria provided by the curriculum.
3. Explain cognizant of key concept related to assessment such as measurement, evaluation, assessment, Examination, Test, Formative and Summative evaluation etc.
4. Evolve realistic, comprehensive and dynamic assessment procedures that are able to keep the whole students in view.
5. Explore the use of wide range of assessment tool their selection and appropriate construction.
6. Develop critical understanding of issues in assessment for learning (from constructivist paradigm)
7. Use statistical techniques for interpretation of assessment data.
8. Understanding the critical role of assessment in enhancing learning.
9. Design, integrate and evaluate appropriate assessment tools as part of the learning process.
10. Develop assessment linked to student learning outcomes.
11. Understand and use assessment for improvement of teaching and learning.

COURSE CONTENT

UNIT- I Overview concept of assessment

1. Concept and purpose of assessment
2. Distinction between terms-
   a) Assessment for learning
   b) Assessment as learning
   c) Assessment of learning
3. principles of assessment for learning
4. Critical review of current evaluation practices and their assumption about learning and development.

UNIT- II Assessment of Subject based learning

1. Enlarging notions of subject based learning in a constructivist perspective.
2. Assessment tools
   a) Kinds of task : project, assignments & performance
   b) Observation of learning process by-

c) Self
d) Peers
e) Teachers
f) Self and peer assessment

3. Assessment technique: Oral, Practical test, CAA(Computer Aided Assessment), Test, Exercise, Portfolio, Assignment, MCQ, Short Answer, Notes, Summary, Observing, interviewing and writing comprehensive profile of a student.

UNIT- III Context of assessment and evaluation

1. Context of assessment: subject related, person related.
2. Steps in pedagogical analysis of content matter.
3. Preparation of test items, development of blue print.
4. Checking of answer script: subjective and objective.
5. Classification of assessment based on-
   a) Purpose: prognostic, diagnostic, formative, summative
   b) Scope: teacher made, standardized

UNIT- IV reforms in Assessment and Feedback

1. Importance and use of educational statistics.
2. Statistical tools-frequency distribution, normal distribution, graphical representation, percentile, central tendency, deviation, rank difference and product moment coefficient of correlation and their interpretation.

UNIT V Reforms in assessment for learning

1. Critical analysis of prevalent practices of assessment.
2. Innovation in assessment practices.
3. Meaning and purpose of feed back in teaching learning process.
4. Types of teacher feedback (written, comments, oral, peer feed back)
5. Reporting on a learner profile in consolidated form.
6. Use of assessment for feedback and taking pedagogic decision.

SESSIONAL WORK

(Any two of following)

1. A critical analysis of a question paper in any subject of RBSE/CBSE.
2. Prepare a diagnostic test and remedial programme of any subject at secondary level.
3. Organize a group activity (like: competition, story telling, reading, writing), evolve criteria for assessing the activity and present an assessment report of the activity.
4. School visits followed by presentation of a report on evaluation practices in school.
5. Construction, administration and interpretation of self made achievement test.

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Websites link

- http://www.aahe.org/assessment/assess_links.htm
  A hefty site updated by the American Association of Higher Education. Has many links to assessment articles, sites and listserves.
- http://www.duq.edu/~tomei/tomei/advancedsites.html
  Another hefty site that includes many links to articles and sites on assessment, Bloom's taxonomy, learning styles, etc.
- http://www.snow.utoronto.ca/Learn2/introll.html
  Learning to Learn, a thinking and learning skills site, is for learners, teachers, and researchers to learn about the value of self-awareness as a critical part of learning. It was created for educators developing their assessment and instructional design skills.
- http://www.ldcommunity.org/thesystem.html
  Learning Disabilities Resource Community (LDRC) site that focuses on teaching and assessment including the Intelligent Tutoring and Assessment System that plans to focus on the navigational tools available to users, including perceptual modes.
- http://www.sbctc.ctc.edu/Board/Educ/Outcomes/outcom_wag.htm
  Washington State Assessment Newsletter
- http://www.wwu.edu/~assess/airlinks.htm
  A site generated by Western Washington University that includes resources, articles and
- links to assessment sites.
- http://trgmcber.haygroup.com/Products/learning/lsius.htm
  An online version of David Kolb's Learning-Style Inventory. Material is not printable, but one can opt to pay for it, take it online or order copies for class use.
- http://www.keirsey.com/
  Links to Meyers Briggs information sites
- http://pss.uvm.edu/pss162/learning_styles.html
- http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/
- http//www. snow.utoronto.ca/Learn 2/mod3/ tchstyle.html for a Multiple Intelligence
  Inventory, Thinking Styles Inventory, Teaching Styles Inventory, Learning Styles Inventories and Tests on the Web, and Learning Styles Links.

PAPER CODE-9226

Course 16 - EDUCATIONAL MANAGEMENT AND CREATING INCLUSIVE SCHOOL

Objectives: After completing the course the student Teachers will be able to -

1. Develop understanding about concept and importance of Educational Management
2. Understand the educational Management structure at different levels.
3. Understand the role of Heads and Teachers in School Management.
4. Understand the importance of Management of different resources in school system
5. Develop an institutional plan for a secondary school
6. Understand the characteristics of inclusive school and appreciate diversity
7. Develop skills and practices for creating inclusive school so as to address the special needs of children with different backgrounds.

COURSE CONTENT

UNIT-1 Introduction to Educational Management

1. Concept, need, Functions & recent trends in Education Management
2. Characteristics of Effective Educational Management.
3. Management structure of education in India at different levels – Centre, State and Local.
4. Educational Management in the state of Rajasthan with special reference to School Education.

UNIT-2 Management of Resources

1. Leadership role of Principal – Characteristics & skills. Role in building the climate of a school.
2. Material resource Management.
3. Human Resource Management – Recruitment, Orientation and Professional development of Teachers.
4. Financial Management –Budgeting, Monitoring and Auditing.
5. School community Symbioses – Utilization of Community resources for school development, role of PTA and SMC.
6. Managing school supervision- Concept, need, principles, scope and techniques of supervision.

UNIT-3 Management of School Activities

1. Time Management – School Calendar, preparation of time table – concept, principles, types
2. Curricular & Co curricular activities- Their importance, Principles, planning and effective organization.
3. Institutional Planning, Concept, Areas and Steps

UNIT-4 Inclusive Education:

1. Meaning, Need and Importance of inclusive education

2. Historical overview of education of children with disabilities – from welfare to right
3. Policies related to inclusive education
4. Barriors of Learning and Participation
5. Challenges in Inclusive Education.

UNIT-5 Creating inclusive School

1. Characteristics of inclusive school
2. Understanding student needs.
3. Inclusive Practices – Collaboration, Team work peer strategies and innovative instructional practices.
4. Role of Teacher in inclusive education
5. Role of Principal in managing inclusive schools.
6. Role of Government for promoting inclusive education.

SESSIONAL WORK

(One from each of the following two sections)

Section -A

1. Study of an institutional plan of a school
2. A critical study of a secondary school time-table
3. Study the management of co-curricular activities of a school.
4. Study the leadership role of Headmaster of a Secondary School.

Section -B

1. Case-study of an inclusive school.
2. Case study of an individual with disability.
3. Study of inclusive practices of a secondary school.

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PAPER CODE-9227

Course 17 - UNDERSTANDING THE SELF

Objectives: After completion of the course, the pupil teachers will be able to:

1. Understand the development of self as a person and as a teacher.
2. Develop sensibilities, dispositions and skills to facilitate personal growth of their students in the classroom.
3. Know the development of self concept and the professional identity.
4. Develop social relational sensitivity.
5. Build resilience within to deal with conflicts.
6. Analyse self identity (one's implicit beliefs, stereotypes and prejudices resulting from gender, culture, assets and limitations of oneself).
7. Become aware of the impact of political, historical, and social forces on their identity formation.
8. Learn and practice effective communication skills.
9. Understand the philosophy of yoga.
10. Practice Yoga to enhance abilities of body and mind.

COURSE CONTENT

UNIT 1: Exploration Into Self

1. Meaning and Nature of Self and Self Concept. Role of Home, Neighbourhood, Community, Peer Group, School in their development. Importance of Building social Relations.
   (a) Pupil teachers are required to explore their own self, self concept and self esteem by administering tests of self efficacy, Self concept, self esteem and self identity under the supervision of facilitators and prepare their personality profile.
   (b) Pupil Teachers will be required to administer above tests to five school students and prepare student profile. On the basis of this profile they are required to prepare a teaching strategy to enrich self concept, classroom learning and enhance achievement of students

Note: Records of the above to be submitted for evaluation

2. Self Esteem and Self Identity: Meaning and Nature; Development process: parenting practices, role of caste class, gender, age, religion, school, role models in the development of self esteem and self identity. Development of Teachers Personality: role of social, cultural, Political, academic, Psychological and organisational factors.

Pupil teachers are required to:

(a) Write down biographies of the best teachers they have come across

(b) Interview Successful teachers, professionals, businessmen and prepare a report of their interview.

(c) Collect success stories of high achievers in the field of academics/ sports / athletes/ actors and analyse them to identify their unique personality factors contributing to their success.

(d) Identify their own best contribution as a teacher, identify challenging situations they have come across during class room teaching.

Note : Reports of the above will be presented and discussed in the group situation and to be submitted for evaluation.

3. Motivation: Meaning and importance of achievement motivation for achieving excellence. Importance of Goal Determination and Goal Achievement. Achieving self actualisation in teaching Profession.

(Mode: Workshop in Small Groups)

Identify influences of motives in his/her achievement in schools, college/jobs/personal relations. Pupil teachers will reflect on their own contribution to enrichment of their family, society and peer group.

UNIT – II Communication

meaning, nature, types; factors Influencing communication: psychological, social, organisational. Mass Communication: its impact on personality development and classroom learning. Effective listening and its role in the classroom, Characteristics of effective communication (body language, listening behaviour, responding strategies), Mastering Effective Communication.

Workshop of Pupil Teachers to restructure personality through:

(a) analysis of one's strengths and weaknesses, beliefs, prejudices, time management, life goals, professional commitment.

(b) Developing effective listening and observation skills.

Student teachers are required to develop in the workshop their personal strategies to enrich inner self as a teacher and stipulate its impact on their students.

UNIT – III Philosophy and use of Yoga

Philosophy of Yoga and its role in well being, use of yoga in different contexts; importance of meditation; contribution to development of self.

(a) Practice of Yoga Exercises and Meditation

SESSIONAL WORK

1. Reports of the practicums of the above units.

NOTE: In this paper there will be no external examination. Internally college will conduct a written examination carrying a weightage of 10 marks and a practical examination carrying a weightage of 20 marks, Viva Voce carrying a weightage of 10 marks and 10 marks will be awarded for sessional work.

College will conduct Internally

Total Marks: 50	Internal Assessments: 50
Written examination	**10 Marks**
Practical examination	**20 Marks**
Viva Voce	**10 Marks**
PRACTICUM/SESSIONAL WORK	**10 Marks**

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PAPER CODE-9228

Course 18 - OPTIONAL COURSE
1. VOCATIONAL / WORK EDUCATION

Objectives: After completion of the course the student teacher will be able to develop:-

1. Respect, and regard for manual work and dignity of labor.
2. Socially desirable values such as self reliance, Sahyog, team work, tolerance.
3. Work habits and values such as regularity, punctuality, discipline, honesty.
4. Self esteem and confidence through achievement in productive work and services.
5. a deeper concern for environment and a sense of belonging, responsibility and commitment to the society.
6. awareness of socio-economic problems of the society
7. Manual work and vocational skills.
8. Appreciation for manual productive work.

COURSE CONTENTS

UNIT –I Work Education

1. Concept, need and objectives of Work Education according to Gandhian thoughts.
2. Historical Perspective and current initiatives of Work Education with special reference to National and international documents such as Policy of National Education Conference (-Wardha, 1937), Zakir Hussain Committee Report,1938, Acharya Narendra Dev Committee Report on Primary and Secondary Education, Secondary Education Commission (1952-53), Education Commission (1964-66), National Policy of Education(1986), National Knowledge Commission, NCF-2005 Position paper on Work and Education, CBSE- Work Education in schools, National Policy on skill development, UNESCO International Commission On Education.
3. Correlation–Concepts, Types, Characteristics, Integrating Work education in classroom activities, Relation between Work and Knowledge.

UNIT- II Vocational Education

1. Concept, need and objectives of Vocational Education.
2. Historical Perspective and current initiatives of Vocational Education with special reference to National and International documents such as Policy of National Education Conference (-Wardha,

1937), Zakir Hussain Committee Report,1938, Acharya Narendra Dev Committee Report on Primary and Secondary Education, Secondary Education Commission (1952-53), Education Commission (1964-66), National Policy of Education(1986), National Knowledge Commission, NCF-2005 Position paper on Work and Education, CBSE- Work Education in schools, National Policy on Skill Development, UNESCO International Commission on Education.

UNIT-III Planning For Work and Vocational Education

1. Planning of Work and Vocational Education Activities-Meaning and types (Annual, Half yearly, Quarterly, Monthly and Weekly.)
2. Exploring and identifying local resources for work and vocation, Steps of the planning (Objective, resources, activity, experience, progress, evaluation and reporting.)
3. Difference between Work and Vocational Education and its need in society

Suggested Work activities- (Any Two)

Cleaning the campus; Agriculture; Gardening; Campus beautification and making the environment eco-friendly; Crafts (Food Processing, Wood work, Paper articles); Book binding; Tie-n-dye; Tailoring; Suggested Vocational activities- (Any Two)

Computer hardware repairing,

a) Domestic equipment repairing,
b) Electrical wiring and repairing,
c) Organic farming.

SESSIONAL WORK

Apart from the above suggestive activities other activities may be conducted depending upon the availability of local resources.

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PAPER CODE-9228

Course 18 - OPTIONAL COURSE
2. HEALTH AND PHYSICAL EDUCATION

Objectives: On completion of the course the student teacher will be able to:

1. Develop Physical fitness.
2. Understand the concept, aims & objectives of Health & physical education.
3. Understand various communicable diseases
4. Understand and practice good posture, Balance diet, first aid
5. Understand the characteristics of hygienic environment along with contributing factors and its importance.
6. Understand the rules & regulations and develop skill of organizing different physical education activities.
7. Develop competencies in games & athletic events
8. Conduct tournaments, competitions & Athletic Meets.

COURSE CONTENTS

UNIT-I Health Education

1. Meaning, Concept, Aims & Objectives, School Health Programme. Nutrition & Balanced Diet Components of balanced diet, major sources & mal nutrition.
2. Posture Concept & values Postural deformities and their management.
3. Communicable diseases Mode, Control & Prevention Physical fitness & first aid Physical fitness meaning, elements & importance. First aid in the following- Wounds, cuts, Hammaerage, dislocation, fracture, bites of insects, sprain & strain.

UNIT-II Physical Education

1. Concept, definition, aims, objectives and importance. Its place in school programme. A suggestive physical education programme in an Indian school

UNIT-III Management & organization of different physical education activities.

1. Rules of important major games and sports. Methods of marking a standard track (400 m), Connected areas & their rules.
2. Organization, Management & administration of tournaments, intramurals, play day, health day, play centers and other similar activities. Organizing Indigenous games like Kho-Kho, Kabbadi, Malkham etc.Indian street games-Satoliya, Gilli–Danda, and Rumal Jhapatta etc.
3. Officiating, Coaching, fundamental skills & ground marking of any two major games.

SESSIONAL WORK

Any one of the following:

1. Organize games / sports / health activities during OAS/SUPW Camp
2. Conduct awareness programme on issue of social health
3. Prepare an exhibition / awareness rally/poster competition on health awareness in nearby schools.
4. Organize a programme on health & hygiene.
5. Organize intramurals.

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PAPER CODE-9228

Course 18 - OPTIONAL COURSE
3. PEACE EDUCATION

Objectives: On completion of this course the student will be able to-

1. Explain about peace and peace education, their relevance and connection to inner harmony as well as harmony in social relationships.
2. Understand the views of different philosophies about peace.
3. Understand importance of Peace and factors responsible for disturbing peace.
4. Understand and resolve conflicts within self and in society.
5. Use pedagogical skills and strategies in and out of classroom for promoting peace.

COURSE CONTENT

UNIT-I Understanding peace as a dynamic Social reality

1. Concept, Need and importance of peace education.
2. Peace values vis-a-vis constitutional values : Importance of the attitudes, beliefs and values of peace viz compassion, cooperation, love etc. that foster inner peace and constitutional values of justice, equality, freedom, respect for differences and ecological resources that ensure peace in society.

3. Challenges to peace by increasing stresses, conflicts crimes, terrorism, violence and wars resulting in poor equality of life.
4. Nature and causes of conflicts.
5. Conflicts at different levels in society: With himself, interpersonal, intrapersonal, organizational, inter state and global.
6. Role of Social and Ecological condition and processes that sustain conflict: limited resources, poverty, political interest, economic interest, socio-cultural and ecological conditions, environmental resources viz. water, mineral, forests, energy etc.

UNIT-II Role of various thinkers and agencies in promoting peace

1. Concept of Peace according to the following thinkers - Gandhi, Krishnamurthy, Aurbindo, Vivekananda, Rabindranath Tagore, Gijubhai Badheko, Mother Terasa initiatives at National and International levels.
2. Agencies contributing to peace – UNESCO, Gandhi Peace Foundation etc.

UNIT-III Empowerment of Self

Awareness of the influence of Social milieu on self

1. Understanding adequate self as a product of positive experiences of caring, warmth and appreciation in the family, school, neighborhood, etc. which promote healthy discipline, shunning violence.
1. Negative experiences generate stress, anger, aggressor
2. Yoga, meditation, anger/stress management, as practices that restore positive physical healthy and attitudes.
3. Role of different subjects in inculcation of PEACE.
4. Suggested Activities in schools for promoting peace.
   a. Celebration of Festivals of different religions/ important days
   b. Exposure to personalities working or fostering peace in society.
   c. Practice of Yoga & Meditation.
   d. Peace Rallies
5. Intervention in resolution of societal conflicts.

SESSIONAL WORK

Any one of the following:-

1. Visits to organizations connected with peace and inter cultural harmony and aesthetic appreciation to experience peace as reality submission of reports on experiences.
2. Analysis of morning assembly programme of a school from the point of peace.
3. Preparation of a report on school programmes for promoting to Peace.
4. Case study of a child suffering from bad habit.
5. Developing an action plan for Peace in school and local community.

REFERENCE

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PAPER CODE-9228

Course 18 - OPTIONAL COURSE
4. GUIDANCE AND COUNSELLING

Objectives: On completion of this course the student will be able to:-

1. Understand the meaning, nature and scope of guidance.
2. Understand various types of guidance.
3. Develop skills in administrating and interpreting testing and non testing tools of data collection.
4. Know and use the information and methods of guidance programme of special learners.
5. Understand with the meaning, nature and techniques of counselling.
6. Develop/learn the skills to organize guidance programme in the secondary schools.

COURSE CONTENTS

UNIT-1 Introduction to Guidance and Counselling

1. Meaning, Purpose, Scope, Nature and Functions of Guidance.
2. Need of Guidance at various stages
3. Principles of Guidance
4. Types of Guidance: Educational, Vocational and Personal guidance (Their Meaning, Objectives, needs and Importance)
5. Guidance services: Need and Importance

6. Types of Guidance Service, Individual inventory service, Information Service, Counselling Service, Follow up service.

UNIT-2 Guidance Programme, Services and Procedures

1. Individual and group procedure of guidance and counselling.
2. Characteristic of good guidance programme.
3. Group guidance Techniques, Class-talks, Career Talks, Career Conference, Group discussion, Career exhibitions, Audio-Visuals Techniques.
4. Role of various community Agencies in school guidance progrmme.
5. Out line of minimum guidance programme at secondary on senior secondary level.
6. Meaning of Nature of Counselling and Role of Teachers as a Counsellor

UNIT-3 Guidance for special learner and Tools and Techniques

1. Concept of special learner Guidance needs of special learner
2. *Guidance methods for*
3. Special learner
4. Case study method
5. Remedial measures
6. *Tools and Techniques*
7. Types of tools
8. Standardized and self made tools
9. Techniques; Interview; Observation; Rating Scale & Check List
10. *Sources of Collecting data*
11. Cumulative record card
12. Anecdotal record card
13. Autobiography

SESSIONAL WORK

Any one of the following:-

1. Group Guidance – One career talk
2. Critical study of guidance programme in any senior secondary school.
3. Survey of Guidance needs of Adolescents
4. Celebration of Career day ensuring participation of all

SUGGESTED READING

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Course 18- OPTIONAL COURSE

5. Innovations and Action Research

Objectives: - After completing the course the student teachers with be able to:

1. Understand the meaning, nature and process of innovation.
2. Understand the need and importance of innovations in education.
3. Appreciate comment innovations related to the field of education.
4. Develop skills in planning and conducting action research in school.

COURSE CONTENT

UNIT-1 Innovation

Meaning, Nature and process of innovation

Managing innovations in schools, major barriers in making schools innovative

Role of Principal and teachers in making school innovative

UNIT-2 Innovation and Experiments in Education

Need of innovations and experimentation in education

Current innovative practices and education SSA, RMSA, Open Education, Virtual education.

Innovations in teaching-learning-process – cooperative-learning, joyful learning, experiential learning, web-based learning.

Innovations in evaluation – CCA, Peer evaluation, self-evaluation.

UNIT-3 Action Research

Concept, need and importance of action research

Process of action research

Data analysis, Tabulation, graphical interpretation, Reportuniting

Developing an action research plan in school context.

SESSIONAL WORK

Any one out of the following practicum

1. Study the details of any importance innovation in school.
2. Study the characteristics of an innovation in school / institution.
3. Study the implementation programme CCA of in a school.
4. Prepare an action research plan related to any problem of school.

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Course 19 - INTERNSHIP PROGRAMME (School Internship Phase-II)

School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives: After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.
9. Get acquainted with the functioning of SMC.

As per the School Internship: Framework and Guidelines (Jan., 2016) of the NCTE Regulations, 2014, following revised plan of the School Internship is proposed for the consideration of the committee.

Execution of the Internship Programme (II Year) (16 Weeks)

(2 Weeks)

Community Engagement

Group Activities related to community services

(14 Weeks)

School Engagement

- Teaching in school (Record of date & period wise teaching plan to be maintained for it)
- School Based Individual Activities and File Record
- School Based Group Activities and File Record
- Teaching Aids (4)

During the 14 weeks period of internship in schools, the student-teachers will perform the under mentioned tasks:-

1) Interact with Headmaster and mentor teachers of the school about the two teaching Subjects he/she has offered.

2) They will teach at least 3-4 periods per day (Minimum of 200 lessons).

3) They will have to discharge the duties of a class- teacher of any class.

4) They will have to participate in the following activities individually as well as in group. The suggested individual and the group activities are as follows:-

A) <u>Individual Activity</u>

1. Preparation of time table of the school other than that in force.
2. Maintaining students' attendance and preparing a monthly record of students' attendance.
3. Maintaining Teacher's diary.
4. Case study of a special child.
5. A critical study and report of Institutional plan of the school.
6. Preparation of a progress report of a student of the class of which he /she is the Class teacher.
7. Analysis of school syllabus and textbooks of their pedagogy subjects.
8. Undertaking of Action Research Project on at least one problem area of Schooling.

B) <u>Group Activity</u>

1. Organising Morning Assembly
2. Organising Literary and Cultural Activities
3. Organising Games and Sports Activities
4. Participation in Parent's-Teacher Meeting and Meeting of School Management Committee (SMC)
5. Observing and participating in Mid-day Meal Programme
6. Organising Science Club or other Club Activities
7. Maintaining discipline in the school.
8. Participating in Community Contact Programmes like- Rallies, awareness Campaigns, community health campaigns, cleanliness campaigns and so on.

NOTE: - From group activities (1) to (7), each student- teacher has to participate in at least 5 of the activities and activity no. (8) Is compulsory for all student-teachers

5) Study of various records maintained by the school (for instance, stock register, service book, letter receipt & dispatch register, Library book accession & issue register, scholar register, leave account, T.A. bill etc.)

NOTE: - Each student - teacher has to submit a file in which detailed reports of all the activities and tasks observed and discharged by him/her are to be mentioned along with reflective thinking. A viva- voce will be conducted after the internship programme. The file record, the viva-voce and the lesson plan diary will form the basis of assessment of the internship programme. The student-teachers performance shall be assessed jointly by the

TEI Principal and faculty (The grade recommended for a particular student by the Principal and mentor teachers of internship school must also be considered.)

Evaluation for Internship Programme

Evaluation for internship programme will consist of two parts – Internal Evaluation & External Evaluation, the details of which are as follows:

INTERNAL EVALUATION (Course-19) [II Year]		
1	Teaching in Schools (Record of date and period wise teaching plan to be maintained for it.	100
2	Individual Activities and File Record	80
3	Group Activities and File Record	30
4	Teaching Aid (4)	20
5	Community Engagement and Report writing	20
	Total Marks	**250**
	EXTERNAL EVALUATION (Course -20) [II Year]	
1.	Viva-Voce for Internship Programme (50 marks) Written test based on internship (50 marks) Power point presentation and documentation of internship (50 marks)	150
	Total Marks	**400**

Note:-

1. The grand total for the internship programme of both the years is 550 marks (150+400)
2. The weightage of external evaluation (Viva-voce for II Year) of internship will be 150 marks.
3. During the viva- voce, student will present all the records of the work done during the internship (II Year) programme viz. teaching in school, individual and group activities.
4. Power point presentation (including videos of various activities) of the work done by the students during the second year of internship is desirable at the time of viva-voce.

The Board of examiners for Viva-voce will consist of:

a) The Principal of the college concerned.

b) One senior member of the college. (Preferably Internship Incharge)

c) Two external members appointed by the university.

PAPER CODE-9230

Course 20 - External Assessment

[II YEAR]

1. The weightage of external evaluation (Viva-voce for 2nd phase) of internship will be 150 marks.

2. During the Viva voce, student will present all the records of the work done during the internship (2nd phase) programme viz. teaching in school, individual and group activities.

3. Power point presentation (Including Videos of various activities) of the work done by the students during the second phase of internship is desirable at the time of viva-voce.

EXTERNAL EVALUATION [II Year]	**Assessments**
Viva-Voce for Internship Programme	
Total Marks: 150	
Written test based on internship	**20 Marks**
Presentation of work (Power point presentation and documentation of internship)	**40 Marks**
Practical examination of Internship work	**30 Marks**
Group Discussion	**20 Marks**
Viva Voce	**40 Marks**

The Board of examiners for Viva-voce will consist of:

a) The Principal of the college concerned.

b) One senior member of the college. (Preferably Internship Incharge)

c) Two external members appointed by the university.

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR (Raj.)

SYALLBUS

FACULTY OF EDUCATION

SCHEME OF EXAMINATION & COURSE OF STUDIES

B.Sc.B.Ed. FOUR- YEARS INTEGRATED PROGRAMME

Mohanlal Sukhadia University, Udaipur (Raj.) – 313 001

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR (Raj.)

MOHAN LAL SUKHADIA UNIVERSITY, UDAIPUR (Raj.)

Scheme of Examination and Course of Studies

BACHELOR OF SCIENCE (B.Sc) & BACHELOR OF EDUCATION (B.Ed.)

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE

(B.Sc.B.Ed. Programme Is a Full Time, Four Academic Session Programme; Each Session Will Be of 200 Days Duration)

1. INTRODUCTION

Destiny of a nation is shaped in its classrooms and teacher is the architect who shapes the destiny. Enlightened, emancipated and empowered teachers lead communities and nations towards better and higher quality of life. Teachers are expected to create soul cohesion, national integration and learning society. They disseminate knowledge and generate new knowledge. It is therefore, essential for nation to

have a sound and effective programme of teacher preparation. The teacher education programme needs to be upgraded and updated periodically.

A perusal of the reports of various commissions and committees indicate the preference for longer duration of B.Sc.B.Ed.course. It was also endorsed by the Hon'ble Supreme Court of India in its judgement on 15 June 1993. "The Teachers Training Institutes are meant to teach children of impressionable age and we cannot let loose on the innocent and unwary children the teachers who have not received proper and adequate training. True, they will be required to pass the examination but that may not be enough. Training for a certain minimum period in a properly organised training institute is essential before a teacher may be duly launched." The NCTE (2009) recommended a four year B.Sc.B.Ed.course. Earlier too in 1998 NCTE had recommended four year B.Sc.B.Ed. course in its earlier curriculum framework. The NCERT had prepared four year B.Sc.B.Ed. curriculum and launched it in the Regional Institutes of Education in 1999.

Now, finally the NCTE has recommended that the B.Sc.B.Ed. Course should be of four years duration and has prepared a Curriculum Framework for Four year B.Sc.B.Ed. Programme. Mohanlal Sukhadiya University also decided to introduce four year B.Sc.B.Ed. course and has prepared a detailed course of study and Scheme of Examination for four years B.Sc.B.Ed. course on the basis of guideline given in the curriculum framework. The four year B.Sc.B.Ed. course will come in to force from the session commencing in 2016. The four year B.Sc.B.Ed. course aims at a complete development of the student-teacher; particularly in knowledge and skills, in individual care of the learner and also in methods and evaluation designed to facilitate learning. This course is divided into four parts. It aims at developing understanding of and competence to render disciplinary knowledge into forms relevant to stage specific understanding of teaching-learning situation apprehended through intensive study of conceptual explanations, observation and analysis of live classroom situations as well as hand-on experiences and longer duration of field experience. Interactive processes, i.e. group reflection, critical thinking and

meaning-making have been encouraged. The maturity of student-teachers has been kept in mind while visualizing modes of learning engagements; instead of continuous teacher monitoring, greater autonomy to learners has been given in accordance with andragogic principles of learning. The syllabus retains the essence of student-teachers being active participants in the learning process and prepares the student-teachers for facing the emerging challenges resulting out of globalization and its consequences. Therefore it becomes essential for any nation to give necessary professional inputs to its teachers. Mohanlal Sukhadia University pursues the following curriculum for its pre-service teacher training programme. The curriculum also aims at developing language proficiency of the pupil teacher by providing him opportunities through different activities and course content.

The B.Sc.B.Ed. Courses are integrated progressive in accruing the doubles bachelor's degree which are the B.Sc. & B.Ed degree. The degree enable's the students to complete the B.Ed Education along with the B.Sc degree course. The courses are conducted by M.L.S.U.

3. OBJECTIVES OF THE COURSE

The objectives of theory course prescribed for the B.Sc. B.Ed. course are as follows:

1. To develop competence to teach subjects of their specialization on the basis of an adequate theory of learning and a sound knowledge of the subjects.
2. To develop interest, attitude and knowledge which will enable them (i) to foster the all-round growth and development of children under their care and (ii) to provide guidance to individual pupils?
3. To develop an understanding of the aims and objectives of education in the Indian background and to promote an awareness of the role of the school and the teacher in realizing these aims and ideals.
4. To develop an understanding of the close relationship between societies and the school, between life and school work.
5. To become self-regulated learners; develop professional commitment and work as responsible professionals.
6. To make them comfortable with content and pedagogical effective use and utilization of ICT.
7. To enable them to critically analyse the various evaluation tools to serve CCE.
8. To reflect on teacher practices and interface with societal resources
9. To build up professional consciousness.

The objectives of practical work prescribed for the B.Sc. B.Ed. course are as follows:

To develop the ability and self-confidence of pupil teachers to-

1. Be conscious of a sense of values and need for their inculcation in children through all available means including ones own personal life.
2. Posses a high sense of professional responsibility.
3. Develop resourcefulness so as to make the best use of the situation available.
4. Appreciate and respect each child's individuality and treat him as an independent and integrated personality.

5. Arouse their curiosity and interest and secure their active participation in the education process.
6. Develop capacity for thinking and working independently and guide them to that end.
7. Organize and manage the class for teaching learning.
8. Appreciate the dynamic nature of the classroom situation and teaching techniques.
9. Define objectives of particular lessons and plan for achievement.
10. Organize the prescribed subject matter in relation to the needs, interest and abilities of the pupils.
11. Use appropriate teaching methods and techniques.
12. Prepare and use appropriate teaching aids, use of the black board and other apparatus and materials properly.
13. Convey ideas in clear and concise language and in a logical manner for effective learning.
14. Undertake action research.
15. Give proper opportunity to the gifted pupils and take proper care of the pupils with special need.
16. Correlate knowledge of the subjects being taught with other subjects and with real life situations as and when possible.
17. Prepare and use assignment.
18. Evaluate pupil's progress.
19. Plan and organize co-curricular activities and participate in them.
20. Co-operate with the school teachers and administrators and learn to maintain school records and registers.

Learning Outcomes

After the completion of the course the student teacher is expected to attain the following learning out comes:

1. Competence to teach effectively two school subjects at the secondary/senior secondary level.
2. Ability to translate broad objectives of secondary/senior secondary education in terms of specific programmes and activities in relation to the curriculum.
3. Ability to understand children's needs, motives, growth pattern and the process of learning to stimulate learning and creative thinking to foster growth and development.
4. Ability to use (a) individualized instruction and (b) dynamic methods in large classes.
5. Ability to examine pupil's progress and effectiveness of their own teaching through the use of proper evaluation techniques.
6. Use of Equipment for diagnosing pupil's difficulties and deficiencies in achievement and dealing with them through remedial work.
7. Readiness to spot talented and gifted children and capacity to meet their needs.

8. Ability to cater to the need of children with special needs.
9. Ability to organize various school programmes, activities for pupils.
10. Ability to provide guidance in educational, personal and vocational matters.
11. Ability to assess the all round development of pupils and to maintain a cumulative record.
12. Development of certain practical skills such as:

- Black board work
- Preparing improvised apparatus
- Preparing teaching aids

13. Developing professional competence.
14. Readiness to participate in activities of professional organizations.

3. MODES OF LEARNING ENGAGEMENT

Overall Intention of Modes of Learning Engagement

- The Curriculum is so designed that the student-teachers internalize the nature of education and pedagogic process through enriched experiences.
- The kinds of learning engagement suggested will contribute to reduction of the gap between theory and practice by dovetailing both appropriately.
- The Curriculum emphasises the use of varied modes of learning engagement in accordance with the requirements.
- Interactive processes wherein group reflection, critical thinking and meaning making will be encouraged.
- In this respect, critical theory, critical pedagogy and critical thinking become very crucial theoretical inputs and are embedded implicitly in various courses.
- While visualizing modes of learning engagement, the nature of student teachers who are adults has been kept in mind. Instead of continuous teacher monitoring greater autonomy to learners has been recommended which is more relevant and in accordance with the andragogic principles of learning.
- Multiple learning engagements visualized being more active / interactive, the course work is Clearly not meant to be burdensome and 'memory based', but challenging and engaging.

Some Specific Modes of Learning School Observation

- Observation of school infrastructure.
- Short Lesson plan.
- Innovation in teaching learning.
- Importance of interaction between Parents & Teachers.
- Tutorial classes.
- Prepare a Sociomatry test.

- To develop and evaluate moral values.
- To prepare, administrate & analysis of a questionnaire.

These are suggestive modes of learning engagement. Teacher educators will have to create, design and evolve different modes of learning engagement based on the course and suited to the needs of student teachers.

Enhancement of Learning through School-based Experiences

Most courses require school experience for various purposes. I year significant aspect is School observation Single school visit for carrying out tasks related to course .School-based experience to learn not only classroom pedagogy, but also learning to function as a teacher in the school environment.

Perspectives in Education

Perspectives in Education include courses in the study of childhood, child development and adolescence, contemporary India and education

Course 1 Childhood and Growing Up

Course 2 Contemporary India and Education (Including Gender, School and Society)

The course on 'Childhood and Growing up' shall enable student-teachers to en gage with studies on Indian society and education, acquire conceptual tools of sociological analysis and hands-on experience of engaging with diverse communities, children and schools. The course on 'Contemporary India and Education' shall develop a conceptual understanding about issues of Diversity, inequality and marginalization in Indian society and the implications for education, with analyses of significant policy debates in Indian education. These courses shall aim to develop in students an understanding of the curriculum, linking school knowledge with community life. A variety of investigative projects, that link with curricular area III given below, shall be included to reconstruct concepts from subject knowledge though appropriate pedagogic processes that communicates meaningfully with children. Optional courses will be offered in areas such as Vocational/Work Education, Health and Physical Education, Peace Education, Guidance and Counseling,

Select three subjects by choosing any one subject in one group.

Group A – PHYSICS / CHEMISTRY / MATHS

B – BOTANY / ZOOLOGY / CHEMISTRY

4. EVALUATION

EVALUATION OF THEORY PAPERS

Some theory papers will carry a weightage of 100 marks, out of which 80 marks will be for external University Examination and 20 marks will be for internal sessional work. Out of 20 marks - 10 marks will be for sessional and 10 marks will be for mid-term test. The final external examination paper for **80 marks will be of three hour's duration**

1. Each question paper (80 MARKS) will have three sections- **Section A** will contain 10 very short answer type questions and the candidate will be required to attempt the entire ten questions. Each question will carry two marks. **Section-B** will contain 10 short answer type questions out of which

   a candidate is required to attempt any 5 questions (one question per unit to be attempted out of two

   questions per unit). Each question will carry 6 marks. **Section-C** will have 5 questions and a candidate will be required to attempt any three questions. There will be 10 marks for each question.

2. Very short answer type questions would aim at testing of critical thinking, knowledge of concepts,

   facts, definitions, laws, principles, generalization etc. and also understanding of principles and concepts.

3. Short answer type questions would aim at testing knowledge, definitions, laws, generalization etc.

   And also understanding of concepts.

4. Essay type questions are to aim at testing the abilities of critical thinking and application of Principles taught in theory.

Question Type	No. of Questions per Unit	Total No. of Questions	No. of Questions to be attempted	Total Marks
Very short question type	**2 Per Unit**	**10**	**10**	**10 x 2 = 20**
Short Question Type	**2 Per Unit**	**10**	**5 (One question per unit to be attempted)**	**5 x 6 = 30**
Long Question Type	**1 Per Unit**	**5**	**3**	**3 x 10 = 30**

5.THE CURRICULAR DETAILS FOR FOUR YEARS

ANNUAL DISTRIBUTION OF THE COURSES

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE I - Year					
Course No.	**Paper Code**	**Name of Subject**	**Paper**	**Max. Marks**	**Min. Marks**
Course 1	**9371**	**Childhood and Growing up**	**Theory**	**100 (80+20)**	**36**
Course 2	**9372**	**Contemporary India and Education (Including Gender, School & Society)**	**Theory**	**100 (80+20)**	**36**
Course 3	**9373**	**Understanding the Self (Internal Assessment)**		**50**	**20**
Course 4	**9374**	**School Observation**	**Presentation & Documentation**	**50**	**20**
Course 5	**9601**	**Core Subjects***			
		a) Gen English.	**Theory**	**100**	**36**
	9602	**b) Environmental Studies**	**Theory**	**75**	**27**
			Fieldwork	**25**	**9**
Course 6	**9341**	**Physics I**	**I**	**50**	**18**
	9342	**Physics II**	**II**	**50**	**18**
	9343	**Physics III**	**III**	**50**	**18**
	9344	**Physics Practical**	**Practical**	**50**	**18**
Course 7	**9345**	**Chemistry I**	**I**	**50**	**18**
	9346	**Chemistry II**	**II**	**50**	**18**
	9347	**Chemistry III**	**III**	**50**	**18**
	9348	**Chemistry Practical**	**Practical**	**50**	**18**
Course 8	**9349**	**Zoology I**	**I**	**50**	**18**
	9350	**Zoology II**	**II**	**50**	**18**
	9351	**Zoology III**	**III**	**50**	**18**
	9352	**Zoology Practical**	**Practical**	**50**	**18**
Course 9	**9353**	**Botany I**	**I**	**50**	**18**
	9354	**Botany II**	**II**	**50**	**18**
	9355	**Botany III**	**III**	**50**	**18**
	9356	**Botany Practical**	**Practical**	**50**	**18**
Course 10	**9357**	**Mathematics I**	**I**	**50**	**18**
	9358	**Mathematics II**	**II**	**75**	**27**
	9359	**Mathematics III**	**III**	**75**	**27**

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE II Year					
Course No.	**Paper Code**	**Nomenclature**	**Paper**	**Max. Marks**	**Min. Marks**
Course 11	**9471**	**Learning & Teaching**	**Theory**	**100 (80+20)**	**36**
Course 12	**9491-9495**	**Pedagogy of School Subject I**	**Theory**	**100 (80 +20)**	**36**
Course 13	**9491-9495**	**Pedagogy of School Subject II**	**Theory**	**100 (80+20)**	**36**
Course 12 & 13	**9491**	**1. Pedagogy of General Science**			
	9492	**2 Pedagogy of Physics**			
	9493	**3. Pedagogy of Chemistry**			
	9494	**4. Pedagogy of Biology**			
	9495	**5. Pedagogy of Mathematics**			
Course 14	**9484**	**Pre-Practice Teaching (Internal Assessment)**	**Practical**	**50 (20+10+20)**	**20**
		a) Practicing teaching Skill		**20**	
		b) T.L.M. Workshop in each Subject		**10**	
		c) Simulated teaching		**20**	
Course 15	**9485**	**Open Air Session / SUPW Camp (Internal Assessment)**		**50**	**20**
Course 16	**9603**	**Core Subject***			
		Elementry Computer Application	**Theory**	**60**	**22**
	9604	**Practical**	**Practical**	**40**	**14**
Course 17	**9441**	**Physics I**	**I**	**50**	**18**
	9442	**Physics II**	**II**	**50**	**18**
	9443	**Physics III**	**III**	**50**	**18**
	9444	**Physics Practical**	**Practical**	**50**	**18**
Course 18	**9445**	**Chemistry I**	**I**	**50**	**18**
	9446	**Chemistry II**	**II**	**50**	**18**
	9447	**Chemistry III**	**III**	**50**	**18**
	9448	**Chemistry Practical**	**Practical**	**50**	**18**
Course 19	**9449**	**Zoology I**	**I**	**50**	**18**
	9450	**Zoology II**	**II**	**50**	**18**
	9451	**Zoology III**	**III**	**50**	**18**
	9452	**Zoology Practical**	**Practical**	**50**	**18**
Course 20	**9453**	**Botany I**	**I**	**50**	**18**
	9454	**Botany II**	**II**	**50**	**18**
	9455	**Botany III**	**III**	**50**	**18**
	9456	**Botany Practical**	**Practical**	**50**	**18**
Course 21	**9457**	**Mathematics I**	**I**	**50**	**18**
	9458	**Mathematics II**	**II**	**75**	**27**
	9459	**Mathematics III**	**III**	**75**	**27**

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE III Year					
Cours No.	**Paper Code**	**Nomenclature**	**Paper**	**Max. Marks**	**Min. Marks**
Course 22	**9571**	**Assessment for Learning**	**Theory**	**100 (80+20)**	**36**
Course 23	**9572**	**Language acroos the curriculam (Including Reading & Reflecting on texts)**	**Theory**	**100 (80+20)**	**36**
Course 24	**9573**	**School Internship (Phase I,4 weeks) Internal assessment Engagement with the field: Tasks and Assignment for courses12 &13.**		**150**	**60**
Course 25	**9574**	**External Assessment one lesson of Pedagogy of a School subject.**		**100**	**40**
Course 26	**9605**	**Core Subject***			
		General Hindi		**50**	**18**
Course 27	**9541**	**Physics I**	**I**	**50**	**18**
	9542	**Physics II**	**II**	**50**	**18**
	9543	**Physics III**	**III**	**50**	**18**
	9544	**Physics Practical**	**Practical**	**50**	**18**
Course 28	**9545**	**Chemistry I**	**I**	**50**	**18**
	9546	**Chemistry II**	**II**	**50**	**18**
	9547	**Chemistry III**	**III**	**50**	**18**
	9548	**Chemistry Practical**	**Practical**	**50**	**18**
Course 29	**9549**	**Zoology I**	**I**	**50**	**18**
	9550	**Zoology II**	**II**	**50**	**18**
	9551	**Zoology III**	**III**	**50**	**18**
	9552	**Zoology Practical**	**Practical**	**50**	**18**
Course 30	**9553**	**Botany I**	**I**	**50**	**18**
	9554	**Botany II**	**II**	**50**	**18**
	9555	**Botany III**	**III**	**50**	**18**
	9556	**Botany Practical**	**Practical**	**50**	**18**
Course 31	**9557**	**Mathematics I**	**I**	**50**	**18**
	9558	**Mathematics II**	**II**	**75**	**27**
	9559	**Mathematics III**	**III**	**75**	**27**

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE IV Year					
Course No.	**Paper Code**	**Name of Subject**	**Paper**	**Max. Marks**	**Min. Marks**
Course 32	**9671**	**Educational Management & creating an Inclusive school**	**Theory**	**100 (80+20)**	**36**
Course 33	**9672**	**Knowledge & Curriculam.**	**Theory**	**100 (80+20)**	**36**
Course 34	**9673**	**Drama & Art. (Internal Assessment)**		**50**	**20**
Course 35	**9674**	**Optional Courses (any 1). 1. Health & Physical Education. 2. Guidance & Counselling. 3. Peace Education.**		**50 (40+10)**	**18**
Course 36	**9675**	**School Internship (Phase II, 16 Weeks) Engagement with the field: Tasks and Assignment for courses 12 &13.**		**250**	**100**
Course 37	**9676**	**External Assessment Viva-Voce for School Internship subject**		**150**	**60**

SYLLABUS

FIRST YEAR

Course No.	Name of Subject
Course 1	Childhood and Growing up
Course 2	Contemporary India and Education (Including Gender, School & Society)
Course 3	Understanding the Self (Internal Assessment)
Course 4	School Observation
Course 5	Core Subjects*
	a) Gen English.
	b) Environmental Studies
Course 6	Physics I
	Physics II
	Physics III
	Physics Practical
Course 7	Chemistry I
	Chemistry II
	Chemistry III
	Chemistry Practical
Course 8	Zoology I
	Zoology II
	Zoology III
	Zoology Practical
Course 9	Botany I
	Botany II
	Botany III
	Botany Practical
Course 10	Mathematics I
	Mathematics II
	Mathematics III

Course 1 - CHILDHOOD & GROWING UP

Objectives–After completion of the course the student teachers will be able to:-

1. Understand the Developmental characteristics of Childhood and adolescence.
2. Learn the Theories of development.
3. Understand Educational provisions of children at different stages of development.
4. Understand the Concepts and Components of Personality.
5. Know the Techniques of Personality Assessment.
6. Understand the Psycho-Analytic Theory of personality.
7. Understand the Concept and Importance of Mental Health and role of Teacher in Promoting Mental Health.
8. Acquire the Concept of Individual Variation and their Classroom Implications.
9. Understand nature and Characteristics of Intelligence.
10. Understand the Theories of Intelligence.
11. Acquire the skill of Measurement of Intelligence.

COURSE CONTENT

UNIT- I Basic Concepts of Child Development

1. Meaning, Scope and Importance of studying Child Development.
2. Methods of study of Children- Case Study, Observation and Field Studies.
3. Basic Concepts in Child Development-Growth V/S Development, Maturation V/S Learning, Heredity vs. Environment (Family, Neighborhood, School and Community)
4. Principles of Growth and Development
5. Stages of Development.

UNIT- II Childhood

1. Developmental characteristics of Childhood with reference to Physical, Cognitive, Motor, Social, Emotional and Moral aspects.
2. Theories of Development- Piaget (cognitive), Erikson (Psychosocial)
3. Educational Implications of Development during Childhood.

UNIT- III Adolescence

1. Characteristics of adolescence development- Physical, Cognitive, Social and Emotional.

2. Difficulties during transition period- Difficulties in Social Transition, Conflicts, Social Attitude and Behavior, Influence of Peers, Conformity and Self assertiveness and Personality Integration.

3. Impact of Urbanization, Economic, Social and Political changes on the construction and experience of adolescence.

4. Issues in adolescence -
   - Identity crisis;
   - Idealism and Hero worship
   - Gender Issues

- Child Labor
- Changing Family Structures
- Peer Pressures
- Pressure of Competition
- Juvenile Delinquency

5. Critical analysis of significant events e.g. Sexual abuse, Harassment, Gender and Poverty.
6. Guidance and Counselling of adolescents.

UNIT- IV Personality and Mental Health

1. Personality Concept, types and Components of Personality.
2. Psychoanalytic theory of Personality by Freud.
3. Factors affecting Personality development.
4. Assessment of Personality- Projective and Non-Projective Techniques.
5. Mental Health

a) Concept and Importance

b) Types of Conflicts and Defense Mechanisms

c) Role of Teacher in Promoting Mental Health

UNIT - V Individual Variations

1. Concept of Variation and Classroom, Implication with reference to Intelligence, Aptitude, Creativity, Emotional Stability, Social Adjustment, Self Concept and Interest.
2. Introduction to Socially disadvantaged children who are marginalized on account of class, caste, Language, ethnicity or gender, first class generation learners.

(Focus should be to understand how different socio political realities construct different childhoods Within children's lived contexts: Family, Schools, Neighborhood and Community through close Observation and interaction with children of different socio- economic and cultural backgrounds) Intelligence, Nature and Characteristics

3. Theories of Intelligence
    a) J.P. Guilford Structure of Intellect
    b) Howard Garden's Theory of Multiple Intelligence.
    c) Daniel Goleman's Model of Emotional Intelligence.
4. Measurement of Intelligence Types of Intelligence Tests – Verbal, Non- Verbal and Performance Tests.

SESSIONAL/PRACTICUM

Any Two from the following:

Practicum no.1 is compulsory for all.

1. Administration, Scoring, Interpretation and Reporting of one Mental Ability Test and one Personality Test .Any one from the following:

2 Preparation of case history of children from early childhood to adolescence taken from different socio economic and cultural background in the context of family, schools, neighborhood and community.

3 Study of any one psychosocial issue related to adolescence (Child labour, Juvenile Delinquency, Pressure of Competition, Gender issues)

4 Study of any one issue represented and highlighted by media (sexual abuse and harassment, poverty, gender, child labour etc).

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Course 2- CONTEMPORARY INDIA & EDUCATION

(Including Gender, School & Society)

Objectives: Student teachers will be able to :-

1. Understand the diversified nature of Indian Society.
2. Understand the Marginalization and Inequality present in Indian Society.
3. Understand the Challenges and implications of Social diversity and inequality in school education.
4. Understand the role of Education in grooming children with respect to diversity.
5. Understand the Constitutional promises of freedom Social justice, equality and fraternity.
6. Critically examine the reflection of constitutional values in educational system.
7. Understand the policies related to education in pre and post independent india.
8. Critically examine the implementation of policies on education.
9. Understand the implications of Globalization, Privatization and Liberalization in education.
10. Develop gender sensitivity and understand the gender discrimination in family, school and society.

COURSE CONTENT

UNIT- I Indian Society & Education

1. Meaning, Nature & purpose of Education:
   a) According to different thinkers i.e,Gandhi, Tagore, Aurobindo, J.krishnamurti, Rousseau and Dewey.
   b) According to important National documents on Education i.e Education commission (1966) NPE (1986) its revision 1992, NCF (2005),
2. Concept of Social diversity, inequity and Marginalisation and role of Education to cope up with these issues.
3. Universalization of Education/RTE(2009) & its Challenges
4. Globalization, Liberalization, and Privatization and their implications in Education.

UNIT- II Education in India

1. Education in Pre Independence Period/ Macaulay's Minutes/ and major educational polices during preIndependence British Period.
2. Education in Post Independence period-
   (a) Policies regarding Education in post Independence Period [Specially NPE (1986), RTE (2009)
   (b) Important national documents on Education – Education commissions (1966), NCF (2005), Learning without burden (Yashpal committee report), NCFTE (2009)
   (iii) Dellors commission report – relevance to Indian Conditions

UNIT- III – Challenges in Education

1. Language policy
2. Enhancement of quality in Education and role of SSA and RAMSA in this.
3. Increasing enrollment at different stages

UNIT- IV Gender, School and Society

1. (a) Gender Sensitivity and its importance for society
   (b) Gender discrimination in Family
   (c) Gender discrimination in society
   (d) Gender discrimination in Schools
2. Role of Education, family, media and legislation in developing gender parity.

UNIT – V - Values in Education –

1. Values: concept and classification, unity of all life and being); tolerance; Values in modern Indian context with the reference to the Indian Constitution. Rights and Duties of a citizen as stated in constitution.
2. Value Education and role of school. Human rights & danger to Social Security, Role of Education in safe guarding human rights. Activities helpful in Inculcation of values.
3. Environmental Education- Role of teacher in Promoting Conservation of Environment.
4. Education for peaceful and cooperative living.

Practicum/Sessional work

Attempt any two-(One each from following sections)

Section A

1. Term paper on any one Topic/issues related to Education
2. Two abstract of any Two articles related to Education

Section B

1. Prepare a report on Co-curricular Activities of a school supporting Environment protection.
2. Case study of any one institution with reference to gender sensitivity.
3. Prepare a report of a group discussion conducted on language Policy/ Constitutional values/ Globalization/ Libralization/ Privatization.

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Course 3 - UNDERSTANDING THE SELF

Objectives: After completion of the course, the pupil teachers will be able to:

1. Understand the development of self as a person and as a teacher.
2. Develop sensibilities, dispositions and skills to facilitate personal growth of their students in the classroom.
3. Know the development of self concept and the professional identity.
4. Develop social relational sensitivity.
5. Build resilience within to deal with conflicts.
6. Analyze self identity (one's implicit beliefs, stereotypes and prejudices resulting from gender, culture, assets and limitations of oneself).
7. Become aware of the impact of political, historical, and social forces on their identity formation.
8. Learn and practice effective communication skills.
9. Understand the philosophy of yoga.
10. Practice Yoga to enhance abilities of body and mind.

COURSE CONTENT

UNIT 1: Exploration Into Self

1. Meaning and Nature of Self and Self Concept. Role of Home, Neighborhood, Community, Peer Group, School in their development. Importance of Building social Relations.

(a) Pupil teachers are required to explore their own self, self concept and self esteem by Administering tests of self efficacy, Self concept, self esteem and self identity under the Supervision of facilitators and prepare their personality profile.

(b) Pupil Teachers will be required to administer above tests to five school students and prepare student profile. On the basis of this profile they are required to prepare a teaching strategy to Enrich self concept, classroom learning and enhance achievement of students
Note: Records of the above to be submitted for evaluation

2. Self Esteem and Self Identity: Meaning and Nature; Development process: parenting practices, role of caste class, gender, age, religion, school, role models in the development of self esteem and self identity. Development of Teachers Personality: role of social, cultural, Political, academic, Psychological and organisational factors.

Pupil teachers are required to:

(a) Write down biographies of the best teachers they have come across

(b) Interview Successful teachers, professionals, businessmen and prepare a report of their interview.

(c) Collect success stories of high achievers in the field of academics/ sports / athletes/ actors and analyse them to identify their unique personality factors contributing to their success.

(d) Identify their own best contribution as a teacher, identify challenging situations they have come

across during class room teaching.

Note : Reports of the above will be presented and discussed in the group situation and to be submitted for evaluation.

3. Motivation: Meaning and importance of achievement motivation for achieving excellence. Importance of Goal Determination and Goal Achievement. Achieving self actualisation in teaching Profession.

(Mode: Workshop in Small Groups)

Identify influences of motives in his/her achievement in schools, college/jobs/personal relations. Pupil teachers will reflect on their own contribution to enrichment of their family, society and peer group.

UNIT – II Communication

Meaning, nature, types; factors influencing communication: psychological, social, organisational. Mass Communication: its impact on personality development and classroom learning. Effective listening and its role in the classroom, Characteristics of effective communication (body language, listening behaviour, responding strategies), Mastering Effective Communication.

Workshop of Pupil Teachers to restructure personality through:

(a) Analysis of one's strengths and weaknesses, beliefs, prejudices, time management, life goals, professional commitment.

(b) Developing effective listening and observation skills. Student teachers are required to develop in the workshop their personal strategies to enrich inner self as a teacher and stipulate its impact on their students.

UNIT – III Philosophy and use of Yoga

Philosophy of Yoga and its role in well being, use of yoga in different contexts; importance of Meditation; contribution to development of self.

(a) Practice of Yoga Exercises and Meditation

SESSIONAL WORK

1. Reports of the practicums of the above units.

NOTE: In this paper there will be no external examination. Internally college will conduct a written examination carrying a weightage of 10 marks and a practical examination carrying a weightage of 20 marks, Viva Voce carrying a weightage of 10 marks and 10 marks will be awarded for sessional work.

College will conduct Internally

Total Marks : 50	**Internal Assessment : 50**
Written Examination	**10 Marks**
Practical Examination	**20 Marks**

Viva – Voce	**10 Marks**
Practicum / Sessional work	**10 Marks**

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PAPER CODE-9601

FIRST YEAR

GENERAL ENGLISH

MM: 50

(Common for Science, Social Sciences and Humanities & Commerce Faculties)

(1) Texts :

1. The Many Worlds of Literature ed: Jasbir Jain: Macmilan India.

2. Animal Farm: By George Orwell

Or

A Vendor of Sweets: By R.K. Narayan

Distribution of Marks :

Marks

1. Current English for Language skills:

15

(a) Short-answer questions (5 out of 10) each carrying 1 mark = 5 marks

(b) General questions (2 out of 4) each carrying 4 marks = 8 marks

(c) Questions on vocabulary = 2 marks

2. Animal Farm or A Vendor of Sweets:

10

(a) Two questions (out of 4) each question carrying 5 marks = 10 marks

2. Grammar :	**13**
(a) Tenses	3 marks
(b) Modal Auxiliaries	2 marks
(c) Phrasal Verbs	3 marks
(d) Clause (Nominal, Adjectival, Adverbial)	2 marks
(e) Use of Non-finite verbs (Gerunds, Participles and infinitives)	3 marks
3. Comprehension and Composition:	**12**
(a) Precis writing	5 marks
(b) Essay (about 300 words) on one topic out of four topics	7 marks

Books Recommended :

1. Pit Corder: An Intermediate English Grammar

2. Thompson and Martinet: A Practical English Grammar (ELBS - Oxford University Press)

PAPER CODE-9602

FIRST YEAR

ENVIRONMENTAL STUDIES

(Credit Course)

(Compulsory for all Faculties)

The Environmental Studies (Compulsory) Examination shall consist of one theory paper of three hour duration and a field work. The student has to pass in theory as well as in field work separately.

Distribution of Marks	**Max. Marks**	**Min. Pass Marks**
Theory Paper	75	27
Field Work	25	09
Total	**100**	**36**

Pattern of question paper in the examination and distribution of marks :

The Environmental Studies (Compulsory) Examination will have a theory paper consisting two parts, A and B and a field work.

In Part A, total 10 questions will be set in the paper selecting at least one from each unit. Each question to be answered in about 50 words. All questions are compulsory. Each question carries 2.5 marks, total 25 marks.

In Part B, total 10 questions will be set, selecting at least one from each unit. Five questions have to be answered by the student selecting not more one from a unit. Each question to be answered in about 350 words. These questions carries 10 marks each, total 50 marks.

Field Work : Student will have to submit a typed/ hand written report of about 20 pages based on study of a local area of environmental interest. The report will be assessed by an internal examiner under the supervision of Dean/Principal of the College.

Suggested Books:

1. Chaudhary B.L. and J. Pandey (2004) : Environmental Studies (In Hindi), APEX Publishing House, Udaipur.

2. Purohit, S.S., Q.J. Shammi and A.K. Agrawal (2004), A Text Book of Environmental Sciences (In English), Student Edition, Jodhpur.

SYLLABUS

UNIT-1: The Multidisciplinary Nature of Environmental Studies

Definition, Scope and Importance; Need for public awareness (2 lectures).

UNIT-2: Natural Resources

Renewable and Non-renewable Resources: Natural resources and associated problems.

a) Forest Resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

b) Water Resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral Resources: Use and exploitation, environmental effects of extracting and using minerals resources, case studies.

d) Food Resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) Energy Resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.

f) Land Resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

* Role of an individual in conservation of natural resources.
* Equitable use of resources for sustainable lifestyles. **(8 Lectures)**

UNIT-3: Ecosystem

* Concept of an ecosystem
* Structure and function of an ecosystem
* Producers, consumers and decomposers
* Energy flow in the ecosystem
* Ecological succession
* Food chains, food webs and ecological pyramids.
* Introduction, types, characteristic features, structure and function of the following ecosystem -

(a) Forest ecosystem, (b) Grassland ecosystem, (c) Desert ecosystem, (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) **(6 lectures).**

UNIT-4 : Bio-diversity and its conservation

* Introduction-Definition: Genetic, species and ecosystem diversity.
* Biogeographically classification of India.
* Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
* Biodiversity at global, national and local levels.
* India as a mega-diversity nation
* Hot-spots of biodiversity
* Threats of biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.
* Endangered and endemic species of India.
* Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity **(8 lectures)**

UNIT-5 : Environmental Pollution

Definition:

* Causes, effects and control measures of : (a) Air pollution; (b) Water pollution; (c) Soil pollution; (d) Marine pollution; (e) Noise pollution; (f) Thermal pollution; (g) Nuclear hazards.
* Solid Waste Management: Causes, effects and control measures of urban and industrial wastes.
* Role of an individual in prevention of pollution.
* Pollution case studies.
* Disaster management: floods, earthquake, cyclone and landslides. **(8 lectures)**

UNIT-6 : Social Issues and the Environment

* From Unsustainable to sustainable development
* Urban problems related to energy
* Water conservation, rain water harvesting, watershed management
* Resettlement and rehabilitation of people; its problem and concerns. Case studies.
* Environmental ethics: Issues and possible solutions.
* Climatic change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
* Wasteland reclamation
* Consumerism and waste products
* Environment Protection Act
* Air (Prevention and Control of Pollution) Act
* Water (Prevention and Control of Pollution) Act
* Wildlife Protection Act
* Forest Conservation Act
* Issues involved in enforcement of environment legislation
* Public awareness **(7 lectures).**

UNIT-7: Human Population and the Environment

* Population growth, variation among nations
* Population explosion - Family Welfare Programme
* Environment and Human Health
* Human Rights
* Value Education
* HIV/AIDS
* Women and Child Welfare
* Role of Information Technology in Environment and Human Health
* Case Studies **(6 lectures)**

UNIT-8 : Field Work

* Visit to a local area to document environmental assets - river/forest/grassland/hill/mountain
* Visit to a local polluted site - Urban/Rural/ Industrial/Agricultural
* Study of common plants, insects, birds
* Study of simple ecosystems - pond, river, hill slopes etc. (Field work Equal to **5 lecture** hours).

COURSE CURRICULAM AND SYLLABUS OF
FOUR YEAR INEGRATED COURSE
PHYSICS
COURSE CURRICULAM

Paper Code	Paper	Nomenclature	Lectures	Duration of Exam	Max. Marks	Min. Marks
1161	**I**	Mechanics of Particles, Rigid bodies and Continuous Media	60 hrs	3hrs	**50**	**18**
1162	**II**	Oscillations, Waves and Acoustics	60 hrs	3hrs	**50**	**18**
1163	**III**	Electricity and Magnetism	60 hrs	3hrs	**50**	**18**
1164	**IV**	Practical	120 hrs	6 hrs	**50**	**18**

Each theory paper in the annual examination shall have three sections.

Section A shall contain one compulsory question of 5 marks having 10 parts. Two parts shall be set from each unit. The candidate is required to answer each part in about 20 words.

Section B shall contain five compulsory questions of 5 marks each with internal choice .One question with internal choice will be set from each unit .The answer may be given in approximately 250 words.

Section C shall contain four descriptive questions covering all units and candidate has to answer any two questions of ten marks each. The answer may be given in approximately 500 words. There can be two parts in a question from this section.

In total the candidate has to answer eight questions in each theory paper.

PAPER CODE-9341

FIRST YEAR B.Sc.B.Ed. INTEGRATED COURSE

PAPER-I

MECHANICS OF PARTICLES, RIGID BODIES AND CONTINUOUS MEDIA

UNIT – I

Laws of motion, conservation of energy and momentum, transformation equations for rotating frame, centripetal and Coriolis accelerations, Coriolis force, Coriolis force due to earth's rotation – experimental demonstration by Focualt pendulum.

Motion under a central force, conservation of angular momentum, Kepler's laws.

UNIT – II

Fields and potential, gravitational field and potential due to spherical bodies, Gauss's and Poisson's equations, gravitational self energy.

Two body problem, reduced mass, scattering and scattering cross sections, illustrations, Rutherford scattering by hard spheres, centre of mass and laboratory reference frames, binary stars.

UNIT – III

System of particles, centre of mass, calculation of centre of mass of regular bodies, angular momentum, equations of motion, conservation theorems for energy, momentum and angular momentum, system of variable mass, elastic and inelastic collisions, rigid body, degrees of freedom, Euler's theorem.

UNIT – IV

Molecular rotations (as rigid bodies), moment of inertia, di and tri atomic molecules, intrinsic spin, precessional motion, motion of top, gyroscope. Elastic constants for an isotropic solid, their inter relation, torsion of a cylinder, bending of beam, applications to cantilever.

UNIT – V

Kinematics of moving fluid, equation of continuity, Euler's law for fluidity.

Viscous fluids, streamline and turbulent flow, flow through a capillary tube, Poisvilles law, Reynold's number, Stoke's law, theory of rotation viscometer, effect of temperature and pressure on the viscosity of liquids.

Text and Reference Books:

1. E.M. Purcell, Editor, Berkeley Physics Course, Vol. 1, Mechanics, McGraw Hill.

2. R.P. Feynmann, R.B. Lighton, M. Sands, The Feynmann Lectures in Physics, Vol.I, B.I. Publications, Bombay, Delhi, Calcutta, Madras.

PAPER-II

OSCILLATIONS, WAVES AND ACOUSTICS

UNIT - I

Free oscillations of simple systems: Equilibrium; concept of potential well, small oscillations approximation, solutions, linear and transverse oscillations of a mass between two springs, diatomic molecule, reduced mass concept.

Damped and forced oscillations: Damped oscillations; critical damping, Q of an oscillator. Forced oscillator with one degree of freedom; Transient and steady state oscillations, resonance energy absorption, low and high frequency responses.

UNIT - II

Free oscillations of system with two degrees of freedom: Two dimensional oscillator; normal modes, longitudinal and transverse oscillation of coupled masses, energy transfer between modes, coupled pendulum.

Fourier analysis: Fourier series and Fourier coefficients; simple examples (square wave, saw-tooth wave, half and full wave rectifier), use of exponential representation for harmonic oscillations, expression for Fourier coefficients. Non-periodic disturbance; representation by Fourier integral, Fourier transform. Case of a wave train of finite length, constancy of $\Delta x \Delta k$ (the uncertainty product).

UNIT - III

Wave equation: Waves in a one-dimensional chain of particles; classical wave equation; wave velocity, boundary conditions and normal modes, dispersion relations, dispersion waves, acoustic and optical modes.

Waves in continuous media: Speed of transverse waves on a uniform string, speed of longitudinal waves in a fluid, energy density and energy transmission in waves, typical measurements, dispersion in waves, group velocity and phase velocity, their measurements.

Superposition of waves: Linear homogenous equations and the superposition principle, interference in space and energy distribution; beats and combination tones.

UNIT -IV

Ultrasonics: Production, detection, and applications of ultrasonic waves

Vibrations in bounded systems: Normal modes of a bounded system; harmonics, the quality of sound, Chladni's figures, Vibration of a drum. Noise and Music; Limits of human audibility; intensity and loudness, bel and decibel. Music scale and musical instruments.

UNIT - V

Reflection, refraction, and diffraction of sound:

Acoustic impedance of a medium, percentage reflection, and refraction at a boundary, impedance matching for transducers. Diffraction of sound; principle of a sonar system, sound ranging.

Applied acoustics: Transducers and their characteristics, recording and reproduction of sound, measurement of frequency, velocity, waveform, and intensity. The acoustics of halls, reverberation period, Sabine's formula.

Text and Reference Books:

1. Waves and Oscillations, Berkley Physics Course Vol. III

2. Vibrations and waves, I.G. Main (Cambridge University Press)
3. The Physics of Vibrations and Waves, H.J. Pain, McMillan (1975).

PAPER CODE-9343

PAPER-III

ELECTRICITY AND MAGNETISM

UNIT – I

Electric Field: Coulomb's law, unit of charge (SI and other systems of units). Conservation and quantization of charge. Field due to different charge distributions, monopole, dipole, quadrupoles, line charge, sheet charge. Torque on a dipole in uniform field and non-uniform fields, flux of an electric field. Gauss's law - applications to deduce **E** fields, force per unit area on the surface of a charged conductor.

Potential: Line integral of electric field and electrical potential. Field as the gradient of potential. Potential energy of a system of charges and its calculation in various configurations. Field equations for **E** in vacuum. Energy associated with **E** field. Differential form of Gauss's law: Poisson's equation, Laplace's equation, boundary conditions and uniqueness theorems.

Electric field around conductors: induced charges, field and potential inside a conductor, field near the surface of a conductor, method of images.

UNIT – II

Electric fields in matter: atomic and molecular dipoles, induced dipoles, polarizability tensor, electronic and molecular contributions. Electrical field caused by polarized matter, **E** and **D** fields, permittivity, diele ctric constant. Capacitor filled with dielectric, field equations in presence of dielectric. The field of a polarized sphere, dielectric sphere in a uniform field. Energy in dielectric systems. Polarizability and susceptibility, frequency dependence of polarizability, Claussius-Mossotti equation.

Magnetic filed: Magnetic field **B** seen through Lorentz force on a moving charge, unit for B field, magnetic dipoles in atoms and molecules, gyromagnetic ratio. Magnetic field due to currents: Biot and Savart's law. Field equations in magnetostatics, Ampere's law. Fields due to a straight wire, magnetic dipole, circular current and solenoid. Magnetic fields in matter. Magnetizing current, magnetization vector, **H** and **B** fields, magnetic permeability, susceptibility. Comparison of magnetostatics and electrostatics.

UNIT – III

Electrical current: current density and current; nonsteady currents and continuity equations. Electrical conductivity, resistivity, conductance and their temperature dependence. Thermo electric current and dark current, non-ohmic circuitry, thermistor. Varying current. Rise and decay of currents in LR and CR circuits, time constant, integrating and differentiating circuits, electrical shielding. Study of a discrete LC transmission line.

UNIT – IV

Alternating currents: Skin effect for resistance at high frequencies, complex impedance, reactance, impedances of LCR series and parallel circuits, resonance, Q factor, power dissipation and power factor. AC bridges: Anderson's ,deSauty's and Owens bridges, Self and mutual inductance. Measurement of mutual inductance by Carry Foster Method, Coupled circuits and Transformers.

UNIT – V

Ballistic Galvanometer (moving coil type), its distinction from beat type. B.G. differential equation and its solution under different conditions of damping. Critical damping, over damping. Logarithmic decrements, charge sensitivity, current sensitivity, determination of B using search coil and B.G. Determination of high resistance using B.G. Factors for sensitivity. B.G. constant. Measurement of mutual inductance by Carey Foster's bridge by B.G. Measurement of small resistance by Kelvin's double bridge.

Text and Reference Books:

1. E.M. Purcell, Ed. Berkely Physics Course, Vol. 1, Electricity and Magnetism McGraw Hill.

2. D. Halliday and R. Resnick, Physics, vol. 2, Wiley Eastern, New Delhi.

3. D.J. Griffiths, Introduction to Electrodynamics, Prentice Hall of India.

4. Reitz and Milford, Electricity and Magnetism, Addison Wesley.

5. A.S. Mahajan and A.A. Rangawala , Electricity and Magnetism, Tata McGraw Hill.

6. A.M. Portis Electromagnetic Fields

7. S.S. Atwood, Electricity and Magnetism, Dover publication.

8. A.F. Kip, Fundamentals of Electricity and Magnetism, International Student Edition, McGraw Hill and Kogakusha,

1969

PAPER-IV

PHYSICS PRACTICALS

Note : Students are expected to perform sixteen experiments in all taking the eight experiments from each section. One experiment from section A and one from section B will be set in the examination paper.

The distribution of marks in the practical examination will be as follows:

(i) Two experiments	30 Marks

For each experiment, distribution of marks will be as follows:

Figure :	2
Formula/Theory :	2
Observation :	7
Calculation and Result :	3
Precautions :	1
(ii) Viva voce	10
(iii) Records	10
Total	**50 Marks**

LIST OF EXPERIMENTS

Section-A

1. Determination of elastic constants Y, □ , □ □ and K by Searle's method.
2. Determination of thermal conductivity 'K' of a bad conductor by Lee's method.
3. Determination of J by Callender and Barne's method.
4. Study of temperature variation of surface tension by Jaegers method.
5. Study of free fall of a body: use of a digital timer to get time and velocity at different depth and analysis.
6. Study of collision in two dimension
7. Kater's pendlum, precise setting, analysis and determination of value of acceleration due to gravity 'g' at a place.
8. Study of damping of a bar pendulum under various kinds of damping mechanisms.
9. To determine coefficient of damping k ,relaxation time T and quality factor of a damped SHM using a simple pendulum.
10. Study of dependence of period of oscillations of a spring or rubber band on mass and spring constant.
11. To determine the velocity of sound in air at room temperature with Kundt's tube.
12. Using scattering to deduce the nature of potential hump or well (two dimensional)
13 Study of laws of parallel and perpendicular axes for estimation of moment of inertia.
14. Computer simulation of equations of motion for a system of particles.
15. Computer simulation of molecular rotations, as rigid bodies.
16. Study of motion of a top and a gyroscope.
17. Study of torsion of a wire; dependence on radius, length, torque and material (static method)
18. To determine the modulus of rigidity of the material of a wire by statistical method using Bortan's apparatus

19. To determine the value of modulus of rigidity of the material of a given wire by dynamical method using Maxwell's needle

20. Study of flow of liquids through capillaries: laminar and turbulent flow stages, capillaries

21. To determine the coefficient of viscosity of water by Poisevill's method

22. Studying the fall of solids through a liquid.

23. To determine the coefficient of viscosity of a liquid (glycerene or castor oil) by Stoke's method

24. Study of air flow through a capillary : U- tube with a long capillary fitted on one arm, mercury level difference pushing air.

25. To determine Poisson's ratio of rubber

SECTION -B

1. Calibration of Carey Fosters bridge wire and determination of the specific resistance of the material of the given wire.

2. Measurement of thermo e.m.f.

3. To study growth and decay of current in R.C. circuit and determine the time constant.

4. To determine impedance of L-R circuit and find phase relation ship in current and voltage.

5. To determine the constants of a ballistic galvanometer. Current and charge sensitivity, time period, log decrement and galvanometer resistance.

6. To determine intensity of magnetic field using search coil and ballistic galvanometer.

7. To determine high resistance by method of leakage. Measure leakage resistance of a condenser.

8. To determine low resistance by Kelvin's double bridge.

9. Determination of dielectric constant of a given liquid.

10. To determine inductance of a coil using Anderson's method.

11. Desauty's bridge method for comparison of two capacitors.

12. To determine mutual inductance by Carry Foster's Method

13. Study of the impedance of a capacitor of varying frequencies to measure C.

14. Response curve for LCR circuits series resonance.

15. Study of a discrete LC transmission line.

16. Response curve for LCR circuit parallel resonance

17. Measurements of electric charge and related quantities using an electrometer.

18. Study of potential distribution in a given geometrical configuration.

19. Mapping of electric fields for specified configurations.

20. Study of magnetic field using a vibration magnetometer.

21. Study of the rise and decay of current in a RL circuits.

22. Characteristics of a choke.

23 Study of the impedance of an inductor at varying frequencies to measure R and L

FIRST YEAR B.Sc CHEMISTRY 2016-17
Effective from session 2016-2017

The examination shall consist of three theory papers and one practical.

Paper & Course	Hrs/Week	M. Marks
Paper - I Inorganic Chemistry	2	50
Paper - II Organic Chemistry	2	50
Paper - III Physical Chemistry	2	50
Practical	4	50

PAPER I : INORGANIC CHEMISTRY

Time : 3 Hrs. **M.M. 50**

UNIT I

Covalent Bond: Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions. Valence Shell Electron Pair Repulsion (VSEPR) theory, regular and deviation from regular geometry, MO theory, homonuclear and heteronuclear (CO, NO, HF and HCl) diatomic molecules, multi center bonding in electron deficient molecules, bond strength and bond energy, percentage ionic character from dipole moment and electronegativity difference.

Ionic Solids : Ionic structures, radius ratio effect and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born Haber cycle, salvation energy and solubility of ionic solids, polarizing power and polarizing of ions. Fajan's rule, Metallic bond - free electron, valence bond and band theories.

Weak Interactions: Hydrogen bonding, Van der Waals forces.

UNIT II

s-Block Elements : Comparative study, diagonal relationships, salient features of hydrides, solvation and complexation tendencies including their function in bio-systems, an introduction to metal alkyls and aryls.

Chemistry of Noble Gases : History of discovery, separation of inert gases, chemical properties of the noble gases, chemistry of xenon, structure and bonding in xenon compounds.

UNIT III

Group 13 : General properties, oxides, hydroxide, halides and hydrides of boron, diborane and higher boranes, borohydrides, borazine, oxyacids of boron, borax and borax bead test.

Group 14 : General properties, inert pair effect, halides, oxides, silicates, silicones, graphitic compounds, carbides, cyanides and carbonyls, brief idea of fullerenes.

Group 15 : General properties, hydrides, azides, halides, oxides and oxyacids of phosphorous, nitrogen fixation, fertilizers.

UNIT IV

Group 16 : General properties, po]ymorphism, hydrides, hydrides, halides, oxides and oxyacids of sulphur, thiosulphuric acid and salts, thionic acids and their salts, tetrasulphur tetranitride.

Group 17 : General properties hydrogen halides, oxides and oxyacids of halogens, interhalogen compounds polyhalides, basic properties of halogens.

UNIT V

Non-Aqueous Solvents : Physical properties of a solvent, types of solvents and their general characteristics, Differentiating and leveling solvents, reactions in non-aqueous solvents with special reference to liquid NH_3 and liquid SO_2.

Acids and Bases : Arrhenius, Bronsted - Lowry, Lax - Flood, solvent system and Lewis concepts of acid and bases, Usanovitch definition.

BOOKS RECOMMENDED

1. Concise Inorganic Chemistry : J.D. Lee
2. General Inorganic Chemistry : J.A. Duffy, Longman (2nd Ed.)
3. Principles of Inorganic Chemistry : B.R. Pun and L.R. Sharma.
4. Basic Inorganic Chemistry : F.A. Cotton and G. Wilkinson, Wiley Eastern.
5. Molecular Geometry : R.J. Gillespie, Van Nostrand Reinhold.
6. Inorganic Chemistry (Hindi ed.) : Suresh Ameta, A. Sharma and M. Mehta, Himanshu Publication.

PAPER CODE-9346

PAPER II : ORGANIC CHEMISTRY

Time : 3 Hrs. **M.M. 50**

UNIT I

Structure and Bonding : Localized and delocalized chemical bond, Van der Waals interaction, charge transfer complexes, resonance, hyperconjugation, aromaticity electrometric, inductive and field effects, hydrogen bonding.

Mechanism of Organic Reactions : Curved arrow notation, drawing electron movements with arrows, half- headed and double- headed arrows, types of organic reactions, energy considerations.

Reactive Intermediates : Carbocations, carbanions, free radicals, carbenes, arynes and nitrenes, their formation and stabilities.

Methods of determination of reaction mechanism (product analysis, intermediates, isotope effects, kinetic and stereochemical studies).

UNIT II

Stereochemistry of Organic Compounds : Concept of isomerism, types of isomerism.

Optical Isomerism : Elements of symmetry, molecular chirality, enantiomers, stereogenic centre, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centers, diastereomers, threo and erythro diastereomers, meso compounds, resolution of enantiomers, inversion, retention and racemization.

Relative and absolute configuration. sequence rules. D and L, R and S systems of nomenclature. Geometric isomerism- determination of configuration of geometric isomers. E and Z system of nomenclature, geometric isomerism in oximes and alicyclic compounds.

Conformational isomerism- conformational analysis of ethane and n-butane; conformations of cyclohexane, axial and equatorial bonds, conformation of mono substituted cyclohexane derivatives. Newman projection and Sawhorse formulae, Fischer and Flying Wedge formulae.

Difference between configuration and conformation.

UNIT III

Alkanes : General methods of formation, physical & chemical properties. Mechanism of free radical substitution in alkanes with reference to halogenation, orientation, reactivity and selectivity. **Cycloalkanes :** Nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitation, ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings, the case of cyclopropane ring: banana bond.

Alkenes, Dienes and Alkynes : Brief introduction of alkenes, their formation with reference to mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydration The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes.

Chemical Reactions of Alkenes : mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration- oxidation, Oxymercuration-reduction, epoxidation, ozonolysis, hydration, hydroxylation and oxidation with $KMnO_4$ polymerization of alkenes, substitution at the allylic and vinylic positions of alkenes, industrial applications of ethylene and propene.

Nomenclature and Classification of Dienes : Isolated, conjugated and cumulated dienes, structure of allenes and butadiene, methods of formation, poIymerization, chemical reactions- 1,2 and 1,4- additions, Diels - Alder reaction.

Alkynes : Acidity of alkynes, mechanism of electrophilic and nucleophilic addition reactions, hydroboration, metal-ammonia reductions, oxidation and polymerization.

UNIT IV

Arenes and Aromaticity : Nomenclature of benzene derivatives, the aryl group, aromatic nucleus and side chain, structure of benzene, molecular formula and Kekule structure, stability and carbon - carbon bond lengths of benzene, resonance structure, and M.O. picture. **Aromaticity :** The Huckel rule, aromatic ions. Aromatic electrophilic substitution: General pattern of the mechanism, role of s and p complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel-Craft reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho-para ratio. Side chain reactions of benzene derivatives, Birch reduction, Methods of formation and chemical reactions of alkylbenzenes. alkynylbenzene and biphenyl.

UNIT V

Alkyl and Aryl Halides : Nomenclature and classes of alkyl halides, methods of formation, chemical reactions, mechanism of nucleophilic substitution reactions of alkyl halides, S_N^2 and S_N^1 reactions with energy profile diagrams, factors affecting S_N^2 and S_N^1 reactions. Haloform reaction, Freons :

Methods of formation of aryl halides, nuclear and side chain reactions, the addition - elimination and elimination - addition reaction, mechanisms of nucleophilic aromatic substitution reactions.

Relative reactivates of alkyl halides v/S allyl, vinyl and aryl halides, synthesis and uses of DDT and BHC.

BOOKS RECOMMENDED

1. A Text Book of Organic Chemistry : K.S. Tiwari, S.N. Mehrotra and N.K. Vishnoi.
2. Modern Principles of Organic Chemistry : M.K. Jain and S.C. Sharma
3. A Text Book of Organic Chemistry : (Vol. I and II), O.P. Agarwal.
4. A Text Book of Organic Chemistry : B.S. Bahl and Arun Bahl.
5. A Text Book of Organic Chemistry : P.L. Soni.
6. Organic Chemistry : (Vol. I, II and III), S.M. Mukherji, S.P. Singh and R.P. Kapoor, Wiley Eastern Ltd., (New Age International).
7. Organic Chemistry, Morrison and Boyd, Prentice Hall.
8. Organic Chemistry (Hindi Ed.) : Suresh Ameta, P.B. Punjabi and B.K. Sharma, Himanshu Pub.

PAPER III : PHYSICAL CHEMISTRY

UNIT I

Mathematical Concepts : - Logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation of function like k_x, e^x, x^n, sin x, log x, maxima and minima, partial differentiation and reciprocity relations, integration of some useful/relevant functions, permutations and combinations, factorials, probability.

Computers : General introduction to computers, different components of a computer, hardware and software, input-output devices, binary numbers and arithmetic, introduction to computer languages, programming operating systems.

UNIT II

Gaseous State : Postulates of kinetic theory of gases, deviation from ideal behavior, Van- der Waals equation of state.

Critical Phenomena : PV isotherms of real gases, continuity of states, the isotherms of Van der Waals equation, relationship between critical constants and Van der Waals constants, the law of corresponding states, reduced equation of state.

Molecular Velocities : Root mean square, average and most probable velocities, qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter, liquefaction of gases (based on Joule - Thomson effect).

Liquid State : Intermolecular forces, structure of liquid (a qualitative description).

Liquid Crystals : Difference between liquid crystal, solid and liquid, classification, structure of smetic, nematic and cholestric phases, theory of liquid crystals and its applications, thermography and seven segments cell.

UNIT III

Solid State : Definition of space lattice, unit cell, Bravias lattices.

Laws of crystallography : (i) Law of constancy of interfacial angles (ii) Law of rationality of indices, Weiss and Miller indices (iii) Law of symmetry, symmetry elements in crystals classification of crystals, X-ray diffraction by crystals derivation of Bragg equation, determination of crystal structure of NaCl, KC1 and CsC1 (Laue's method and powder method).

Colloidal State : Definition of colloids, classification of colloids.

Solids in liquid (sols): Properties - kinetic, optical and electrical, stability of colloids, protective action, Hardy - Schuize law, gold number.

Liquids in Liquid (emulsions): Types of emulsions, preparation. emulsifier, Liquids in solid (gels)- classification, preparation and properties inhibition, general applications of colloids.

UNIT IV

Nuclear and Radiochemistry : Elementary idea of nucleus, nuclear forces, packing fraction, mass defect and binding energy, nuclear fission and fusion reactions, calculation of Q - values of nuclear reactions, liquid drop and shell models of nucleus, theory of radioactivity, G.M. Counter, half life period, average life, radioactive disintegration, radioactive steady state, group displacement law, radioactive series, separation and identification of isotopes, application of radioactivity and radioactive tracers.

UNIT V

Atomic Structure : Dual nature of electron, De Brogue equation, Davission and Germer experiment. Heisenberg uncertainty principle, Schrodinger wave equation, significance of y and y^2, probability distribution curves shapes of s, p and d - orbitals, Zeeman and Stark effects.

Physical Properties and Molecular Structure : Physical properties of liquids, vapour pressure, measurement of vapour pressure, heat of vaporization, Troution's rule.

Surface tension, measurement of surface tension.

Viscosity and its measurement, effect of temperature on the surface tension and viscosity, use of these properties in determination of chemical constitution.

BOOKS RECOMMENDED

1. Principles of Physical Chemistry: B.R. Puri and L.R. Sharma.
2. A Text Book of Physical Chemistry: A.S. Negi and S.C. Anand.
3. Physical Chemistry, Pt. I & II : C.M. Gupta, J.K. Saxena and M.C. Purohit.
4. Physical Chemistry (Hindi Ed.) : Suresh Ameta, R.C. Khandelwal, R. Ameta and J. Vardia, Himanshu Pub.
5. Computers and Applications to Chemistry, Ramesh Kumari, Narosa Publishing House Pvt. Ltd.

PAPER CODE-9348

FIRST YEAR CHEMISTRY PRACTICALS 2016-17

Time : 5 Hrs (One day) **M.M. 50**

Distribution of Marks

	Exercises	Marks
1.	Semi-micro analysis of Inorganic mixture containing five radicals (excluding Na^+ and K^+)	10
2.	(i) Detection of extra element (N, S and halogen) if any and functional groups in given sample organic compounds.	7
	(ii) Purification of the given organic compounds by crystallization (charcoal) sublimation and determination of its m.p. OR Determination of mixed melting points using urea-cinnamic acid mixtures of given compositions.	7
3.	One Physical Chemistry Experiment	10
4	Vice-voce	8
5.	Records	8
	Total	50 marks

LIST OF EXPERIMENTS

1. **Semi-micro Analysis of Inorganic mixture**: The mixture shall contain **Five** radicals at least two cations and two anions) soluble in water or in HCl. Two cations of the same group except IIA and IIB may be given. Not more than one interfering radical may be given. Interfering radical may not be given with typical anion combinations.

2. (i) Detection of extra elements (N.S. and halogen) ,one organic compound from the following functional groups be given for identification:

Carboxylic acids, Phenols, Alcohols, Carbohydrates, Aldehydes, Ketones, Nitro.

Compounds : Amino compounds, Anilides Amides, Esters, Thiomide,

Hydrocarbons, Halogen containing compounds.

(ii) **Crystallization** :

Concept of induction of crystallization.

Phthalic acid from hot water (using fluted filter paper and stemless funnel)

Acetanilide from boiling water.

Naphthalene from ethanol

Benzoic acid from water

Decolourization and crystallization using charcol : Crystallization and decolourization of impure naphtha lene (100 g of naphthalene mixed with 0.3 of Congo Red using 1 g decolourizing carbon) from ethanol.

Simple Sublimation : Camphor, Naphthalene, Phthalic acid and Succinic acid.

Criteria of purity: Determination of M.P., B.P., Mixed M.P.

3. Physical Chemistry Experiments : Any one of the following experiments may be given in the examination.

Ionic equilibria

a) Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.

b) Preparation of buffer solutions and measurement of the pH of buffer solutions and comparison of the values with theoretical values of following buffers.

(i) Sodium acetate-acetic acid

(ii) Ammonium chloride-ammonium hydroxide

Colloids : To prepare arsenious sulphide sol. and compare the precipitating power of mono-, bi- and trivalent anions.

Viscosity and Surface Tension

(i) To determine the percentage composition of a given mixture (non-interacting systems) by viscosity method.

(ii) To determine the percentage composition of a given binary mixture by surface tension method.

(iii) To determine the parachor value of $–CH_2–$ group.

(iv) To determine the rheochor value of $–CH_2–$ group.

Transition Temperature

(i) Determination of transition temperature of the given substance by thermometric/ dialometric method (e.g. : $MnCl_2.4H_2O$, $SrBr_2.2H_2O$).

Thermochemistry

(i) To determine the solubility of benzoic acid at different temperatures and to determine DH of the dissolution process.

(ii) To determine the enthalpy of neutralisation of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base.

(iii) To determine the enthalpy of solution of solid calcium chloride and calculate the lattice energy of calcium chloride from its enthalpy data using Born-Haber cycle.

Virtual experiments (any two)

(i) Purification of organic / inorganic compounds by crystallization / sublimation.

(ii) Preparation of biodiesel from vegetable oil.

(iii) Fractional distillation of crude oil / coal .

(iv) Conformational analysis of alkanes/ cycloalkanes.

(v) Any other virtual experiment related to the content of syllabus and availability of the experimental facilities.

BOOKS RECOMMENDED

1. Practical Chemistry - Giri, Bajpai and Pandey, S. Chand & Co. Ltd., New Delhi.
2. Laboratory Manual in Organic Chemistry, R.K. Bansal, Willey Eastern.
3. Experimental Organic Chemistry, Vol. I and II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
4. Experiments in Physical Chemistry - J.C. Ghose, Bharti Bhawan.
5. Experiments in General Chemistry, N.r. Rado and U.C. Agarwal, Eastern Press.
6. Practical Chemistry - Suresh Ameta and P.b. Punjabi, Himanshu Publication.

FIRST YEAR T. D.C. SCIENCE, 2018-19

ZOOLOGY

The first year TDC examination shall consist of three theory papers, each of three hours duration and a practical examination of five hours duration.

	Marks
Paper-I: Life and Diversity of Animals-I (Invertebrates)	**50**
Paper-II : Cell Biology	**50**
Paper-III : Developmental Biology	**50**
Practical :	**50**

Pattern of question paper in the annual examination and distribution of marks:

Each theory paper in the annual examination shall have three sections i.e. A,B, and C. In section A, total 10 questions will be set in the paper, selecting at least two from each unit. These questions are to be answered in a word or so. All questions are compulsory. Each question carries 0.5 mark, total 05 marks.

In section B, there shall be total 10 questions, selecting two questions from each unit, five questions to be answered by the student selecting at least one from each unit. Answer should be given in approximately 250 words. Each question carries 05 marks, total 25 marks.

In section C, 04 descriptive type questions will be set in the examination paper from five units of the syllabus of the paper, selecting not more than one question from a unit. Each question may have two sub divisions. Students are required to answer any two questions approximately in 500 words. Each question is of 10 marks, total 20 marks.

PAPER CODE-9349

FIRST YEAR T. D.C.SCIENCE, 2018-19

ZOOLOGY

PAPER-I: LIFE AND DIVERSITY OF ANIMALS-I (INVERTEBRATES)

Duration : 3 hours **M.M. 50**

UNIT- I

1 General characters and classification of Protozoa and Porifera (up to classes) with examples.

2 Type study: Paramecium. Parasitic protozoans and their Pathogenesis

3 Type study-Sycon.

4 Canal system in sponges.

UNIT-II

5 General characters and classification of Coelenterata and Ctenophora

6 Type study-Obelia.

7 Corals and coral reefs - their formation, kinds and importance. Polymorphism in Coelenterates, Metagenesis.

8 Affinities of Ctenophora

UNIT-III

9 General characters and classification of Platyhelminthes (upto classes) and Aschelminthes (upto phyla)

10 Type study –Fasciola , Taenia

11 Concept of pseudocoelom

12 General characters and classification of Nematoda (upto classes)

13 Type study: Ascaris

14 Endoparasites in relation to human diseases, parasitic adaptations of trematodes, cestodes, and nematodes.

UNIT-IV

15 General characters and classification of Annelida and Arthropoda (up to classes) with examples.

16 Concept of metamerism, segmentation and coelom

17 Type study-Pheretima, Periplaneta.

18 Economic importance of arthopods

UNIT-V

19 General characters and classification of and Mollusca and Echinidermata (up to classes) with examples.

20 Type Study –Pila *and* Asterias

21 Concept of Torsion and its importance

22 Echinoderm larvae.

PAPER CODE-9350

FIRST YEAR T.D.C.SCIENCE, 2018-19

ZOOLOGY

PAPER II : CELL BIOLOGY

Duration : 3 hours **M.M. 50**

UNIT -I

1 Cell theory and its modern interpretation

2 Structure, function and general characteristics various types of cells

3 Prokaryotic and eukaryotic cells.

UNIT -II

4 Various models and hypothesis in understanding the structure of plasma membrane (Overton, Danielli and Davisson, Robertsons and Fluid mosaic model)

5 Functions of plasma membrane and membrane transport

6 Cell cytoskeleton-Microtubule, Microfilament and Intermediate Filament.

7 Structure and function Cilia, flagella, Centriole and basal bodies.

8 Brief idea of cell cycle (General description of mitosis and meiosis).

UNIT -III

9 Structure and function of nucleus and nucleolus.

10 Nucleic acids: Watson and Crick model of DNA, chemical nature of DNA and replication of DNA.

11 Chemical nature and structure of various types of RNAs and basic concept of transcription

UNIT -IV

12 Structure and function of Ribosome

13 Structure and function of Endoplasmic Reticulum (Rough and Smooth)

14 Basic concept of Protein Synthesis.

UNIT -V

15 Structure and function of Golgi. Concept of GERL system.

16 Structure and function of Mitochondria and Peroxisomes.

17 Structure, function and polymorphism of Lysosomes.

PAPER CODE-9351

FIRST YEAR T.D.C. SCIENCE, 2018-19

ZOOLOGY

PAPER- III : DEVELOPMENTAL BIOLOGY

Duration : 3 hours **M.M. 50**

UNIT -I

1 Aims and scope of developmental biology. Brief historical review and concepts of Embryology.

2 Neuroendocrine regulation of reproductive organs in brief.

3 Gametogenesis: Spermatogenesis and structure of sperm, oogenesis and structure of ovum, types of ova.

UNIT -II

4 Fertilization: Main events of fertilization, acrosome reaction, polyspermy preventing mechanisms.

5 Errors in fertilization and significance of fertilization. Parthenogenesis (In brief)

6 *In vitro* fertilization and test tube baby.

7 Embryo transplant.

UNIT -III

8 Cleavage: planes, patterns & types of cleavage.

9 Blastulation: Types of blastulae.

10 Gastrulation: fate maps, morphogenetic movements and their significance in gastrulation. Mechanism and main characteristic of gastrulation.

UNIT -IV

11 Elementary knowledge of fate of three germ layers.

12 Primary organizer and embryonic induction, concept of competence.

13 Determination, differentiation; Main characteristics of growth and regeneration.

14 Regeneration.

UNIT -V

15 Extra embryonic membranes: Development and functions.

16 Placentation: Definition, types, classification on the basis of morphology and histology. Functions of placenta.

PAPER CODE-9352

FIRST YEAR T.D.C. SCIENCE – 2018-19

ZOOLOGY: PRACTICAL

Duration : 5 hours **M.M. 50**

S.No.	Exercise	
1	Major dissection	10
2	Cell Biology/ Developmental Biology exercise	05
3	Mounting/ Slide preparation	04
4	Spots(10)	15
5	Viva-voce	8
6	Record	8
	Total :-	**50**

Major Dissection marks will be given only if virtual dissection is available otherwise marks may be given according to availability of dissection alternate.

1. General survey of invertebrates (museum specimens):

The student is required to know classification, habit and habitat, economic importance etc.

A	Protozoa	:	*Entamoeba, Polystomella, Monocystis, Euglena, Noctiluca, Trypanosoma, Nyctotherus, Paramecium, Vorticella*,
B	Porifera	:	*Scypha, Hyalonema, Euplectella, Spongilla, Euspongia.*
C.	Coelenterata	:	*Physalia, Aurelia, Alcyonium, Corallium, Gorgonia, Pennatula, Madrepora, Metridium*
D	Platyhelminthes and Aschelminthes	:	*Dugesia, Fasciola, Taenia, Schistosoma, Dracunculus, Ascaris* (male and female*), Wucheraria, Enterobius*
E	Annelida and	:	*Nereis Heteronereis, Aphrodite, Arenicola, Chaetopterus Hirudinaria*.
F	Onychophora	:	*Peripatus.*
G	Arthropoda	:	*Limulus, Aranea, Palamnaeus, Lepas, Balanus, Apus, Sacculina, Eupagurus, Carcinus, Lepisma, Pediculus, Bombyx, Apis, Cimex, Julus, Scolopendra, Ixodes.*
H	Mollusca	:	*Mytilus, Chiton, Teredo, Turbinella, Laviculus, Limax, Doris, Aplysia, Dentalium, Nautilus, Sepia, Octopus, Loligo, Pecten, Solen, Pinctada.*
I	Echinodermata	:	*Asterias, Pentaceros, Antedon, Ophiothrix, Holothuria.*

J Hemichordata : *Balanoglossus, Saccoglossus.*

II. Study of the permanent slides, sections passing through different regions of animals and developmental stages.

1 Protozoa : Blood smears showing malarial parasite. *Paramecium*: Binary fission, conjugation.

2 Porifera : T.S. and L.S. of *Sycon*., spicules, spongin fibres and gemmules

3 Coelenterata : *Obelia* (colony and medusa), planula, scyphistoma and ephyra larvae of *Aurelia,* T.S. of mesentry of *Metridium*

4 Platyhelminthes : Miracidium, sporocyst, redia and cercaria larvae of *Fasciola,* scolex of *Taenia*, W.M. of mature and gravid proglottids of *Taenia*, hexacanth and cysticercus larvae of *Taenia.*

5 Aschelminthes : T.S. of *Ascaris.*(male and female)

6 Annelida : T.S. of *Nereis* through different regions, parapodia of *Nereis* and *Heteronereis*. Trochophore larva.

7 Arthropoda : V.S. of compound eye, nauplius, zoea, megalopa larvae and *Mysis*

8 Mollusca : T.S. of gill lamella and T.S. of shell of *Lamellidens*, glochidium larva.

9 Echinodermata : T.S. of arm, tubefeet and pedicellaria, bipinnaria larva of starfish, echinopluteus larva.

10 Hemichordata : Torneria larva.

III Dissections: Various systems of preserved animals/Virtual dissection

Virtual dissection of Digestive, Blood Vascular, Excretary, Reproductive system of Frog Rat/Rabit (if facility of virtual is made available by University)

1. *Pheretima* : General anatomy, digestive, nervous, excretory and reproductive systems.

2. *Palaemon* : Appendages, general anatomy, digestive system and nervous system.

3 *Cockroach* : Mouth parts, Alimentary canal and Reproductive system (only after permission from institutional animal ethical committee otherwise virtual)

IV Mountings: Permanent preparation of the following:

1	Protozoa	:	*Euglena, Paramecium*, rectal ciliates, *Polystomella.*
2	Porifera	:	Sponge spicules, spongin fibres and gemmules.
3	Coelenterata	:	*Obelia* (colony and medusa)
4	Platyhelminthes	:	Proglottid of *Taenia*.
5	Annelida	:	Parapodia of *Nereis* and *Heteronereis*, ovary, septal nephridia and setae (*in situ*) of earthworm.
6	Arthropoda	:	Statocyst and hastate plate of prawn, salivary glands and tracheae of cockroach, W.M. of *Cyclops, Daphnia*, mouth parts of any 4 insects *Culex, Anopheles* male and female, housefly, cockroach and honey bee.
7	Mollusca	:	Gill lamella, glochidium larva, osphradium and radula of *Pila.*

Cell Biology

1. Prepared slides of mitochondria, Golgi bodies, centrosome, different stages of mitosis.
2. Buccal smear preparation for localization of mitochondria and Golgi complex using vital stains.
3. Preparation of Mitosis.
4. Squash preparation of polytene chromosomes.

Developmental Biology: Slides and specimen

1	W.M of eggs, early cleavage stage, T.S. of blastula and gastrula of frog.
2	Study of chick embryo: 18 hours, 24 hours, 36 hours, 48 hours and 72 hours.
3	T.S. of ovary and testis.
4	Sperm smear to study the structure of sperm.
5	Foetus with placenta.

- The teacher concerned will provide e-materials to practical in the form of video or demonstrations or written materials including dissections.

REFERENCE BOOKS (LATEST EDITIONS):

LIFE AND DIVERSITY OF ANIMALS (INVERTEBRATES)

1 Hickman C.P.Jr.,F.M. Hickman and L.S. Roberts, Integrated Principles of Zoology, Mosby College Publication. St. Louis.

2 Ayyar, E.K. and T.N.Ananthakrishnan, Manual of Zoology, Vol.1 (Invertebrata), Parts I and II. S, Viswanathan (Printers and Publishers) Pct. Ltd., Madras.

3 Jordan, E.L. and P.S.Verma, Invertebrate Zoology, S.Chand & Co. Ltd., Ram Nagar, New Delhi. (English and Hindi Editions).

4 Parker and Haswell, Text Book of Zoology, Vol.1, (Invertebrata), A.Z.T.B.S. Publishers and Distributors, New Delhi- 110051

5 Ismail, S.A., Vermicology: The Biology of Earthworms, Orient Longman, India.

6 Kotpal, RL. Agarwal and Khetrapal: Modern Text Book of Zoology: Invertebrates, Rastogi Publications, Meerut. (English and Hindi Editions)

7 Storer, T.I. and Usinger, K.L.: General Zoology, Tata McGraw- Hill Publishing Co., New Delhi.

8 Simpson, GG: Principles of Taxonomy, Oxford and IBH Publisher Co. New Delhi.

CELL AND DEVELOPMENTAL BIOLOGY :

9 Alberts, Bray, Lewis, Raff, Roberts and Watson, Molecular Biology of the Cell (Garland).

10 Balinsky, An Introduction to Embryology (CBS College Publishers)

11 Grant: Biology of Developing systems (Holt, Reihart and Winston).

12 Gilbert: Developmental Biology (Sinauer)

13 Alberts, B., et al., Molecular Biology of the Cell (Garland)

14 Lodish, H., et al., Molecular Cell Biology (Freeman).

PRACTICAL :

15 Verma, PS, A manual of practical Zoology S.Chand and Co. Ltd., Ram Nagar, New Delhi (English and Hindi Editions).

16 Lal, SS: Practical Zoology , Invertebrates, Rastogi Publication, Meerut (English and Hindi Editions).

PAPER CODE-9353

FIRST YEAR B.Sc.B.Ed.INTEGRATED COURSE

BOTANY

Papers		No. of	No. of Periods	Max. Passing	Min. Passing

		Papers	in a Week	Marks	Marks
Paper- I	Algae, Lichens and Bryophytes	1	3	50	18
Paper – II	Mycology, Microbiology and Plant Pathology	1	3	50	18
Paper – III	Palaeobotany, Pteridophytes & Gymnosperms	1	3	50	18
PRACTICALS		1	6	50	18

Duration of examination of each theory paper 3 hrs.

Duration of examination of practical 5 hrs. (in one day)

PAPER-I

ALGAE, LICHENS AND BRYOPHYTES

Unit-1

General characters, thallus organisation, pigments and reserve food material in algae. Electron microscopic structure of *Chalamydomonas* and the Cyanophycean cell. Fritsch's Classification and modern trends in classification. Morphology, reproduction and evolutionary relationships in the following: Cyanophyta : *Oscillatoria, Nostoc*. Chlorophyta : *Chlamydomonas, Volvox, Hydrodictyon* and *Cladophora*.

Unit-2

General characters of Xanthophyta, its relationship with Chlorophyta, Morphology and reproduction in Xanthophyta : *Vaucheria;* Chlorophyta : *Coleochaete* and *Oedogonium*; Charophyta : *Chara*. General account of Bacillariophyceae.

Unit-3

Morphology & reproduction in Phaeophyta: *Ectocarpus*; Rhodophyta: *Polysiphonia*. Economic importance of algae. Lichens: Important features, structure, habitat, importance as colonisers and indicators of environment. Vegetative multiplication and life cycle of *Parmelia* and *Usnea*.

Unit-4

General characters and classification of Bryophytes. The evolutionary trends in thallus structure and sporogonium. Morphology and life history of *Riccia, Marchantia, Pellia, Porella* and *Anthoceros*.

Unit-5

Morphology, life history and relationships of *Sphagnum* and *Polytrichum*. Economic importance of Bryophytes.

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2

questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have subdivisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A: 10 questions, 2 questions from each unit, short answer, all questions compulsory.

Total marks: **05**

Section B: 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words.

Total marks: **25**

Section C: 04 questions (question may have subdivision), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted.

Total marks: **20**

PAPER CODE-9354

PAPER-II

MYCOLOGY, MICROBIOLOGY AND PLANT PATHOLOGY

Unit-1

Characteristics and broad classification of fungi. Structure and life history of *Albugo, Penicillium, Phyllactinia* and *Morchella.* Elementary knowledge of Mycorrhizae and their symbiotic significance.

Unit-2

Structure and life history of *Puccinia, Ustilago, Agaricus* and *Alternaria*. Economic importance of fungi : food, industries, medicine and biological controls.

Unit-3

Characteristics, classification, structure and repro-duction of bacteria. Isolation and pure culture of bacteria, Gram's staining. Salient features of Micro-biology of water, soil and food.

Unit-4

Characteristics, structure and economic importance of Mycoplasma. Viruses: Nature, structure, trans-mission and multiplication of plant viruses.

Unit-5

Principles of plant pathology. Methods of disease control. Important symptoms of plant diseases of the following : Green ear disease of Bajra. Loose smut of Wheat, Black Rust of Wheat, Citrus canker. Little leaf of *Solanum melongena* (Brinjal). Yellow vein mosaic of Bhindi, Tikka disease of ground nut.

Note :

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These

questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks **: 05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C: 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total Marks : 20

PAPER CODE-9355

PAPER-III

PALAEOBOTANY, PTERIDOPHYTES AND GYMNOSPERMS

Unit-1

Characteristics and broad classification of pterido-phyta. Stelar system in pteridophytes. Geological Time Scale. Types of fossils, process of fossilization. Applied aspects of Palaeobotany. Structure of *Rhynia* and *Williamsonia*.

Unit-2

Occurrence, structure and life history of *Psilotum, Lycopodium* and *Equisetum*.

Unit-3

Occurrence, structure and life history of *Selaginella* and *Marsilea*. Homospory, heterospory and origin of seed habit.

Unit-4

General characters, economic importance and broad classification of Gymnosperms, occurrence, structure of life history of *Cycas*.

Unit-5

Occurrence, structure and life history of *Pinus* and *Ephedra*.

Note :

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there

will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks **: 05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9356

PRACTICALS

The practical exercises have been divided into following two groups based on the theory papers as detailed below:

Group-I Algae, Fungi, Lichens, Microbiology and Plant Pathology.

Group-II Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany.

GROUP I

Microscopic preparations and study of following algal materials: *Nostoc, Oscillatoria, Chlamydomonas, Volvox, Coleochaete, Hydrodictyon, Cladophora, Oedogonium, Vaucheria, Chara, Ectocarpus* and *Polysiphonia*.

Study of different types of Lichen specimens.

Microscopic preparation and study of following fungal materials : *Albugo, Phyllactinia, Morchella, Penicillium, Ustilago,Agaricus, Puccinia* and *Alternaria*.

Study of some locally available materials showing plant diseases caused by Viruses, Mycoplasma, Bacteria and Fungi in field/ laboratory. Yellow vein mosaic of Bhindi, Little leaf of *Solanum melongena* (Brinjal), Citrus canker, Green ear disease of bajra, Rust and Smut of wheat and White rust of crucifers.

GROUP II

Study of external and internal morphology and micro-scopic preparations of following Bryophytes : *Riccia, Marchantia, Plagiochasma, Pellia, Anthoceros, Sphagnum* and *Polytrichum*.

Microscopic examination of fossil slide specimens/ photographs: *Rhynia* and *Williamsonia*.

Temporary, double stained microscopic preparations and study of stem/ rhizome, anatomy of following pteri-dophytes: *Psilotum, Lycopodium, Selaginella, Equisetum* and *Marsilea*. Study of temporary, single stained micro-scopic preparation of the following : Cone of *Lyco-podium, Selaginella* and *Equisetum.* Petiole, Root and Sporocarp of *Marsilea* ; Rhizophore and root of *Selagi-nella.*

Temporary, double stained microscopic preparations of T.S., T.L.S. and R.L.S. of stem of *Pinus* and *Ephedra* and T.S. Leaflet and Rachis of *Cycas* and needle of Pinus, T.S. of normal and coralloid roots of *Cycas*. Microscopic preparations of male cone of *Pinus* and male and female cones of *Ephedra*. Study of male cone and megasporophyll of *Cycas*.

MARKING SCHEME

There shall be a practical examination of five hours duration and the distribution of marks shall be as follows :

S.No	TOPIC	MARKS
1.	A double stained section of plant part either of Pteridophyte or Gymnosperm glycerine mount	
2.	Minor preparation of Pteridophyte or Gymnosperm (not covered in Q.1)	
3.	Preparation and mounting of the part of : a) A Bryophyte b) A Fungus c) An Alga d) Bacteria	
4.	Spots : Seven a) (a) One from each group (Algae, Lichen, Bryophytes, Fungi, Fossil, Pteridophytes, Gymnosperms). b) One microbiological experiment for comments.	
5.	Viva-Voce	
6.	Practical records	
	TOTAL	

BOOKS SUGGESTED

Alexopoules, C.J.: Introductory Mycology, John Wiley and Sons, N.Y. 1978.

Bendre, A. and Kumar, A.: A Test Book of Practical Botany, Rastogi Publication, Meerut.

Ghemawat, M.S., Kapoor, J.N. and Narayan, H.A.: A Text Book of Algae, Ramesh Book Depot, Jaipur, 1976.

Gupta, M.N.: A Class Book of Gymnosperms, 1978.

Parihar, N.S.: An Introduction to Embryophyta, Vol. I, Pteridophyta, Vol.II, Central Book Depot, Allahabad, 1969.

Sharma, P.D.: Fungi, Rastogi Publications, Meerut, 1989.

Sharma, P.D.: Microbiology and Plant Pathology, Rastogi and Co. Meerut, 1989.

Vashishtha, B.R.: Botany for Degree Students (Algae, Fungi, Bryophyta and Gymnosperms), S. Chand and Co., New Delhi, 1976.

Singhvi, V., Pandey, P.C. and Jain, D.K.: A Text Book of Botany, Rastogi and Co., Meerut.

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

FIRST YEAR B. Sc. MATHEMATICS 2016-17

PAPER-I

ALGEBRA

Duration: 3 Hours **Max. Marks: 50**

UNIT-I

Symmetric, Skew Symmetric, Hermition and skew Hermition matrices. Linear independence of row and column matrices. Row rank, column rank and rank of a matrix. Equivalence of column and row ranks.

Eigen values, Eigen vectors and characteristic equation of a matrix. Cayley-Hamilton theorem and its use in finding inverse of a matrix. Theorems and examples of consistency of a system of linear equations.

UNIT- II

Relation between the roots and coefficients of general polynomial equation in one variable. Transformation of equations. Descarte's Rule of signs, solution of Cubic equations (Cardon method). Biquadratic equations. Horner’s Method, Ferrari’s Method.

UNIT-III

Groups and their defining theorems. Various examples, order of an element and related theorems, Permutation Groups, even and odd permutations, cyclic groups, subgroups, union, intersection of two and finite subgroups and various examples, product of two subgroups.

UNIT –IV

Left and right cosets and their properties, Lagrange's theorem, index of a subgroup. Normal subgroups their examples and elementary basic theorems, Quotient group. Simple group, centre of group, Normalizer of an element and that of a subgroup, Conjugacy relation, class equation for finite groups.

UNIT-V

Group homomorphism and isomorphism with elementary basic properties, Cayley's theorem for finite groups, fundamental theorem of homomorphism in groups. The three isomorphism theorems of groups. Automorphisms and inner automorphisms.

References:

1. I. N. Herstein : Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.
2. R. S. Agrawal : A Textbook on Modern Algebra.
3. K. B. Datta : Matrix and Linear Algebra Prentice Hall of India Pvt. Ltd., New Delhi, 2000.
4. H. S. Hall and S.R. Knight : Higher Algebra, H.M. Publications, 1994.
5. Bansal, Bhargava, Agrawal : Amurt Beej Ganita.
6. Chandrika Prasad : Text book on Algebra and Theory of Equations, Pothishala Pvt. Ltd, Allahabad.
7. Gokhroo, Saini : Elements of Abstract Algebra
8. Sharma, Purohit : Elements of Abstract Algebra

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

FIRST YEAR B. Sc. MATHEMATICS 2016-17

PAPER-II

CALCULUS

Duration: 3 Hours **Max. Marks: 75**

UNIT-I

Polar coordinates and derivatives of arc, polar subtangent and subnormal, pedal-equation, Roll's Theorem, Mean Value Theorems, Taylor's Theorem, their proofs, verifications and applications.

UNIT -II

Asymptotes, curvature, Test of concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

UNIT – III

Beta Gamma functions and their properties. Quadrature, Rectification.

UNIT - IV

Degree and order of a differential equation. Equations of first order and first degree, Equations in which the variables are separable, Homogeneous equations. Linear equations and equations reducible to the linear form. Exact differential equations.

UNIT - V

First order and higher degree equations solvable for x,y,p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations and the equations reducible in homogeneous form.

References:

1. Gorakh Prasad : A Text book on differential calculus (Pothi

shala)

2. Gorakh Prasad : A Text book on Integral calculus and Differential Equations (Pothi shala).
3. E. A. Codignton : An introduction to ordinary Differential Equations Prentice Hall of India, 1961.
4. P.K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co., New Delhi-11, 2000.
5. Bansal, Bhargava : Avakalan Ganita-II
6. Bansal, Bhargava : Samakalan Ganita-Il
7. Gokhroo, Saini : Uchch Avakalan Ganita.
8. Gokhroo, Saini : Uchch Samakalan Ganita.
9. Bansal, Bhargava & Agrawal : Avkal Samikaran I .
10. Gokhroo, Saini, Kumbhat : Avkal Samikaran.

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

FIRST YEAR B. Sc. MATHEMATICS 2016-17

PAPER –III GEOMETRY

Duration: 3 Hours **Max. Marks: 75**

UNIT -I

General equation of second degree, nature of conic, eccentricity and foci of conic, Tracing of different conics. Ellipse : Tangent, normal, Chord of contact of the tangents, pole and polar, eccentric angle, auxiliary circle, director circle, equation of chord in term of middle point, pair of tangents, conjugate lines, diameter and conjugate diameters and their properties.

UNIT - II

Hyperbola: Parametric coordinates, tangent, normal, chord of contact of tangents, pole and polar etc. asymptotes, conjugate hyperbola, conjugate diameters, rectangular hyperbola, equation of hyperbola referred to its asymptotes. Polar Equations: Polar equation of conic, polar equations of tangent, perpendicular lines and normal, director circle of the conic.

UNIT-III

Plane and straight line: Equation to represent two planes and angle between them, projection on a plane area of a triangle and volume of tetrahedron. Equations of line intersecting two lines, skew lines, shortest distance between two lines, intersection of three planes and three lines.

UNIT- IV

Sphere: General Equation, Tangent Plane, Pole and Polar, Intersection of two spheres, Radical plane, Radical line, Radical centre, Co-axial spheres, Limiting points.

Cone: Enveloping cone, Tangent plane, Reciprocal cone, Three mutually Perpendicular generators, Right circular cone.

Cylinder: Right circular cylinder, Enveloping cylinder

UNIT-V

General equation of second degree in three dimensions. Intersection of a line and a conicoid. Tangent lines and Tangent plane. Condition of tangency, plane section with a given centre. Diametral plane. Principal planes, principal directions and plane sections.

References:

1. Gorakh Prasad and H.C. Gupta : A Text book of coordinate Geometry (Pothishala)
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SECOND YEAR

Course No.	Nomenclature
Course 11	Learning & Teaching
Course 12	Pedagogy of School Subject I
Course 13	Pedagogy of School Subject II
Course 12 & 13	1. Pedagogy of General Science
	2 Pedagogy of Physics

	3. Pedagogy of Chemistry
	4. Pedagogy of Zoology
	5. Pedagogy of Botany
	6. Pedagogy of Mathematics
Course 14	**Pre-Practice Teaching (Internal Assessment)**
	a) Practicing teaching Skill
	b) T.L.M. Workshop in each Subject
	c) Simulated teaching
Course 15	**Open Air Session / SUPW Camp (Internal Assessment)**
Course 16	**Core Subject***
	Elementry Computer Application
	Practical

Course 17	**Physics I**
	Physics II
	Physics III
	Physics Practical
Course 18	**Chemistry I**
	Chemistry II
	Chemistry III
	Chemistry Practical
Course 19	**Zoology I**
	Zoology II
	Zoology III
	Zoology Practical
Course 20	**Botany I**
	Botany II
	Botany III
	Botany Practical
Course 21	**Mathematics I**
	Mathematics II
	Mathematics III

PAPER CODE-9471

LEARNING AND TEACHING

Objectives:- After completing this course, the student-teachers will be able to :

1. Understand the process of learning and different approaches to the teaching learning process.
2. Apply psychological principles in the teaching learning process.
3. Understand the concept of motivation and strategies to develop motivation and use the motivational devices during teaching learning process.
4. Apply transfer of learning to foster maximum positive transfer.
5. Identify and cater to the educational needs of children with learning difficulties.
6. Develop an understanding of cognitive processes.
7. Understand various factors that influence learning.
8. Understand the concept, principles of teaching and models of teaching.
9. Develop an understanding of various approaches of teaching.
10. Understand the management of teaching.
11. Understand the role of professional organizations in professional development of teachers.

COURSE CONTENT

UNIT-I Learning and Motivation

1. Learning- Concept and Factors Affecting Learning.
2. (a) Approaches to Learning:
   Cognitive : Gestalt (Werthimier, Kofka, Kohler)
   Behaviorist : (Pavlov, Thorndike, Skinner)
   Social Cognitive: Bandura
   (b) Relevance and the applications of the above approaches to learning.
3. Transfer of Learning – Meaning, Types of Transfer and Teaching for Transfer.
4. Motivation– Concept and Significance, Types of Motivation (Intrinsic and Extrinsic), Maslow's Hierarchy of Needs and Motivational Devices for Classroom Teaching.

UNIT- II Individual Differences and Cognitive Processes

1. Individual differences – Nature, Types, Causes, Accommodating individual differences in classroom.
2. Understanding differences based on cognitive abilities in children with learning difficulties (for instance, slow learner, dyslexic).
3. Cognitive Processes-Sensation, Perception, Attention, Memory, Concept formation and Problem Solving in Learning.

UNIT- III Teaching and Teaching Process

1. Teaching:

1. Concept and Nature of Teaching.
2. Relationship between Teaching and Learning.
3. Principles of Teaching.
4. Levels and phases of teaching.
5. Components of Teaching: Teacher, Student, Teaching-Learning material and Classroom climate.
6. Interrelatedness of objectives, teaching learning experiences and evaluations.
7. Content analysis and Task analysis.

2. Teaching Process:

1. Teaching Technology: Concept, Assumptions, Characteristics and Components – Planning, Organisation and Evaluation.
2. Approaches to teaching- Participatory, Child Centered, Constructivist and Investigatory – Their meaning, characteristics and use in teaching.
3. Criterion of effective teaching, Methods of assessment of teaching (Classroom observation, Peer assessment, Self reporting and Evaluation by a supervisor).
4. Teacher behaviour during Teaching: Flander's Interaction Analysis System.

UNIT- IV Models of Teaching

1. Concept of models of teaching.
2. Elements of Models of Teaching.
3. Families of Models of Teaching.
4. Types of Models of Teaching - Richard Suchman's Inquiry Training Model, Glaser's Basic Teaching Model, Information Processing Model and Concept Attainment Model

UNIT-V Teaching as a Profession

1. Definition and characteristics of a profession.
2. Teaching as a Profession: why and how.
3. Professional Ethics for Teachers.
4. Strengthening Teaching Profession

a) Role of Teachers Organizations at state and national level.

b) Role of Educational Organizations in the professional development of teachers (UGC, NCTE, NCERT, Universities and SIERT)

c) Role of Teacher Education Institution in the professional development of teachers.

d) Role of School and Community in enriching Teaching Profession

5. Balancing personal aspirations and professional obligations by teachers.

SESSIONAL WORK

The student teachers shall undertake any two of the following activities (one from each section)

I –Section-A

1. Preparing a teaching plan based on constructivist approach / child centered approach / activity based learning.
2. Case study of a child with learning difficulties.
3. A comparative study of learning of children belonging to different socio-cultural background.

II-Section-B:

1. Study and report on pressures on school teachers.
2. Observation of one student-teacher's behavior during one teaching period (using Flander's Interaction Analysis System).
3. Collection of few success stories of teachers.
4. A case study of a professional organisation of teachers.

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PAPER CODE-9491

Course 12&13 - PEDAGOGY OF GENERAL SCIENCE

Objectives:-After completion of the course the student teachers will be able to :-

1. Develop understanding of the nature of science.
2. Develop understanding of the concept of General Science, its importance and its correlation with other subjects.
3. Appreciate the contribution of Indian and foreign scientists in development of Science.
4. Develop scientific attitude and scientific creativity among students.
5. Develop an understanding of aims and objectives of General Science.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop ability to use various methods and approaches of teaching General Science.
8. Develop an ability to construct an achievement test
9. Use continuous and comprehensive evaluation.

COURSE CONTENT

UNIT – I Nature of Discipline

1. Science as a domain of enquiry and characteristics of a scientific enquiry Observation, steps in
scientific method.
2. Science as a dynamic body of knowledge
3. Values developed through Science
4. Contributions of Eminent Indian and western Scientists. – Jagdish Chandra Bose, Dr. Hargobind Khorana, Birbal Sahani, Salim Ali, Darwin, Mendel Watson & Crick and Alfred Nobel,

UNIT –II General Science as a Subject in School Curriculum

1. Place and importance of General Science in school curriculum.
2. Correlation of General Science with other subjects.
3. Changing trends and goals of teaching General Science with references to NCF-2005 (position
paper).

UNIT – III Pedagogy of General Science

1. Aims and objectives of teaching General Science.
2. Writing objectives in behavioral terms.
3. Developing scientific attitude, scientific temper and creativity through teaching of General Science.
4. Content cum Pedagogical analysis of following topics of General Science.
5. Matter in our surrounding; Natural resources; Our environment; Natural disasters

UNIT – IV Planning and Strategies of Teaching-learning General Science-

1. Preparation of annual plan, unit plan and daily teaching plan.

2. Inquiry approach, constructivist approach, investigatory approach, Computer assisted learning,

concept mapping, collaborative learning.

3. Lecture cum demonstration method, Laboratory method, Heuristic method, Project method, problem solving method, Inductive –deductive method, Panel discussion.

UNIT – V Assessment and evaluation in General Science

1. Concept of Evaluation.
2. Types of items.
3. Construction of achievement test.
4. Home assignment – Planning and evaluation.
5. Importance and construction of diagnostic test, remedial program.
6. Concept and advantages of – Continuous and Comprehensive Evaluation (CCE)

PRACTICUM / SESSIONAL WORK

Any two of the following:-

1. Life sketch and contribution of any one prominent biological Scientist.
2. Make a scrap Book on any Environmental issue.
3. Planning, conducting and reporting of an investigatory project.
4. Abstract of two papers related to General Science published in reputed journals
5. Identify the difficulties of students in conducting General Science practical.
6. Identify weak students of General Science and plan a diagnostic and remedial programe for them.

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PAPER CODE-9492

Course 12&13- PEDAGOGY OF PHYSICS

Objectives: On completion of the course the student teachers will be able to:

1. Understand the nature of Science as discipline and Physics as a branch of Science
2. Appreciate the contribution of Indian and Foreign Physicists in the development of Physics.
3. Acquire the understanding of the methods and processes of science that lead to exploration, generation and validation of knowledge in science/physics.
4. Appreciate the issues at the interface of science, technology and society
5. Develop the skill of planning teaching learning activities.
6. Develop competencies in

(a) Selection and use of teaching methods, approaches and devices.

(b) Selection, preparation and use of cost effective teaching aids.

(c) Inculcation of scientific attitude, scientific temper and science related values.

7. Understand role and limitations of language in physics
8. Organise interactive child centered teaching learning by understanding of the learner
9. Conduct pedagogical analysis for planning of instruction
10. Prepare teaching plan using process skills.
11. Prepare, administer and analyze achievement tests for evaluation of learning outcomes of Physics

COURSE CONTENT

UNIT -I Nature of Science as Discipline

1. Nature of Science: as a domain of enquiry, as a dynamic and expanding body of knowledge, as a process of constructing knowledge.
2. Pedagogical shift from science as a fixed body of knowledge to process of constructing knowledge.
3. Scientific Literacy as universal goal of science education : meaning, functions
4. Objectives of teaching science as given by AAAS, NCF-2005,NCERT
5. Relationship of Science, Technology and Society
6. Teacher's role in training students in scientific method, critical thinking and developing scientific attitude, scientific temper and using these for solving problems of everyday life, nurturing natural curiosity and creativity in science
7. Application of the knowledge of physics for human welfare
8. Values and ethics of science as discipline

UNIT -II Nature and Objectives of Teaching Learning Physics

1. Nature of Physics as a branch of science

2. Facts, Concepts, Principles, laws and Theories-their characteristics in context of Physics (citing examples for each)
3. Place and importance of Physics in school curriculum
4. Development of Science Process Skills through learning of Physics(Teacher Educator will illustrate each taking examples from specific content of Physics).
5. Interdisciplinary fields of Physics viz. Biophysics, Geophysics, Metro physics, Psychophysics etc.
6. Major milestones in the history of development of physics as a branch of science.
7. Contributions of Eminent Physicists: C.V.Raman,Vikram Sarabhai,Homi Jehangir Bhabha,A.P.J.Abdul Kalam ,Albert Einstein, Issac Newton,Stephen Hawkins
8. impact of physics on modern Indian society with reference to issues related with Environment,
Globalization, Industrialization, Information Technology and Peace
9. Taxonomy of educational objectives: meaning and use of classification, aims and objectives of
teaching physics.
10. Developing Feeling and Values(Affective aspect of science) through teaching of Physics.

UNIT- III Exploring Learner

Motivating learners to bring his/her previous knowledge gained in physics through classroom/environment/parents and peer group; Cultivating in teacher-learner the habit of listening to child; Generating discussion, involving learners in teaching-learning process; Encouraging learners to raise questions, appreciating dialogue amongst peer group; helping learner to develop the attitude of rational problem solver Encouraging learners to collect materials from local resources, and to develop/fabricate suitable activities in Physics (individual or group work)

Children's conceptualization of scientific phenomenon with focus on physics at upper primary and
secondary levels with linkages to primary level

Role of language and its contribution towards expression, articulation and understanding of Physics

UNIT-IV Approaches and Strategies of Learning Physics:

1. Concept approach – meaning of concept, concept formation with reference to J. Bruner and Hilda Taba
2. Process approach – teaching science as a process, scientific method, problem solving method.
3. Cooperative learning approach
4. Activity based approach – investigatory approach, project method, laboratory method
5. Individualized instruction, computer assisted instruction
6. Demonstration-cum-discussion method

7. Presentation (Lecture) method by using advance organizers

8. Constructivist approach Use of different approaches to develop scientific attitude and important values through teaching of Physics

UNIT- V Pedagogical Analysis, Planning for Instruction and evaluation.

1. Pedagogical Analysis:

a) Content Analysis: Identification of units, themes ,concepts ,generalizations ,problems or issues

,knowledge organization in CBSE/RBSE Text books of upper primary and secondary levels. Identification of concepts and teaching points, themes or issues through which scientific attitude or important values can be developed

b) Concept Mapping of the lesson ,unit or theme to be taught

c) Pedagogical Analyses of the following units: Mechanics, Sound, Electricity,Heat and Light with content analyses, expected learning outcomes(Specific Objectives in Behavioral Terms) , Teaching-Learning experiences and activities to be conducted ,evaluation techniques

2. Developing Yearly Plan, Unit Plan and daily teaching Plans on different approaches

3. Evaluation of learning of Physics:

a. Meaning and significance of formative, summative, continuous and comprehensive evaluation.

Continuous assessment - developing learner profiles and portfolios; participatory and peer Assessment

b. Construction of test items of different types to assess factual knowledge ,higher order mental

processes, critical thinking and creativity

c. Preparation of blue print and achievement test, administration and item analysis.

d. Diagnostic testing and remedial teaching in physics.

e. Using assessment feedback to improve teaching of and learning of Physics,

f. analyses of question papers of Physics set by State/CBSE boards

SESSIONAL WORK

Any two of the following:

1.Prepare list of famous Physicists in chronological order from all over the world, starting from Galileo and write major contributions of any one these physicists.

2. Life history and contribution in Physics of one noble prize winner in Physics

3. An essay on impact of Physics on modern Indian society with reference to issues related with

Environment, Globalization, Industrialization, Information Technology and Peace.

4. Report of an experimental project to be completed.

5. Collection of current issues related to science from news papers with comments.

6. Identify weak students in Physics of any one class and prepare a diagnostic test of physics and plan for remedial teaching

7. Construction, administration, scoring and item analyses of examination Paper of Physics set on Board Pattern.

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PAPER CODE-9493

Course 12 & 13 - PEDAGOGY OF CHEMISTRY

Objectives: After completion of the course the student teacher will be able to-

1. Develop an understanding of the Nature of Science.
2. Develop an understanding of the nature of Chemistry and its correlation with other subjects.
3. Develop scientific attitude and scientific Literacy
4. Develop an understanding of Pedagogy of Chemistry
5. Appreciate recent achievement of chemistry and the contribution of Indian and Foreign Scientists in development of Science.
6. Develop an understanding of aims and objectives of Chemistry teaching.
7. Develop an ability of preparing annuals plan, unit plan and lesson plan.
8. Develop an ability to plan and conduct innovative projects in chemistry.
9. Organize co-curricular activities related to chemistry teaching.
10. Develop an ability to construct and use an achievement test, diagnostic test and remedial measures in Chemistry.
11. Use continuous and comprehensive evaluation.
12. Develop skills related to teaching of chemistry such as Observation, Demonstration, Experimentation, Handling Scientific Apparatuses etc.
13. Use appropriate learning resources.
14. Involve learners in listening, interacting, discussion, dialogue etc.

COURSE CONTENT

UNIT-I Nature of Discipline

1. Nature of Science
2. Developmental perspectives of science.
3. Process skills in Science such as Observation, Demonstration, Experimentation, Handling Scientific Apparatuses etc.

4. Scientific attitude, Scientific Literacy, role of Science in removing ignorance and superstitions.

5. Impact of Science on Society and Vice Versa

6. Contribution of eminent Indian and Foreign Scientific viz Neel Bohr, Marry Curie, C.V. Raman, S.S. Bhatnagar, J.C. Bose, Newton, Einstein, Hargovind Khurana

UNIT-II Chemistry as a Subject in school Curriculum

1. Essential Characteristic of Chemistry as a subject

2. Aims and Objectives of Teaching learning chemistry

3. Importance of Chemistry in School Curriculum

4. Correlation of Chemistry with other subjects

5. Recent Scientific achievements in Chemistry (God Particle Boson, New elements in periodic table. Fuel form Bio-waste, Liquid air as a fuel)

6. Chemistry in daily life.

UNIT-III Pedagogy of Chemistry

1. Content cum Pedagogical analysis of following topics of Chemistry Atomic Structure; Nuclear Chemistry; Chemical Bonding; Periodic Table; Hard and Soft water; Aromatic Compounds

2. Important skills for classroom teaching - Listening the child, bringing previous knowledge gained through parents, peer group in learning process and interaction, Generating discussion, Encouraging questions of students and dialogue amongst peer group.

3. Methods of Teaching Chemistry Lecture cum demonstration method; Inductive – deductive method; Heuristic method; Scientific method; Project method; Computer Aided Instruction; Constructivist approach; Brain storming; llaborative learning

(3) Projects in Chemistry

UNIT- IV Learning Resources

1. Science Lab. – Structure and design of Chemistry laboratory.

2. Low cost apparatus, use of local resources.

3. Alternative resources for challenged learners

4. Teaching – Learning material viz charts, models, flannel board, OHP, Computer, Projector.

UNIT-V Assessment and Evaluation

1. Concept of continuous and comprehensive evaluation, Formative and Summative Evaluation

2. Different types of questions, Blue print and construction of Achievement Test.

3. Diagnostic and Remedial measures

4. Self Evaluation, Peer Group Evaluation and Teacher Evaluation

5. Assessment Indicators of practical examination in Chemistry Such as Handling of Apparatus,

following Systematic Approach, Correct Conclusion, Understanding Cause Effect Relationship of

given Experiment, Viva-Voce and Reporting.

PRACTICUM/SESSIONAL

Any Two from following –

Practicum No. 1 is compulsory for all

1. Preparation of kit for Demonstration of five experiments on any Topic related to chemistry covered in the syllabus of class VI to X.
2. Preparation of a low cost apparatus/Improvised apparatus. (Other than submitted during internship)
3. Analysis of a given Salt – Identifying Acid and Basic Radicals
4. Identification of Protein, Carbohydrate, Fat in a given substance.
5. Identification of Adulteration in some food article such as Ghee, Oil, Milk, Red Chilli powder, Turmeric powder and Pulses etc.

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- ***PAPER CODE-9494***

Course 12&13 - PEDAGOGY OF BIOLOGY

Objectives: - After completion of the course the student teachers will be able to:-

1. Develop understanding of the nature of science.
2. Develop understanding of the concept of Biology, its importance and its correlation with other subjects.
3. Appreciate the contribution of Indian and foreign Biologists in development of Biology
4. Develop scientific attitude and scientific creativity among students.
5. Develop an understanding of aims and objectives of Biology.
6. Develop an ability of preparing annual plan, unit plan and daily teaching plan.
7. Develop ability to use various methods and approaches of teaching Biology.
8. Develop an ability to construct an achievement test
9. Use continuous and comprehensive evaluation.

COURSE CONTENT

UNIT – I Nature of Discipline

1. Science as a domain of enquiry and characteristics of a scientific enquiry. Observation, steps in scientific method.
2. Science as a dynamic body of knowledge
3. Values developed through Science
4. Contributions of Eminent Indian and western Biologists. – Jagdish Chandra Bose, Dr. Hargobind Khorana, Birbal Sahani, Salim Ali, Darwin, Mendel and Watson & Crick.

UNIT –II Biology as a Subject in School Curriculum

1. Place and importance of Biology in school curriculum.
2. Correlation of Biology with other subjects.
3. Changing trends and goals of teaching Biology with references to NCF-2005 (position paper).

UNIT – III Pedagogy of Biology

1. Aims and objectives of teaching Biology.
2. Writing objectives in behavioural terms.
3. Developing scientific attitude, scientific temper and creativity through teaching of Biology.
4. Content cum Pedagogical analysis of following topics of Biology.
    a) Diversity of living organism
    b) Biological Classification
    c) Genetics and Evolution
    d) Ecology and Environment

UNIT – IV Planning and Strategies of teaching-learning Biology-

1. Preparation of annual plan, unit plan and daily teaching plan.
2. Inquiry approach, constructivist approach, investigatory approach, Computer assisted learning,
   concept mapping, collaborative learning.
3. Lecture cum demonstration method, Laboratory method, Heuristic method, Project method, problem solving method, Inductive –deductive method, Panel discussion.

UNIT –V Assessment and evaluation in Biology

1. Concept of Evaluation.
2. Types of items.
3. Construction of achievement test.
4. Home assignment – Planning and evaluation.
5. Importance and construction of diagnostic test, remedial program.
6. Concept and advantages of – Continuous and Comprehensive Evaluation (CCE)

PRACTICUM / SESSIONAL WORK

Any two of the following:-

1. Life sketch and contribution of any one prominent biological Scientist.
2. Make a scrap Book on any Environmental issue.
3. Planning, conducting and reporting of an investigatory project.
4. Abstract of two papers related to Biology published in reputed journals
5. Identify the difficulties of students in conducting biology practical's.
6. Identify weak students of biology and plan a diagnostic and remedial programme for them.

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Paper code - 9495

Course 12 & 13 - PEDAGOGY OF MATHEMATICS

Objectives: After completion of course the students will be able to-

1. Gain insight into the meaning, nature, scope and objectives of mathematics education.
2. Appreciate mathematics as a tool to engage the mind of every student.
3. Understand the process of developing the concepts related to Mathematics.
4. Appreciate the role of mathematics in day to day life.
5. Learn important mathematics: mathematics more than formulas and mechanical procedures.
6. Pose and solve meaningful problems.
7. Construct approriate assessment tools for evaluating mathematics learning.
8. Understand methods and techniques of teaching mathematics.
9. Perform pedagogical analysis of various Topics in mathematics at secondary level.
10. Understand and use I.C.T. in teaching of mathematics.
11. Understand and use continuous and comprehensive evaluation, diagnostic testing and remedial teaching in Mathematics.

COURSE CONTENTS

UNIT-I Nature of Mathematics as a Discipline

1. A Mathematics is not merely subject of computations skill , it is much more, it has a logical structure.
2. Nature of mathematics- building blocks of mathematics (Concept, objectives, variables, function & relation, symbolization)
3. Important processes of mathematics-estimation , approximation, understanding or visualizing pattern representation, reasoning & proof, making connections, mathematical communication.
4. Historical development of mathematics as a discipline Contribution of western and Indian mathematicians like Ramanujan, Aryabhatt, Bhaskarcharya, Pythogorous and Euclid.
5. Constructivist approach in learning mathematics.

UNIT-II Mathematics as a School Subject

1. Importance of mathematics in school curriculum.
2. Aims and objectives of Teaching mathematics at secondary level. writing objectives in behavioural terms. Bloom's taxonomy (revised)
3. Correlation of mathematics with other school subjects.
4. Changing trends and goals of teaching mathematics with reference to NCF 2005
5. Concept mapping of themes related to mathematics.

UNIT-III Methodology of Teaching and Learning of Mathematics

1. Nature of concept, concept formation and concept assimilation.
2. Methods of teaching mathematics at secondary level

a. Lecture cum demonstration
b. Inductive-Deductive
c. Problem Solving
d. Project
e. Heuristic
f. Analytic & Synthetic

3. Techniques of teaching mathematics

a. Oral work
b. Written work
c. Drill work
d. Home assignment

UNIT-IV Pedagogical analysis and mode of learning engagement

1. Pedagogical analysis of the units with reference to concepts, learning outcomes, activities and
learning experiences and evaluation techniques of following content at secondary level

a. Number system
b. Measures of central tendency
c. congruency and similarity
d. Trigonometrical ratios and identities
e. Area and Volume
f. Profit, loss and partnership
g. Compound interest
h. Graphical representation of data

2. Modes of learning engagement in mathematics

a. Providing opportunities for group activities
b. Group/ Individual Presentation
c. Providing opportunities for sharing ideas
d. Designing different Working Models for concept formation
e. Teaching aids and activities in laboratory work
f. Reflective written assignments

UNIT-V Assessment & Evaluation of Mathematics learning

1. Assessment of critical thinking, logical reasoning and to discourage mechanical manipulation and rote learning

a. Planning of evaluation in mathematics

b. Formative, Summative and predictive evaluation in mathematics

c. continuous and compressive evaluation (CCE) in mathematics at secondary level

d. Diagnostic Testing, Remedial Teaching and enrichment programme for:

1. Gifted Learners

2. Slow Learners

3. Learners with Dyslaxcia

4. Difficulties Faced by the Teacher in Teaching of Mathematics and Suggestive Measures to overcome them.

2. Construction of achievement test/ question paper in mathematics

SESSIONALS /PRACTICUM

Any two of the following:

1. Preparing a Diagnostic or Achievement Test.
2. Preparing one innovative lesson plan.
3. Conduct at least one Experiment on any topic of mathematics.
4. Prepare Instructional Material for teaching one topic in Mathematics.
5. A term paper on a brief History of one mathematician.
6. Preparing a working model.
7. A project report on any project related to mathematics.

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Paper code -9484

Couse 14 : INTERNAL EVALUATION

[II YEAR]

Pre Practice Teaching

S. No.	Activity	Marks
1.	Practising Taeching Skill(Minimum 05)	20
2.	T.L.M. Workshop in Each Subject(5+5)	10
3.	Simulated Teaching (5 Lesson in each subject) (5+5)	10
4.	Blue Print & Test Preparation in Both Subject (5+5)	10
	Total Marks	**50**

PAPER CODE-9485

Course 9- OPEN AIR SESSION / SUPW CAMP

Every college will organize 5 days camp in the first year of B.Ed. Course. Participation in such camp will
be compulsory for all students.
Performance of students will be evaluated internally.
Objectives of the camp will be as follows:-
1. To develop understanding about local environment and Community for connecting classroom teaching with outside world.
2. To develop sensitivity towards self, society and environment.
3. To develop feeling of togetherness and working collaboratively.
4. To develop organizational skills and leadership abilities.
5. To develop skill of conducting surveys.
6. To develop an understanding about sustainable future.
7. To develop dignity of labour through community service.

Suggested activities for Open Air Session/SUPW Camp
1. Study of the local environment/ socio cultural issues through survey.
2. Community awareness performance – cleanliness campaigns, plantation, value education, etc.
3. Participation in Health and Spiritual activities like morning Assembly, Yoga, P.T., Meditation, Silence hour.
4. Participation in Aesthetic and recreational activities.
5. Documentation and organization of exhibition for local community.
6. Productive and creative craft activities.

Note : Student teachers will participate in the above mentioned activities in collaborative manner (to develop the feeling of working and living together)

Guideline for assessment Max Marks 50

S. No.	Activity	Marks
1.	Participation in preparation of Camp	5
2.	Presentation of report of survey/ creative work	20
3.	Participation in Community Awareness Programme	15
4.	Participation in organizational process/community living/cultural and aesthetic activities	10
	Total Marks	50

PAPER CODE-9603

SYLLABUS
Elementary Computer applications

Common for Arts, Science & Commerce Faculties

1. **Information concepts and processing:**
   Definition of information, need quality and value of information, categories of information in business organisation level of information, storage and retrieval of data, comparison of manual and electronic storage of data, organisation of data as files ,data processing in govt. ,large business, multinational and private organisation.

2. **Elements of Computer Inter Processing System:**
   The electronic digital computer, the number systems (binary, digital, octal and hexadecimal and their conversions),character code(ASCII and EBCDIC),concept of hardware and software, the architecture of a computer system, CPU, memory and input/output devices, magnetic storage devices, optical device, printers and monitors, categories of software, system software, application software, packages.

3. Classification of Computers and Generation of Computers, parallel processing and component, RISC and CISC machines, development of Intel family processors.

4. **Operating System Concept:**
   The need of an OS(operating system),OS as resource processor and memory Manager, the various types of operating system, MS-DOS,WINDOWS 95/98,WINDOWS 2000,UNIX operating system.

5. **Computer and Communication:**
   Need for data transmission over distances, communication channels: twisted pair coaxial cable, microwave, radio wave, optical fiber and satellite: digital and analog transmission, 15 serial and parallel data transmission, Moderns, Networking of computers, LAN, WAN concepts.

6. **Programming Language:**
   Machine, Assembly and high level language, generation of language, 3 GL and 4 GL language, and graphics User Interfaces.

7. **Personal Computer Software**:
   Word processing packages, Spreadsheet Packages and Database Management Packages, Desktop Publishing, Computer Animation Packages introduction to MS-Office.

8. **Internet Technology:**
   Concept and how it wok, Email service, Internet Surfing, browsers and search engines, World Wide Web, Web Programming, HTML and JAVA Programming Concepts.

9. **E-Commerce:**

What is e-commerce and growth of e-commerce electronic payment systems security considerations, digital currencies, Credit cards, Cybercast, E-cash, smart card, supply chain management.

10. Benefits of electronic forms of data processing and management in education, commerce public delivery systems banking and other financial transactions, new developments in these areas.

Laboratory:

The laboratory exercise will be designed to help in the understanding of the concepts of computer and the utilization in the areas outlined in the theory syllabus. The emphasis should be on practical uses rather than on theoretical concepts only.

PHYSICS

COURSE CURRICULAM

- Paper Nomenclature		Lectures	Duration Of Exam	Max. marks	Min. marks
I	Kinetic Theory, Thermodynamics and Statistical Physics	60 hrs	3hrs	50	18
I I	Optics	60 hrs	3 hrs	50	18
III	Electronics	60 hrs	3 hrs	50	18
IV	Practical	120 hrs	6 hrs	50	27

Each theory paper in the annual examination shall have three sections.

Section A shall contain one compulsory question of 5 marks having 10 parts. Two parts shall be set from each unit. The candidate is required to answer each part in about 20 words.

Section B shall contain five compulsory questions of 5 marks each with internal choice .One question with internal choice will be set from each unit .The answer may be given in approximately 250 words.

Section C shall contain four descriptive questions covering all units and candidate has to answer any two questions of ten marks each. The answer may be given in approximately 500 words. There can be two parts in a question from this section.

In total the candidate has to answer eight questions in each theory paper.

PAPER CODE-9441

SECOND YEAR T.D.C. SCIENCE

PAPER-I

KINETIC THEORY, THERMODYNAMICS AND STATISTICAL PHYSICS

UNIT – I

Ideal Gas: Kinetic Model, Deduction of Boyle's law, Review of the kinetic model of an ideal gas, Interpre-tation of temperature, Brownian motion, Estimate of the Avogadro number, Equipartition of energy, specific heat of monatomic gas, extension to di and triatomic gases, Behaviour at low temperatures, Adiabatic expansion of an ideal gas. Application to atmospheric physics (derivation of barometric equation)

Real Gas: Van der Waals model; equation of state, nature of Van der Waals forces, comparison with experimental P-V curves. The critical constants, gas and vapour. Joule-Thomson expansion of an Ideal gas and Van der Waals gas; Constancy of U+pV, Joule coefficients, Estimates of J-T cooling, adiabatic expansion of an ideal gas.

Liquification of gases : Joule Expansion, Joule-Thomson and adiabatic cooling, Boyle temperature and inversion temperature, principles of regenerative cooling and cascade cooling, Liquification of hydrogen and helium, meaning of efficiency.

UNIT - II

Transport phenomena in gases: Molecular collisions, mean free path and collision cross-sections, Estimates of molecular diameter and mean free path, Experi-mental determination of mean free path. Transport of mass, momentum and energy and interrelationship, dependence on temperature and pressure.

Maxwellian distribution of speeds in gas: Derivation of distribution of speeds and velocities, experimental verification, distinction between mean, rms and the most probable speed values. Doppler broadening of spectral lines.

UNIT - III

The laws of thermodynamics: The Zeroth law, Various indicator diagrams, work done by and on the system, First law of thermodynamics, internal energy as a state function. Carnot cycle and its efficiency, Carnot theorem and the second law of thermo-dynamics, Different versions of the second law, Reversible and irreversible changes. Practical cycles used in internal combustion engines. Entropy, principle of increase of entropy. Thermodynamic scale of temperature; its identity with the perfect gas scale. Impossibility of attaining absolute zero; third law of thermodynamics.

Thermodynamic relationships: Thermodynamic variables; extensive and intensive, Maxwell's general relationships; applications to J-T cooling and adiabatic cooling in a general system, Van der Waals gas, and the Clausius-Clapeyron heat equation.

Thermodynamic Potentials: Relation to the thermo-dynamic variables, Equilibrium of thermodynamic systems, Cooling due to adiabatic demagnetization.

UNIT - IV

Statistical basis of the thermodynamics:

Probability and thermodynamic probability, principle of equal a *priori* probabilities, probability distribution and its narrowing with the increasing n, average properties, Accessible and inaccessible states, distri-bution of particles with a given total energy into a discrete set of energy states.

Phase space representation: The mu space; its division into sheets of energy, phase cells of arbitrary size, one-dimensional oscillator, free particles, the functions F(E) and W(E), definition of probability.

Black Body Radiation: Spectral distribution of BB radiation; pure temperature dependence, Stefan-Boltzmann law, Wien's displacement law, Rayleigh-Jeans law and the ultraviolet catastrophy, Pressure of radiation, Planck's hypothesis, mean energy of an oscillator and the Planck's law, complete fit with the experiment. Interpretation of specific heats of gases at low temperature.

UNIT-V

The bridge of Statistical physics with thermo-dynamics: Thermal equilibrium between two subsystems, beta parameter and its identity with $(kT)^{-1}$**,** probability and entropy, Boltzmann entropy relation, statistical interpretation of the second law of thermo-dynamics. Boltzmann canonical distribution law; rigorous form of equipartition of energy.

Transition to quantum statistics: 'h' as a natural constant and its implications, cases of particles in a box and simple harmonic oscillator, Setting phase-cell size as nature's constant (Planck's constant h); quantization of energy. Indistinguishability of particles and its consequences. Bose-Einstein and Fermi-Dirac conditions, applications to liquid helium, free electrons in a metal, and photons in blackbody chamber, Fermi level and Fermi energy.

Text and Reference Books :

1. B.B. Laud, "Introduction to Statistical Mechanics" (Macmillan 1981)
2. F. Reif, "Statistical Physics" (McGraw-Hill, 1988)
3. K. Huang, "Statistical Physics" (Wiley Eastern, 1988)

PAPER CODE-9442

PAPER-II

OPTICS

UNIT-I

Format's Principle : Principle of experiments path, the aplantic points of a sphere and other applications.

General theory of image formation : Cardinal points of an system; general relationship; thick lenses and lens combinations, telephoto lenses.

Aberration in images : Chromatic aberration ; achro-matic combination of lenses in contact and separated lenses. Monochromatic aberrations and their redu-ction; spherical mirrors and schmidt corrector plates; oil immersion objective, meniscus lenses.

Optical instruments : Entrance and exit pupils, need for a multiple lens eye pieces. Common type eye pieces.

UNIT – II

Interference of Light: The principle of superposition ; two slit interference, coherence requirement for the sources, localized fringes in this films, transition from fringes of equal thickness to those of equal inclination, Newton's rings, Michelson interferrometer its uses for determination of wavelength, wavelength difference and standari-zation of meter. Intensity distribution in multiple beam interference, Febry-Perot interferrometer and etalon. Lummer Gehrke plate, Lloyds mirror.

UNIT – III

Diffraction of light

Fresnel diffraction : Half period zones, circular aper-ture and obstacles; straight edge, explanation of recti-linear propagation, Zone plate with multi focii

Fraunhofer diffraction : Diffraction at a slit, a circular aperture and a circular disc, resolution of images; Rayleigh criterion. Resolving power of a telescope and microscope, outline of phase contrast microscopy.

Diffraction grating : Diffraction at N parallel slits, plane diffraction grating, concave grating resolving power of grating and prisms.

UNIT – IV

Polarization of light

Double refraction and optical rotations : Double refra-ction in uniaxial crystals, explanation interms of electromagneties theory, Malus Law, Phase retarda-tion plates, rotation of plane of polarization, origin of optical rotation in liquids and in crystals. Babinet Compen-sator, Polarimters and their applications in measure-ment of specific rotation.

Dispersion and Scattering : Theory of dispersion of light, absorption band and anomalous dispersion theory of Rayleigh Scattering.

UNIT - V

LASER

Laser System : Purity of spectral line; Coherence length and coherence time, spatial coherence of a source; Einstein's A and B coefficients; Coherence of induced emissions, conditions for laser action, exis-tance of a metastable state, population inversion by pumping and cavity. He-Ne and Ruby Laser

Application of lasers : Spatial coherence and direction-ality, estimates of Laser and non linear optics : Polari-zation P including higher order terms in E and gene-ration of harmonics. Momentum mismatch and choice of right crystal and direction for compensation.

Recommended Books

1. Principle of Optics : B. K. Mathur (IIIrd edition)
2. Text book of Optics : Subrahmanyam and Brijlal (S.Chand and Co.)
3. Optics : Jankins and White (McGraw Hill)
4. Text book of Optics : D. P. Khandelwal
5. Universities Optics Vol. I & II : Whittkar and Yarwood
6. Optics : Ajay Ghatak (Tata McGraw Hill)

PAPER CODE-9443

PAPER-III

ELECTRONICS

UNIT-I

Basic circuit analysis:

Voltage and current sources, Open and Short Circuits, Kirchoff's laws, Voltage and current divider rules, Mesh and node analysis, Principle of superposition, Thevenin's and Norton's theorem, Maximum Power transfer theorem.

Semiconductor diodes:

p-n junction diodes, I-V characteristics, diode as a rectifier, half wave, full wave and bridge rectifiers, clippers and clampers, Zener, varactor diode and their applications, Optoelctronic diodes: LED and Photo-diodes.

Bipolar Junction Transistors (BJT) :

Basic construction of pnp and npn transistors and their operation, Input and output characteristics of CB, CE and CC configurations, Biasing methods, active, saturation and cutoff regions, load line concepts, Graphical analysis of CE configuration and phase relationship.

Field effect transistors:

Basic constructions of JFET and MOSFET, Drain characteristics of JFET, biasing of JFET, operating regions, pinch-off voltage.

UNIT-II

Small signal amplifiers:

General amplifier characteristics, Two port analysis of a transistor, definition of h- parameters, current gain, voltage gain and power gain of an amplifier, Input and output resistances, Analysis of CB, CE and CC amplifiers for current gain, voltage gain, input and output impedences using h – parameters, Decibel power, Classifications of amplifiers, class A, B, AB and C amplifiers (graphical treatment only), RC coupled transistor amplifier, Gain frequency response, and high frequency limitations. Transformer coupled amplifer.

UNIT III

Feed back amplifiers:

Basics of Negative feedback, Merits and demerits of negative feedback and its applications, Voltage series amplifier (Emitter follower) and Current series amplifier (CE amplifier with and without bypass capacitor).

Oscillators:

Positive feedback, Barkhausen criterion, Phase shift oscillator, Colpitt's and Hartley oscillators, and Crystal oscillator.

Operational Amplifiers:

Characteristics of Operational amplifiers, circuit symbols, ideal and practical op-amp, Inverting and noninverting configurations, Applications of OP-AMP as an adder, subtractor, inverter, scale changer, phase shifter, differentiator and integrator.

UNIT-IV

Digital Electronics:

Binary, Octal, decimal and hexadecimal numbers and their inter conversions, 1's and 2's compliments of binary numbers, addition and subtraction of binary numbers, OR, AND, NOT, NAND, NOR and XOR gates and their symbols and truth tables, Boolean algebra, DeMorgan's theorem, minterms and maxterms, sum of minterms and product of maxterms forms of Boolean functions, simplifications of Boolean function using Karnaugh's map (up to 4-variables).

UNIT-V

Modulation:

Basics of modulation, amplitude and frequency modu-lation, sidebands, Comparison between AM and FM, power of amplitude modulation and spectrum, AM and FM transmitters (Block diagram and principle of operation only).

Demodulation:

Demodulation of AM and FM waves, linear envelope detector, Hetrodyne and superhetrodyne receiver (Block diagram and principle of operation only).

Cathode Ray Oscilloscope:

Cathode ray tube-theory and construction, Cathode Ray Oscilloscope (Block diagram and operation), Appli-cation of CRO, wave form display, frequency, phase and amplitude determination, Lissajous figures.

Recommended Books:

1. Electronic Devices and Circuit theory by R. Boylestead and L. Nashelsky (Prentice Hall of India).
2. Foundations of Electronics by D. Chattopadhyaya, P.C. Rakshit, B. Saha and N.N. Purkait (New Age International (P) Limited Publishers).
3. Electronic Devices by Allan Mottershed (Prentice Hall of India).

4. Digital fundamentals by Thomas L Floyd (Unuited Book Stall, New Delhi).
5. Electronic fundamentals and applications by John D. Ryder (Prentice Hall of India).
6. Electricity and Magnetism by K.K. Tewari (S. Chand & Company Limited).

PAPER CODE-9444

PAPER-IV

PHYSICS PRACTICAL

The distribution of marks in the practical examination will be as follows:

(i) Two experiments 48 Marks

For each experiment, distribution of marks will be as follows:

Figure :	3
Formula/Theory :	3
Observation :	10
Calculation and Result :	6
Precautions :	2
(ii) Viva voce	12
(iii) Records	15
Total	**75 Marks**

MAX. MARKS :75

Students are expected to perform sixteen experiments in all taking eight from each section.. One experiment from Section A and one from Section B shall be set in the examination paper.

LIST OF EXPERIMENTS

Section-A

1. Determination of the size of the Lycopodium grains using Cornu's method.
2. Determination of wavelength of Mercury light using grating
3. Determination of resolving power of grating
4. Determination of dispersive power of the glass prism
5. Determination of wavelength of sodium light using Fresenel's biprism
6. Determination of wavelength of sodium light using Newton's rings
7. Determination of specific rotation of cane sugar solution using polarimeter.
8. Determination of wavelength of ultra sonic wave.
9. Determination of focal length of a high power microscope objective.
10. Measurement of absorption by a solution.
11. Study of aberrations of a thick lens.
12. Study of interference fringes in thin films of the following (not all)

(a) Thermal expansion of a crystal using interference fringes.

(b) Bending of a glass plate under load.
(c) Bending of a rod under load.
(d) Use of Newton's ring to determine the radii of curvature of surfaces.
(e) Use of fringes in wedge film .
13. Resolving limit of the eye and of a telescope with a variable aperture.
14. Fresnel diffraction at a straight edge and a slit.
15. Fraunhoffer diffraction at a single slit.
16. Resolving limits of grating and prism.
17. Study of polarization of the light by simple refle-ction.
18. Verification of Cauchy's relation using Prism and Gratting.

Section-B

1. To draw characteristic curves of Common emitter transistor and calculate its hybrid parameters.
2. To study gain and frequency response of a single stage Common emitter amplifier.
3. To determine varactor diode characteristics.
4. To draw characteristics of Zener diode and calcu-late voltage regulation factor.
5. To study ripple factor and internal resistance of a solid state power supply using LR,CR and Pi filter using a CRO
6. To find barrier height of a given solid state diode.
7. Use of p-n junction for the measurement of temperature.
8. Design and construction of phase shift oscillator.
9. Design, build and test of a lograithimic amplifier.
10. Study of a function generator using Operational Amplifier.
11. Study of NAND and NOR circuits (discrete and IC) XOR and De Morgans Theorem.
12 Study of multiplixures and demultiplexures.
13 Study of half adder and full adder circuit.
14. Study RS, D and JK flip - flops.
15. Study of Modulo- 3 , Modulo-5 and Modulo-7 binary counter circuits.
16. Study of characteristics of a thermistor.
17. Determination of solar constant or temperature of an oven through radiation measurement.
18. Resistance thermometry: temperature of a torch bulb filaments from R value, platinum resistance thermometry.

PAPER CODE-9445

SECOND YEAR B.Sc CHEMISTRY 2017-18
Effective from session 2016-17

The examination shall consist of three theory papers and one practical.

Paper & Course	Hrs/Week	M. Marks
Paper - I Inorganic Chemistry	2	50
Paper - II Organic Chemistry	2	50
Paper - III Physical Chemistry	2	50
Practical	4	50

PAPER I : INORGANIC CHEMISTRY

UNIT I

Chemistry of Elements of First Transition Series : Characteristic properties of d-block elements (colour variable valency, magnetic and catalytic properties and ability to form complexes). Properties of the elements of the first transition series, their binary compounds and complexes illustrating relative stability of their oxidation states, coordination number and geometry.

Chemistry of Elements of Second and Third Transition Series : General characteristics, comparative treatment with their 3d-analogues in respect of ionic radii oxidation states, magnetic behaviour, spectral properties and stereochemistry.

UNIT II

Oxidation and Reduction : Use of redox potential data analysis of redox cycle, redox stability in water- Frost, Latimer and Pourbaix diagrams, principles involved in the extraction of the elements.

Coordination Compounds : Werner's coordination theory and its experimental verification, effective atomic number concept, nomenclature of coordination compounds, isomerism in coordination compounds valence bond theory of transition metal complexes, chelate and chelate effects.

UNIT III

Chemistry of Lanthanides : Electronic structure, oxidation states and ionic radii, lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds.

Chemistry of Actinides : General feature and chemistry of actinides, chemistry of separation of Np, Pu and Am from U, similarities between the later actinides and the later lanthanides.

UNIT IV

Gravimetric Analysis : Principles, solubility, formation and preparation of precipitation, colloidal properties, ageing and contamination of the precipitates, co-precipitation and post-precipitation.

Simple Organic Reagents used in Inorganic Analysis : 8-Hydroxyquinoline, Dimethylglyoxime, α-nitroso-β-naphthol, Anthranilic acid, Arsenic acid, Cupron and Cupferron.

UNIT V

Chromatography : Basic principles, instrumentation and application of adsorption and partition chromatography, ion exchange separation.

Errors in Quantitative Analysis : Accuracy and precision, determinate, indeterminate and accidental errors, precision of a single measurement, precision of mean rejection of result, errors in a derived result methods of checking the accuracy of analysis, significant figures, computation values.

BOOKS RECOMMENDED

1. Text Book of Quantitative Inorganic Analysis : A.I. Vogel (Chapter I, II and XXIII).
2. Text Book of Quantitative Inorganic Analysis : I.M. Kolthoff and E.R. Sandell.
3. Concise Inorganic Chemistry : J.D. Lee.
4. General Inorganic Chemistry : J.A. Duffy.
5. Principle of Inorganic Chemistry : B.R. Puri and L.R. Sharma.
6. Basic Inorganic Chemistry : Cotton and Wilkinson and Gaus. Willey.
7. Inorganic Chemistry (Hindi ed.) : Suresh Ameta, A. Sharma and M. Metha, Himanshu Pub.

PAPER II : ORGANIC CHEMISTRY

Time : 3 Hrs. **M.M. 50**

UNIT I

Alcohols and Epoxides :
Unsaturated alcohols - Vinyl and Allyl alcohol.
Dihydric alcohol - Nomenclature, method of formation and chemical reactions of vicinal glycols.
Pinacol - Pinacolone rearrangement.
Trihydric alcohols - Formation and chemical reactions of glycerol.
Epoxides - Synthesis and reactions of epoxides, orientation of epoxide ring opening.

Phenols - Nomenclature, structure and bonding preparation of phenols, physical properties and acidic character, comparative acidic strength of alcohols and phenols, resonance stabilization of phenoxide ion.

Reactions of phenols - Electrophillic aromatic substitution, acylation and carboxylation, Mechanism of Fries rearrangement, Clasien rearrangement, Gatterman synthesis. Hauben=Hoesch reaction, Ledgerer Manasse reaction and Reimder-Tiemann reaction.

UNIT II

Aldehydes and Ketones : Synthesis, chemical and physical properties of aromatic aldehydes and ketones, mechanism of nucleophilic addition to carbonyl group with particular emphasis on Benzoin, Aldol, Perkin and Knoevenagel condensations, condensation with ammonia and its derivatives, Witting reation, Mannich reaction.

Use of acetals as protecting group, Oxidation of aldehydes, Baeyer, Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmenson, Wolff-Kishner, $LiAlH_4$ and $NaBH_4$ reductions, Halogenation of enolizable ketones.

UNIT III

Carboxylic Acids and their derivatives : Nomenclature, structure and bonding, acidity of carboxylic acids, effects of substituents on acid strength, mechanism of decarboxylation, Methods of formation, physical properties and chemical reactions of dicarboxylic acids, oxalic, succinic and phthalic acid.
Substituted Acids - Methods of formation and chemical reactions of halo acids, hydroxy acids, malic, tartaric, citric and salicyclic acids.
Unsaturated Acids - Acrylic and cinnamic acids.
Introduction to acids derivatives - Preparation, properties and uses of acid halides, amides, anhydrides and esters. Interconversion of acid derivatives by nucleophilic acyl substitution. Mechanism of HVZ reaction, Hofmann - bromamide reaction and ester hydrolysis.

UNIT IV

Organic Compounds of Nitrogen : Preparation and chemical reactions of nitroarenes. Reactivity of nitro substituted arenes.
Aromatic amines, classification, preparation, properties and uses of primary amino compounds aniline, acetanilide, nitroanilines.
Secondary amino compounds - diphenylamine and N-methylaniline.
Tertiary amino compounds - Triphenylamine and N,N-dimethylaniline.
Aryl alkyl amine - Benzylamine.

Basic strength of amines - similarities and differences between aliphatic and aromatic amines.
Diazonium salt - formation, properties and synthetic uses of benzene diazonium salt, Diazo coupling and its mechanism.

Organic Sulphur Compounds : Preparation and properties of thiols, sulphonic acid, sulphonyl chloride, saccharides, chloramine -T. dichloramine-T and sulphonamides.

UNIT V

Polynuclear Hydrocarbons : Nomenclature of naphthalene and anthracene derivatives, preparation and properties of napthalene, anthracene, naphthol, naphthylamine, naphthaquinone and anthraquinone.
Mechanism and orientation of electrophilic substitution reaction in naphthalene and naphthalene and anthracene.

Organic Compounds : Preparation, properties and synthetic uses of organo lithium and organo zinc compounds.

BOOKS RECOMMENDED

1. A Text Book of Organic Chemistry : K.S. Tiwari, S.N. Mehrotra and N.K. Vishnoi.
2. Modern Principles of Organic Chemistry : M.K. Jain and S.C. Sharma
3. A Text Book of Organic Chemistry : (Vol. I and II), O.P. Agarwal.
4. A Text Book of Organic Chemistry : B.S. Bahl and Arun Bahl.
5. A Text Book of Organic Chemistry : P.L. Soni.
6. Organic Chemistry : (Vol. I, II and III), S.M. Mukherji, S.P. Singh and R.P. Kapoor
7. Organic Chemistry (Hindi Ed.) : Suresh Ameta, P.B. Punjabi and B.K. Sharma, Himanshu Pub.

PAPER CODE-9447

PAPER III : PHYSICAL CHEMISTRY

UNIT I

Thermodynamics-I : Definition of thermodynamic terms system, surrounding, etc. types of systems, intensive and extensive properties, state and path functions, their differentials, thermodynamics process, concept of heat and work.

First law of Thermodynamics - Statement, definition of internal energy and enthalpy, heat capacity, heat capacities at constant volume and pressure and their relationship. Joule's law, Joule-Thomson coefficient and inversion temperature, calculation of w, q, dU and dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process.

Thermo chemistry : Standard state, standard enthalpy of formation. Hess's law of heat summation and its applications, Heat of reaction at constant pressure and at constant volume, Enthalpy of neutralization, bond dissociation energy and its calculation from thermo chemical data, temperature dependence of enthalpy, Kirchhoff's equation.

UNIT II

Thermodynamics - II : Second law of thermodynamics : need for the law, different statements of the law, Carnot cycle and its efficiency, Carnot theory, thermodynamic scale of temperature.

Concept of entropy : Entropy as a state function, Entropy as a function of V and T, entropy as a function of P and T. Entropy change in physical change. Clausius inequality, entropy as a criteria of spontaneity and equilibrium, entropy change in ideal gases and mixing of gases.

Third Law of Thermodynamics : Nernst heat theorem, statement and concept of residual entropy, evaluation of absolute entropy from heat capacity data. Gibbs and Helmholtz function, Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities. A & G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change, variation of G and A with P. Vand T.

Chemical Equilibrium : Equilibrium constant and free energy, thermodynamic derivation of law of mass action, distribution law and phase rule, Le Chatelier's principle, Nernst's distribution law for solute, principle of extraction of solute from solution and washing of precipitates.

Reaction isotherm and reaction isochore - Clapeyron equation and Clausius - Clapeyron equation, applications, partial molar quantities, partial molar volume and its distribution, chemical potential and its physical significance, Gibbs-Duhem equation.

UNIT III

Macromolecules : Nomenclature, classification, properties of polymer, mass of macro-molecules, number average and weight average molecular mass, determination of molecular weight by osmotic pressure. viscosity and light scattering and sedimentation (ultra centrifuge) methods.

Surface Chemistry : Sorption at surfaces, physical and chemical adsorption, Freundlich, Langmuir and Gibbs adsorption isotherms and their derivation, Streaming potential electrophoresis and electrosmosis.

UNIT IV

Phase Equilibrium : Statement and meaning of the terms - phase, component and degree of freedom, derivation of Gibb's phase rule, phase equilibrium of one component system- water CO_2 and S - system.

Phase equilibria of two component system - Solid - liquid equilibria, simple eutectic, Bi-Cd, Pb-Ag systems, desilverization of lead.

Solid solutions - Compound formation with congruent melting point (Mg - Zn) and incongruent melting point, (NaCl - H_2O), ($FeCl_3$ - H_2O) and ($CuSO_4$ - H_2O) systems, freezing mixtures, acetone - dry ice.

Liquid - liquid mixtures: Ideal liquid mixtures, Raoult's and Henry's law, Non -ideal system, azeotropes: HC1 - H_2O and ethanol - water systems.

Partially miscible liquids: phenol - water, trimethylamine - water, nicotine - water systems, lower and upper consolute temperature, effect of impurity on consulate temperature.

Immiscible liquids, steam distillation.

UNIT V

Electrochemistry : Types of reverse electrode : gas - metal ion, metal-metal ion, metal-insoluble salt - anion and redox electrodes, electrode reactions, Nernst - equation, derivation of cell E.M.F. and single electrode potential standard hydrogen electrode-reference electrodes - standard electrode potential sign conventions, electrochemical series and its significance electrolytic and Galvanic cells- reversible and irreversible cells, conventional representation of electrochemical cells. EMF of a cell and its measurements, computation of cell EMF. Calculation of thermodynamic quantities of cell reactions (AG, AH and K) polarization over potential and hydrogen over voltage. Concentration cell with or without transport, liquid junction potential application of concentration cells, valency of ions, solubility product and activity coefficient, potentiometric titrations.

Ionic Equilibria - Arrhenius theory of electrolyte and its application Ostwald's dilution law, its uses and limitations. Debye - Huckle theory of strong electrolytes, asymmetric electrophoretic. Debye- Falkenhagen and Wein effects, Activity coefficient, mean activity coefficient, ionic strength, Debye- Huckel limiting law.

BOOKS RECOMMENDED

1. Principles of Physical Chemistry : B.R. Puri and L.R. Sharma.
2. A Text Book of Physical Chemistry : A.S. Negi and S.C. Anand.
3. A Text Book of Physical Chemistry : Kundu and Jain.
4. Physical Chemistry (Hindi Ed.) : Suresh Ameta, R.C. Khandelwal, R. Ameta and J. Vardia, Himanshu Pub.

PAPER CODE-9448

SECOND YEAR CHEMISTRY PRACTICALS 2017-18

Time : 5 Hrs (One day) **M.M. 75**

Distribution of Marks

	Exercises	Marks
1.	Volumetric Estimation OR Gravimetric Analysis	10
2.	Determination of R_1 values and identification of given organic compounds using thin layer/paper chromatography	7
3.	Identification of given organic compounds through functional group analysis	7
4.	Physical Chemistry Experiments	10
5.	Vice-voce	8
6	Records	8
	Total	50 marks

LIST OF EXPERIMENTS

1. **Volumetric Analysis** : Any one of the following exercise may be given in the examination :
   - (a) Determination of acetic acid in commercial vinegar using NaOH
   - (b) Determination of alkali content- antacid tablet using HC1.
   - (c) Estimation of calcium content in chalk as calcium oxalate using permanganate.
   - (d) Estimation of hardness of water by EDTA.
   - (e) Estimation of ferrous and ferric ions by dichromate methods.
   - (f) Estimation of copper using thiosulphate.
   - (g) Estimation of Mg_2, Ca_2 or 2÷complexometrically.

   Gravimetric Analysis :

   Analysis of Cu as CuSCN and Ni as Ni (dimethylgioxime)

   Note: ***Candidates are required to prepare standard solutions by proper weighing.***

2. **Thin Layer Chromatography :**

   Determination of Rf values and identification of organic compounds.
   - (a) Separation of green leaf pigments (spinach leaves may be used)
   - (b) Preparation and separation of 2,4 dinitrophenyihydrazones of acetone, 2- butanol, hexane-2-and 3-ones using toluene and light petroleum(40: 60)
   - (c) Separation of a mixture of dyes using cyclohexane and ethyl acetate (8.5:1.5)

Paper Chromatography: Determination of Rf values and identification of organic compounds in a mixture of amino acids / monosaccharides.

3. **Identification of Organic Compounds**:

   An organic compound from the following list be given for systematic identification:
   - (i) Carboxylic acids- Oxalic, Tartaric, Citric, Succinic, Benzoic, Cinnamic, Salicylic, Phthalic acids, Formic, Acetic, Propanoic and Butanoic acids.
   - (ii) Phenols- Phenol, Resorcinol, Hydroquinone, p-Cresol, α-Naphthol, β-Naphthol.
   - (iii) Alcohols- Methyl, Ethyl, Propyl, Isopropyl, n- butyl, isobutyl & tert. butyl alcohol.
   - (iv) Carbohydrates- Glucose, Fructose, Cane sugar and Starch.
   - (v) Aldehydes- Formaldehyde, Acetaldehyde and Benzaldenyde.
   - (vi) Ketones- Acetone, Methyl ethyl ketone, Acetophenone and Benzophenone.
   - (vii) Nitro compounds - Nitrobenzene, p-Nitrotoluefle and m- Dinitrobenzene.
   - (vii) Amino compounds - Aniline, o-, m-and p-toluidine, α- Naphthylamine and β-Naphthylamine.

(ix) Anilides - Acetanilide and Benzanilide.
(x) Amides - Acetamide, Benzamide and Urea.
(xi) Esters - methyl acetate, Ethyl acetate.
(xii) Thioamide - Thiourea.
(xiii) Hydrocarbons - Benzene, Toluene, Naphthalene and Anthracene.
(xiv) Halogen containing compounds - Chloroform, Chloral hydrate, Iodoform, Chlorobenzene, p-Dichorobenzeen and p-Dibromobenzene.

4. Physical Chemistry Experiments: Any one of the following experiments may be given in the examination.

Distribution Law

(i) To study the distribution of iodine between water and CCl_4.
(ii) To study the distribution of benzoic acid between benzene and water.
(iii) To study the distribution of acetic acid between benzene and water

Phase Equilibrium

(i) To study the effect of a solute (e.g. NaCl, succinic acid) on the critical solution temperature of two partially miscible liquids (e.g. Phenol water system) and to determine the concentration of that solute in the given phenol-water system.
(ii) To construct the phase diagram of two components (e.g. diphenylamine- benzophenone) system by cooling curve method.

Adsorption :

(i) To study the adsorption of acetic acid by activated charcoal and test the validity of Freundlichy or Langmuir adsorption isotherm.
(ii) To study the adsorption of oxalic acid by activated charcoal and test the validity of Freundlich or Langmuir adsorption isotherm.

Analysis of sugars:

1. Action of salivary amylase on starch
2. Effect of temperature on the action of salivary amylase on starch.
3. Differentiation between a reducing and a nonreducing sugar.

Virtual experiments (any two)

(i) Various type of titrations
(ii) Chromatographic separation of compounds from leaf or flower extract / dyes / amino acid / saccarides etc.
(iii) Some photochemical reactions
(iv) Isoelectric precipitation of proteins: casein from milk.
(v) Any other virtual experiment related to the content of syllabus and availability of the experimental facilities.

BOOKS RECOMMENDED

1. Practical Chemistry - Giri, Bajpai and Pandey, S. Chand & Co. Ltd., New Delhi.
2. Laboratory Manual in Organic Chemistry, R.K. Bansal, Willey Eastern.

3. Experimental Organic Chemistry, Vol. I and II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
4. Experiments in Physical Chemistry - J.C. Ghose, Bharti Bhawan.
5. Experiments in General Chemistry, N.r. Rado and U.C. Agarwal, Eastern Press.
6. Practical Chemistry - Suresh Ameta and P.b. Punjabi, Himanshu Publication.

SECOND YEAR T. D.C.SCIENCE, 2018-19

ZOOLOGY

The second year TDC examination shall consist of three theory papers, each of three hours duration and a practical examination of five hours duration.

	Marks
Paper-I:Life and Diversity of Animals-II (Vertebrates)	**50**
Paper-II : Genetics and Biotechnology	**50**
Paper-III :Applied Zoology and Microbiology	**50**
Practical :	**50**

Pattern of question paper in the annual examination and distribution of marks:

Each theory paper in the annual examination shall have three sections i.e. A,B, and C. In section A, total 10 questions will be set in the paper, selecting at least two from each unit. These questions to be answered in a word or so. All questions are compulsory. Each question carries 0.5 mark, total 05 marks.

In section B, there shall be total 10 questions, selecting two questions from each unit, five questions to be answered by the student selecting at least one from each unit. Answer should be given in approximately 250 words. Each question carries 05 marks, total 25 marks.

In section C, 04 descriptive type questions will be set in the examination paper from five units of the syllabus of the paper, selecting not more than one question from a unit. Each question may have two sub divisions. Students are required to answer any two questions approximately in 500 words. Each question is of 10 marks, total 20 marks.

PAPER CODE-9449

SECOND YEAR TDC SCIENCE, 2018-19

ZOOLOGY

PAPER-I : LIFE AND DIVERSITY OF ANIMALS-II (VERTEBRATES)

Duration : 3 hours **M.M. : 50**

UNIT-I

1 Characteristics and classification of Protochordates and Agnatha upto orders with examples emphasizing their biodiversity, economic importance and conservation.

2 Type study- *Herdmania.*

3 Affinities of *Amphioxus* and importance of Ammocoete larva.

UNIT-II

4 Characteristics and classification of Pisces (after Berg) and Amphibia upto orders with examples emphasizing their biodiversity, economic importance and conservation.

5 Type study- *Scoliodon,* Fish Migration, Parental care in Amphibian.

UNIT-III

6 Characteristics and classification of Reptiles upto orders with examples emphasizing their biodiversity, economic importance and conservation.

7 Type study- *Calotes.* Identification of poisonous and non-poisonous snakes, venom, antivenom, medicinal significance of venom.

8 *Sphenodon*: Characteristics and affinities.

UNIT-IV

9 Characteristics and classification of Aves upto orders with examples emphasizing their biodiversity economic importance and conservation.

10 Type study - *Columba,* flight adaptations, perching mechanism, types of feathers.

11 Bird migration.

UNIT-V

12 Characteristics and classification of Mammalia upto orders with examples emphasizing their biodiversity, economic importance and conservation.

13 Type study – *Rattus*, (Digestive, respiratory and urinogenital systems only).

14 Dentition, hair and thermoregulation; integumentary derivatives.

PAPER CODE-9450

SECOND YEAR TDC SCIENCE, 2018-19

ZOOLOGY

PAPER-II : GENETICS AND BIOTECHNOLOGY

Duration : 3 hours **M.M.: 50**

UNIT-I

1 Light and electron microscope structure of chromosome (from nucleosome to organization of chromatids. Morphological classification of chromosome).

2 Extra-chromosomal inheritance.

3 Chromosomal theory of sex determination, hormonal theory of sex determination, X and Y chromosomes, gynandromorphs.

UNIT-II

4 Brief history of genetics, mendelian laws and their significance.

5 Linkage and crossing over : kinds of linkage – complete and incomplete linkage, linkage groups, significance of linkage.

6 Genetic interaction: Complimentary gene, duplicate genes,supplementary gene and epistasis.

7 Multiple-gene inheritance, ABO blood group, Rh factor.

UNIT-III

8 Concept of gene, mucon, recon,cistron, gene expression -lac-operon and trip-operon.

9 Genetic engineering: Restriction enzymes, Palindrome sequences, cloning vehicle, C-DNA.

10 Applications of genetic engineering. Hybridoma technology.

UNIT-IV

11 Mutations: Definition, gene mutation, chromosomal mutation, chromosomal aberrations, somatic and germ mutations, numerical alterations of chromosomes, molecular basis of mutation, mutagenic agents

12 Polytene and lamp-brush chromosomes.

13 Eugenics and genetic counselling.

UNIT-V

14 Medicines and biotechnology: Microbes in medicine, antibiotics, vaccines, enzymes and antigens.

15 Food and dairy microbiology: Fermented food production, dairy products, food preservation, microbial spoilage, alcoholic beverages, and vinegar.

16 Role of Biotechnology in health care.

PAPER CODE-9451

SECOND YEAR TDC SCIENCE, 2018-19

ZOOLOGY

PAPER-III : APPLIED ZOOLOGY AND MICROBIOLOGY

Duration: 3 hours **M.M.: 50**

UNIT - I

1 History, general account and scope of sericulture. Distribution of mulberry and non-mulberry silkworm.

2 Life history of *Bombyx mori*.

3 Rearing techniques of silkworm

(a) Brief account of environmental conditions of rearing and programming of mulberry cultivation.

(b) Rearing of silk worm.

4 Reeling of silk yarn.

5 Brief idea of diseases of silk worm.

UNIT-II

6 History, scope and general practices of pearl culture.

7 Rearing of pearl oyster:

(a) Indigenous methods of pearl culture.

(b) Modern methods of pearl culture.

8 Economic Importance of pearl and pearl culture.

9 Brief idea of diseases and enemies of pearl culture.

UNIT-III

10 Fin-fish culture and fisheries:

(a) Culturable fresh water fishes of India.

(b) Inland, marine and estuarine fisheries.

(c) Preservation of fishes.

(d) Economic importance of fishing industry.

UNIT-IV

11 Concepts of basic microbiology and its significance, theory of spontaneous generation, gram theory of fermentation and disease, work of Louis Pasteur.

12 General account of classification, structural organization, physiology and multiplication of bacteria.

13 General account of classification, structural organization, physiology and multiplication of bacteria.

14 Brief idea of Industrial, Medical and Environmental microbiology.

UNIT-V

15 DNA and RNA viruses

16 **AIDS:** Causative agents, Transmission, Pathogenicity, Prevention and Laboratory diagnosis of infections and treatment

PAPER CODE-9452

SECOND YEAR TDC SCIENCE, 2018-19

ZOOLOGY - PRACTICAL

Duration : 5 Hrs. **M.M. :50**

S.No.	Exercise	
1	Major dissection	10
2	Minor dissection/	05
3	Mounting/Applied Zoology exercise	04
4	Spots	15
5	Viva-voce	8
6	Record	8
	Total :-	**50**

Major Dissection marks will be given only if virtual dissection is available otherwise marks may be given according to availability of dissection alternate.

General survey of Vertebrates (Museum specimens)

A Urochordata : *Ciona, Pyrosoma, Doliolum, Salpa,*

B Cephalochordata : *Amphioxus*

C Agnatha : *Petromyzon*, Ammocoete larva

D	Pisces	:	*Echeneis, Sphyrna, Torpedo, Pristis, Labeo, Clarias, Anabas, Hippocampus* (male and female), *Chimaera, Anguilla, Protopterus.*
E	Amphibia	:	*Ichthyophis, Axolotl* larva, *Salamander, Bufo, Rana, Hyla, Pipa, Amphiuma, Alytes.*
F	Reptilia	:	*Testudo, Trionyx, Hemidactylus, Draco, Calotes, Chamaeleon, Varanus, Phrynosoma, Heloderma, Naja, Vipera, Typhlops, Bungarus, Hydrophis, Eryx,* models of Dinosaurs.
G	Aves	:	*Columba, Psittacula, Passer, Bubo,* model of *Archaeopteryx*
H	Mammalia	:	*Pteropus, Rhinopoma, Felis, Erinaceous, Hystrix Crocedura, Manis.*

PREPARED SLIDES :

1	Cephalochordata	:	*Amphioxus*: T.S. through buccal region, T.S. through pharynx showing gonads, T.S. through caudal region.
2	Pisces	:	Placoid, cycloid and Ctenoid scales, V.S. of skin.
3	Amphibia	:	V.S. of skin, T.S. of testis, T.S. of kidney and T.S. of liver.
4	Reptilia	:	V.S. of skin and T.S. of stomach.
5	Aves	:	T.S. of intestine, T.S. of liver, T.S. of ovary, filoplume W.M.
6	Mammalia	:	T.S. of pancreas, T.S. of thyroid gland, L.S. of pituitary gland, T.S. of stomach, T.S. of intestine, L.S. of kidney, T.S. of testis and ovary and V.S. of skin, T.S. of lung.

PERMANENT PREPARATIONS: Unstained placoid scales, spicules of *Herdmania.*

DISSECTION (Virtual): Virtual dissection will be done (if facility of virtual is made available by University

Herdmania	:	Neural complex.
Scoliodon	:	Alimentary canal, scroll valve *in situ*, afferent and efferent branchial arteries, eye muscles, internal ear.
Digital animals	:	Arterial, venous and urino-genital systems.

OSTEOLOGY :

Identification of disarticulated skeleton of *Rana*, *Varanus, Gallus* and *Oryctolagus*. Palates of birds.

GENETICS:

Drosophila : Life cycle and its culture. Identification of wild and mutant *Drosophila.*

APPLIED ZOOLOGY:

1 Identification of different stages (from egg to adult) of silkworm.

2 Tools used in silk worm rearing.

3 Mounting of mouth parts and sting apparatus of honey bee.

4 Identification of cultivable varieties of shell fish and fin fish.

5 Gram staining of microbes.

- The teacher concerned will provide e-materials to practical in the form of video or demonstrations or written materials including dissections.

REFERENCE BOOKS (LATEST EDITIONS):

LIFE AND DIVERSITY OF ANIMALS (VERTEBRATES)

1 Ayyar, E.K. and T.N. Ananthakrishnan, Manual of Zoology, Vol.II (Chordata), S.Viswanathan (Printers and Publishers) Pvt. Ltd. , Madras.

2 Jordan, E.L. and P.S.Verma, Chordate Zoology and Elements of Animal Physiology, S. Chand & Co. Ltd., Ram Nagar, New Delhi (English and Hindi Editions).

3 Parker and Haswell, Text Book of Zoology, Vol.II (Chordata), A.Z.T.B.S. Publishers and Distributors, New Delhi- 110051.

4 Waterman, Allyn J. et.al., Chordate Structure and Function, Mac Millan and Co., New York.

5 Kotpal, RL, Modern Text Book of Zoology- Vertebrates, Rastogi Publications, Meerut (English and Hindi Editions).

6 Ganguly, BB, Sinha, AK and Adhikari, S : Biology of Animals, Vol.II, New Central Book Agency (P) Ltd. Kolkatta.

7 Alexander, R.M.: The Chordates (Cambridge University Press).

8 Monielth, A.R: The Chordates (Cambridge University Press).

9 Young, J.Z : Life of Vertebrates (Oxford University PressL)

10 Waterman, A.J: Chrodata - Structure and Function (Macmillan Co.).

GENETICS AND BIOTECHNOLOGY:

11 Verma, P.S. and V.K.Agarwal, Genetics, S.Chand & Co.

12 Lewis, C.D. and Lewin, R., Biology of Gene, McGraw Hill, Toppan Co. Ltd.

13 Gunther S. Stent, Molecular Genetics, macmillan Publishing Co. Inc.

14 Goodenough, V., Genetics, New York Holt, Rinchart and Winston.

15 Gardner, Principles of Genetics, Wiley Eastern Pvt., Ltd.

16 Winchester, Genetics, Oxford IBH Publications

17 Stickberger, Genetics, MacMillan Publications.

18 Pai, A.C., Foundations of Genetics, McGraw Hill Publications.

19 R.A.Meyers (Endocrinology.): Molecular Biology and Biotechnology, VCH Publishers.

20 Glick : Molecular Biotechnology.

21 R.W.Old and S.B. Primrose: Principles of Gene Manipulation and Introduction to Genetic Engineering.

22 Gupta PK : Elements of Biotechnology, Rastogi Publications, Meerut.

APPLIED ZOOLOGY AND MICROBIOLOGY :

23 Jhingran, VG, Fish and Fisheries of India. Hindustan Publishing Corporation, New Delhi.

24 Kovaleve, PA, Silkworm Breeding Stocks, Central Silk Board, Merine Drive, Bombay.

25 Roger, A. Morse, The ABC and XYZ of Bee Culture, A.I. Root and Co., Medina, Ohio 44256.

26 Metcalf CL and WP Flint, Destructive and Useful Insects, Tata McGraw Hill publishing Co. Ltd., New Delhi- 110051

27 Sharma PD, Microbiology, Rastogi Publications Meerut.

28 Shukla and Upadhyaya : Economic Zoology (Rastogi Publishers)

29 Venkitaraman : Economic Zoology (Sudarshana Publishers)

PRACTICAL:

30 Verma, PS, A manual of practical Zoology Vertebrates S.Chand and Co. Ltd., Ram Nagar, New Delhi (English and Hindi Editions).

31 Lal, SS : Practical Zoology Vertebrates, Rastogi Publication, Meerut (English and Hindi Editions).

SECOND YEAR SCIENCE

BOTANY

Papers	No. of Papers	No. of Periods per week	Maxi-mum Marks	Min. pass Marks
Paper I	**3**	**3**	**50**	
Paper II	**3**	**3**	**50**	**54**
Paper III	**3**	**3**	**50**	
PRACTICALS	**6**	**5**	**50**	**27**

There shall be three written papers of three hours duration each. The candidates will be required to pass in theory and practical examinations separately.

THEORY

Paper I : Taxonomy and Embryology of

Angiosperms	50
Paper II : Anatomy of Angiosperms, Economic Botany and Ethnobotany.	50
Paper-III: Cytogenetics, Plant Breeding, Evolution and Biostatistics.	50
PRACTICALS :	
Duration of each Theory Paper	3 hours
Duration of Practicals	5 hours

(in one day)

PAPER CODE-9453

PAPER-I

TAXONOMY AND EMBRYOLOGY OF ANGIOSPERMS

Unit-1

Taxonomic categories; concept of species, genus and family; Herbarium techniques. Systems of classifi-cation of Bentham and Hooker, Engler and Prantl, Hutchinson and Takhtajan.

Unit-2

International rules of nomenclature, range of floral structure, floral variation, and economic importance of Ranunculaceae, Brassicaceae, Papaveraceae, Capparidaceae, Caryophyllaceae, Malvaceae, Ruta-ceae, Cucurbitaceae, Myrtaceae, Leguminosae, Rosa-ceae, Apiaceae (Umbelliferae).

Unit-3

Range of floral structure, floral variation and economic importance of Rubiaceae, Asteraceae, Primulaceae, Solanaceae, Asclepiadaceae, Convolvulaceae, Apocy-naceae, Acanthaceae, Lamiaceae, (Labiatae), Euphor-biaceae, Poaceae(Graminae).

Unit-4

Classical theory of morphology of flower; Primitive stamens and carpel; Microsporogenesis, Megasporo-genesis, Structure and development and male and female gametophytes, Fertilization, Nutrition of Embryo sac.

Unit-5

Structure, development and types of endosperm and embryo, Polyembryony, Apomixis, Experimental embryology; Culture of anther, endosperm and embryo.

Note :

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory.

Total marks **: 05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9454

PAPER II

ANATOMY OF ANGIOSPERMS, ECONOMIC BOTANY AND ETHNOBOTANY

Unit-1

Plant anatomy : Introduction, organization of meri-stems; theories related to their organization; cell wall gross microscopic structure and chemistry.

Unit-2

Tissue and tissue systems; Parenchyma, Collenchyma, Sclerenchyma, Xylem, Phloem, Secretory structures and periderm.

Unit-3

Primary and Secondary Structure : Structure of root, stem and leaf. Primary and secondary anomalous structure with special reference to *Aristolochia, Salva-dora, Bignonia, Achyranthes, Amaranthus, Boerhaavia, Mirabilis, Chenopodium Dracaena, Tinospora.*

Unit-4

Study the economic botany of the following :

Cereals	:	*Triticum, Zea*
Pulses	:	*Glycine max, Cajanus cajan*
Fibres	:	Classification; *Gossypium, Crotalaria, Corchorus;* artificial fibres.
Wood	:	Classification, mechanical properties; *Shorea, Tectona, Pinus, Cedrus.*
Paper	:	Raw materials and manufacture.
Sugar	:	Sugarcane, Beet.

Unit-5

Study of economic uses of the following :

Medicinal Plants	:	*Rauwolfia, Datura, Cinchona, Papaver.*
Beverages	:	Alcoholic; Non-alcoholic: tea and coffee.
Spices and Condiments	:	*Coriandrum, Cuminum, Ferula, Curcuma, Trigonella, Elettaria, Capsicum, Piper, Zingiber.*
Oil	:	*Arachis, Cocos, Helianthus*.
Ethnobotany	:	Introduction; Aims and Objectives; knowledge of important plants of various groups from Ethnobotanical point of view as food, fodder and Medicine with special reference to Rajasthan.

Note :

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B-** 10 questions and **Section C**- 4 questions)

from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory.

Total marks **: 05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9455

PAPER-III

CYTOGENETICS, PLANT BREEDING,

EVOLUTION AND BIOSTATISTICS

Unit-1

Cell Biology - Structure of cell (of both prokaryotes and eukaryotes); membranes; cell organelles, ergastic substances. Chromatin- euchromatin, heterochro-matin. Chromosomes - Type and organization; morpho-logy, chemical constituents; Structural changes in chromosomes and their significance.

Unit-2

Cell Division - Amitosis, mitosis, meiosis; synepto-nemal complex; Linkage and crossing over. Gene (Chromosomal) mappping; Sex determination.

Unit-3

Mendel's laws of inheritance - Monohybrid and dihy-brid ratio, incomplete dominance; Modifications of dihybrid ratio; cytoplasmic inheritance (Inheritance of plastids and streptomycin resistance in *Chlamy-domonas*); Principles of plant breeding. Selection, introduction, clonal propagation, hybridization, mutation breeding.

Unit-4

Green Revolution, conservation of germplasm, centres of origin. Cytology in relation to taxonomy; Apomixis; Polyploidy; Breeding work on wheat.

Unit-5

Evolutionary theories, catastrophism, the Lamarck's theory, development of Darwin's theory, Evidences of evolution, adaptations, natural selection patterns of evolution, origin of species. Elementary study of bio-statistics; mean, mode, median, standard deviation.

Note :

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark . All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks . The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks .

In short, pattern of question paper and distribution of marks for UG classes will be as under :

Section A : 10 questions, 2 questions from each unit, short answer, all questions compulsory.Total marks **: 05**

Section B : 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

Section C : 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9456

PRACTICALS

The practical exercises have been divided into following two groups :

Group-I : Taxonomy, Embryology and Economic Botany.

Group-II : Anatomy, Cytology and Statistics.

GROUP-I

(A) TAXONOMY

1. Ranunculaceae : *Ranunculus, Nigella, Delphinium*
2. Brassicaceae : *Brassica, Raphanus, Iberis*
3. Papaveraceae : *Argemone, Papaver.*
4. Capparidaceae : *Capparis, Cleome.*
5. Caryophyllaceae : *Stellaria, Spergula, Viscaria, Dianthus* (Single*), Gypsophylla.*
6. Malvaceae : *Hibiscus, Althaea*
7. Rutaceae : *Citrus, Ruta, Murraya*
8. Leguminosae : *Pisum, Crotalaria; Cassia, Caesalpinia, Bauhinia, Tamarindus; Acacia, Prosopis, Mimosa.*
9. Myrtaceae : *Callistemon, Eucalyptus*

10. Cucurbitaceae : *Citrullus, Cucumis*
11. Apiaceae : *Coriandrum, Foeniculum*
12. Rubiaceae : *Hamelia*
13. Asteraceae : *Helianthus, Tridax, Launaea, Ageratum.*
14. Primulaceae : *Anagallis.*
15. Apocynceae : *Catharanthus, Nerium, Thevetia.*
16. Asclepiadaceae : *Calotropis, Leptadaenia, Cryptostegia*
17. Solanaceae : *Solanum, Nicotiana, Petunia.*

18. Acanthaceae : *Barleria, Adhatoda, Justicia, Peristrophe.*

19. Lamiaceae : *Ocimum, Salvia*

20. Euphorbiaceae : *Euphorbia, Ricinus*

21 Poaceae : *Triticum.*

The above list of plants is only suggestive and can be replaced depending on local availability.

(B) EMBRYOLOGY SLIDES :

1. Placentation : Types

2. Ovules : Types

(1) T.S. Anther

10. L.S. Mature Seed : Maize/Gram/Pea

11. L.S. bud with anther and gynoecium.

12. Pollinium whole mount.

13. V.S. Cyathium.

14. V.S. *Ficus* inflorescence.

(C) ECONOMIC BOTANY AND ETHNOBOTANY

All plants as prescribed in theory paper.

GROUP-II

(A) ANATOMY

1. Stem : *Boerhaavia, Achyranthes, Bignonia, Chenopodium, Leptadaenia, Nyctanthes, Salvadora, Dracaena, Triticum, Mirabilis, Aristolochia, Amaranthus, Chenopodium.*

2. Root : *Tinospora, Ficus.*

(B) CYTOLOGY

Smear preparation of root tips and onion bud for different stages of mitosis and meiosis.

(C) STATISTICS

Mean, Mode, Median, Standard Deviation. Monohybrid and Dihybrid crosses and test cross.

(D) EMASCULATION

MARKING SCHEME

There shall be a practical examination of five hours duration and the distribution of marks shall be as follows :

	Students	
	Regular	**Ex**
(a) An angiosperm material for anato-mical study with (i) double stained, labelled cellular sector diagram, identification and (iv) special (anatomical/ecological) character (2.5 marks each (i) to (iv).	10	13
2. Economic/ Ethnobotany.	5	6
Description in semi-technical language of given twig, (i) with diagrams, (ii) description and (iii) identification with characters.	12	14
4. Embryology	05	05
5. Smear preparation for two stages of cell division.	05	05
6. Genetic exercise Or Emasculation technique.	05	06
7. Statistical exercise.	05	06
8. Spots five (At least one from each		

	paper)	10	10
9.	Viva-voce	10	10
10.	Records and collection.	08	-
	Total	**75**	**75**

BOOKS SUGGESTED

Bhojwani, S.S. and Bhatnagar, S.P.: The Embryology of Angiosperms, Vikas Publishing House, Delhi, 1974.

Dutta, S.C.: Hand Book of Systematic Botany, Asia Publishing House, Bombay, 1979.

Gupta, P.K.: Cytology, Genetics and Evolution, Rastogi Publications.

Hill, A.H.: Economic Botany, McGraw Hill Book Co., 1952.

Mitra, J.N. : Elements of Systematic Botany of Angiosperms and Plant Ecology, The World Press Pvt. Ltd., Calcutta, 1977. Vikas Publishing House, Delhi.

Pandey, B.P.: Economic Botany, S. Chand And Co.Pvt. Ltd., 1988.

Tiagi, Y.D. and Kshetrapal, S. : An Introduction to Taxonomy of Angiosperms. Ramesh Book Depot, Jaipur, 1974.

P.K. Gupta : Genetics.

Sinha, U. and Sinha: Cytogenetics, Plant Breeding and Evolution.

Shukla and Chandel: Cytogenetics and Plant Breeding.

Choudhary, H.K. Elementary Principles of Plant Breeding.

PAPER CODE-9457

SECOND YEAR B. Sc. MATHEMATICS 2016-17

PAPER – I

ADVANCED CALCULUS

Duration: 3 Hours **Max. Marks: 50**

UNIT -I

Continuity: Cauchy definition of continuity of a function of one variable, Notion of limit and continuity of function of two variable (Not Theorems), discontinuous functions and their kinds, Properties of continuous functions at a point and in closed intervals.

Derivability: Differentiable functions and their properties including Darboux theorem, Examples of continuous and differentiable functions.

UNIT - II

Partial differentiations, envelopes and evolutes, Maxima and Minima of two variables and more than two variables including Lagrange's method of undetermined multipliers.

UNIT -III

Evaluation of double and triple integrals, Dirichlet's theorem and Liouville's extension, change of order of integration and volume and surface of solid of revolution.

UNIT - IV

Jacobians, change of independent variables. Vector Calculus: Direction of derivatives, gradient of scalar functions, irrotational Vectors, definition of gradient, divergence of a vector, curl of a vector, curl of the product of a scalar and vector, divergence of a vector product.

UNIT - V

Vector Integration: Gauss's theorem, divergence of the product of a scalar and a vector, Stoke's theorem, surface integral of the curl of a vector, Green's theorem (Excluding the proofs of the theorems)

References:

1. Gorakh Prasad : Differential calculus, Pothishala Pvt. Ltd., Allahabad
2. Gorakh Prasad : Integral calculus, Pothishala Pvt. Ltd., Allahabad.
3. Malik, S.C. : Mathematical Analysis, Wiley Eastern Ltd., New Del
4. Shanti Narayan : A Course of Mathematical Analysis, S. Chand and Company, New Delhi.
5. Jain, P.K. and : An Introduction to Real Analysis by, S. Chand and Company, New Delhi.
6. Kaushik, S.K. : Principles of Mathematical Analysis.

7. Walter Rudin : A first course in Real Analysis.
8. Sharma Purohit : Elements of Real Analysis.
9. Bhargava, Goyal : Real Analysis.
10. Sharma, Gokhroo : Real Analysis.
11. Spain, B. : Vector Analysis.
12. Bhargava, Banwari Lal : Sadish Kalan.
13. Gokhroo, Saini : Sadish Kalan.

PAPER CODE-9458

SECOND YEAR B. Sc. MATHEMATICS 2016-17

PAPER – II

DIFFERENTIAL EQUATIONS

Duration: 3 Hours **Max. Marks: 75**

UNIT - I

Exact differential equations and equations of special forms. Simultaneous differential equations. Total differential equations.

UNIT – II

Linear differential equations of second order and their solutions by:

(i) The method of finding an integral of the C.F. by Inspection,

(ii) Changing of independent variables,

(iii) Removal of the first derivative,

(iv) Operational factors,

(v) Undetermined coefficients and

(vi) Variation of parameters.

UNIT - III

Linear partial differential equations of first order: Lagrange's method, Integral surfaces passing through a given curve, orthogonal surfaces, Geometric description of Pp+Qq=R. Non-Linear partial differential equations of order one. Special methods of their solutions applicable to certain standard forms.

UNIT -IV

Charpit's method of solving non linear partial differential equations of first order, Monge's method of integration of equations Rr + Ss + Tt = V. Higher order homogeneous linear part of differential equation of the first order.

UNIT - V

Numerical solutions of ordinary differential equations: Introduction about initial value problem, boundary value problem, Euler's method, short comings. Euler's modified method. Picard's method of successive approximation and Picard's method for simultaneous equations.

References:

1. Ray and Sharma : Differential equation.
2. Bansal, Dhami : Differential equation (Vol. II).
3. Raisinghania, M.D. : Advanced differential equations.
4. Murray A. Daniel : Differential equation.
5. Forsyth, A.R. : A Treatise on Differential equation.
6. Ian N. Sneddon : Elements of Partial differential equations., Mc Graw–Hill Book Company.
7. Gokhroo, Saini, Kumbhat : Avkal Samikaran.
8. Gokhroo, Saini, Ojha : Partial differential equations.
9. Codington, E.A. : An introduction to ordinary differential equation by, Prenticehall of India.

SECOND YEAR B. Sc. MATHEMATICS 2016-17

PAPER – III

MECHANICS

Duration: 3 Hours **Max. Marks: 75**

UNIT – I

Equilibrium of bodies under three or more forces, Friction, common category.

UNIT –II

Virtual work, Projectile on inclined plane and Impact.

UNIT – III

Velocity and Accelerations (Tangential, normal, radial, transversal), Rectilinear motion, Hooke's law and motion of horizontal and vertical strings.

UNIT –IV

Constrained motion (circular and cycloidal), motion under resisting medium (resistance varies as velocity and square of velocity).

UNIT –V

Fluid pressure and thrust on immersed plane surfaces. Center of pressure.

References:

1. S. L. Loney : Statics, Macmillan and Company,London.
2. R.S. Verma : A Text book of Statics (Pothishala)
3. Ray & Sharma : A Text book of Hydrostatics
4. N.Sharma : A Text book of Dynamics.
5. M Ray : A Text book of Dynamics.

6. Bhargava & Agrawal : Gati Vigyan

7. Gokhroo, Saini : Uchch Gati Vigyan

8. Gokhroo & Others : Hydrostatics(Hindi Ed.)

9. Gokhroo & Others : Statics (Hindi Ed.)

10. Bhargava & Others : Hydrostatics (Hindi Ed.)

11. Bhargava & Others : Statics (Hindi Ed.)

THIRD YEAR

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE III Year					
Cours No.	**Paper Code**	**Nomenclature**	**Paper**	**Max. Marks**	**Min. Marks**
Course 22	**9571**	**Assessment for Learning**	**Theory**	**100 (80+20)**	**36**
Course 23	**9572**	**Language acroos the curriculam (Including Reading & Reflecting on texts)**	**Theory**	**100 (80+20)**	**36**
Course 24	**9573**	**School Internship (Phase I,4 weeks) Internal assessment Engagement with the field: Tasks and Assignment for courses12 &13.**		**150**	**60**
Course 25	**9574**	**External Assessment one lesson of Pedagogy of a School subject.**		**100**	**40**
Course 26	**9605**	**Core Subject***			
		General Hindi		**50**	**18**
Course 27	**9541**	**Physics I**	**I**	**50**	**18**
	9542	**Physics II**	**II**	**50**	**18**
	9543	**Physics III**	**III**	**50**	**18**
	9544	**Physics Practical**	**Practical**	**50**	**18**
Course 28	**9545**	**Chemistry I**	**I**	**50**	**18**
	9546	**Chemistry II**	**II**	**50**	**18**
	9547	**Chemistry III**	**III**	**50**	**18**
	9548	**Chemistry Practical**	**Practical**	**50**	**18**
Course 29	**9549**	**Zoology I**	**I**	**50**	**18**
	9550	**Zoology II**	**II**	**50**	**18**
	9551	**Zoology III**	**III**	**50**	**18**
	9552	**Zoology Practical**	**Practical**	**50**	**18**
Course 30	**9553**	**Botany I**	**I**	**50**	**18**
	9554	**Botany II**	**II**	**50**	**18**
	9555	**Botany III**	**III**	**50**	**18**

	9556	**Botany Practical**	**Practical**	**50**	**18**
Course 31	**9557**	**Mathematics I**	**I**	**50**	**18**
	9558	**Mathematics II**	**II**	**75**	**27**
	9559	**Mathematics III**	**III**	**75**	**27**

PAPER CODE-9571

ASSESSMENT FOR LEARNING

Objectives: After completion of the course the student teacher will be able to-

1. Understand the historical aspect and current practices of Assessment.
2. Understand assessing children's progress in terms of psychological development and the criteria provided by the curriculum.
3. Explain cognizant of key concept related to assessment such as measurement, evaluation, assessment, Examination, Test, Formative and Summative evaluation etc.
4. Evolve realistic, comprehensive and dynamic assessment procedures that are able to keep the whole students in view.
5. Explore the use of wide range of assessment tool their selection and appropriate construction.
6. Develop critical understanding of issues in assessment for learning (from constructivist paradigm)
7. Use statistical techniques for interpretation of assessment data.
8. Understanding the critical role of assessment in enhancing learning.
9. Design, integrate and evaluate appropriate assessment tools as part of the learning process.
10. Develop assessment linked to student learning outcomes.
11. Understand and use assessment for improvement of teaching and learning.

COURSE CONTENT

UNIT- I Overview concept of assessment

1. Concept and purpose of assessment
2. Perspective on assessment and evaluation for learning in a constructivist paradigm.
3. Clarification of the terms
   a) Assessment, evaluation, test, examination, measurement
   b) Formative and summative assessment
   c) Continuous and comprehensive assessment
   d) Grading
4. Distinction between terms
   a) Assessment for learning
   b) Assessment as learning
   c) Assessment of learning
5. principles of assessment for learning
6. Critical review of current evaluation practices and their assumption about learning and development.

UNIT- II Assessment of Subject based learning

1. Enlarging notions of subject based learning in a constructivist perspective.
2. Assessment tools
   a) Kinds of task : project, assignments & performance
   b) Observation of learning process by
   c) Self
   d) Peers
   e) Teachers
   f) Self and peer assessment
3. Assessment technique: Oral, Practical test, CAA(Computer Aided Assessment), Test, Exercise, Portfolio, Assignment, MCQ, Short Answer, Notes, Summary, Observing, interviewing and writing comprehensive profile of a student.

UNIT- III Context of assessment and evaluation

1. Context of assessment: subject related, person related.
2. Steps in pedagogical analysis of content matter.
3. Preparation of test items, development of blue print.
4. Checking of answer script: subjective and objective.
5. Classification of assessment based on
   a) Purpose: prognostic, diagnostic, formative, summative
   b) Scope: teacher made, standardized
   c) Attribute: achievement, attitude, aptitude, interest, personality, intelligence, creativity.
   d) Information: qualitative, quantitative
   e) Response: oral, written

UNIT- IV Data analysis & feedback

1. Importance and use of educational statistics.
2. Statistical tools-frequency distribution, normal distribution, graphical representation, percentile, central tendency, deviation, rank difference and product moment coefficient of correlation and their interpretation.
3. Meaning and purpose of feed back in teaching learning process.
4. Types of teacher feedback (written, comments, oral, peer feed back)
5. Reporting on a learner profile in consolidated form .
6. Use of assessment for feedback and taking pedagogic decision.

UNIT V Reforms in assessment for learning

1. Critical analysis of prevalent practices of assessment .
2. Commercialization of assessment i.e. tuition, coaching, study center etc.
3. Assessment for social selection and placement.
4. NCF-2005 & NCFTE-2009 on assessment reforms.
5. Improving quality and range of question in examination paper.
6. Role of ICT in Assessment.
7. De linking of school based assessment from examination: some possibilities and alternative practices.
8. Innovation in assessment practices.

SESSIONAL WORK

(Any two of following)

1. A critical analysis of a question paper in any subject of RBSE/CBSE.
2. Prepare a diagnostic test and remedial programme of any subject at secondary level.
3. Organize a group activity (like: competition, story telling, reading, writing), evolve criteria for assessing the activity and present an assessment report of the activity.
4. School visits followed by presentation of a report on evaluation practices in school.
5. Construction, administration and interpretation of self made achievement test.

REFERENCES

1. A.J. (2001). Educatuinal Assessment for Student (3rd Ed.) Upper Saddle River , NJ: Prentice Hall.
2. Agarwal, Y.P.,(1990) Statistical Method: Concept, Application and Computation, Sterling Publisher Pvt. Ltd. New Delhi.
3. Angelo, Thomas A. and Patricia Cross. (1993). Classroom Assessment Techniques: A Handbook for College Teachers. (2nd edition). San Francisco: Jossey-Bass.
4. Banta, Trudy W. et al. (1996) Assessment in Practice: Putting Principles to Work on CollegeCampuses. San Francisco: Jossey-Bass.
5. Battersby, Mark. (1999) “So What is a Learning Outcome Anyway?” Vancouver, B.C.: Learning Outcomes Network; Centre for Curriculum, Transfer and Technology.
6. Becker, H.J., & Reil, M.M. (2000), Teacher professional engagement and constructivist compatible computer use (Report No. 7). Irvine, CA: Center for Research on information Technology and organization.

7. Black, P. & Wiliam, D (1998). Assessment and Classroom Learning. Assessment in Education 5(1) pp. 7–71.
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9. Black, P.J. & Wiliam, D. (1998) Inside the Black Box: Raising standards through classroom assessment. King's College, London.
10. Bransford, J., Brown, A.L., & Cocking, R. R. (Eds.), (2000): How People Learn: Brain, Mind, Experience and School, Washington, DC: National Academy Press.
11. Burke, K. (2005), How to Assess the Authentic Learning(4th Ed.) Thousand Oaks, CA: Corwin.
12. Burke, K., Fogarty, R., & Belgrad, S (2002) : The Portfolio connection: Student Work Linked to standard (2nd Ed.) Thousand Oaks, CA: Corwin.
13. Carr, J.F., & Harris, D.E. (2001): Succeeding with standards: linking curriculum, assessment, and action planning. Alexandria, V.A.: Association for Supervision and Curriculum Development.
14. Chouhan, S.S., (1990): Innovation in Teaching Learning Process, Vikas Publication, New Delhi.
15. Cooper, Damian. (2006). Talk About Assessment: Strategies and Tools to Improve Learning. Toronto, ON: Thomson Nelson. Government of British Columbia [7]
16. Danielson, C. (2002). Enhancing student Achievement: Framework for school improvement.
17. Ecclestone, Kathryn (2010). Transforming formative assessment in life long learning. McGraw Hill. Eng.
18. Gentile, J.R. & Lalley, J.P. (2003) :Standards and Mastery Learning :Aligning teaching and assessment so all children can learn. Thousand Oaks, CA: Corwin.
19. Goodman, J. (2012). Improving progress through AfL. Dr Joanna Goodman reflects on the role and application of Assessment for Learning. *SecEd*, 304:13.
20. Grasha, Tony. (1996) Teaching with Style: A Practical Guide to Enhancing Learning by Understanding Teaching and Learning Styles. Pittsburgh, PA: Alliance Publishers.
21. Guskey, T.R., & Bailey, J.M. (2001). Developing Grading and reporting system for student learning. Thousand Oaks, CA: Corwin.
22. Manitoba Education, Citizenship, and Youth. (2006) Rethinking Assessment with Purpose in Mind: assessment for learning, assessment as learning, assessment of learning Winnipeg, Manitoba, Canada: MECY [8]
23. Natrajan, V. and Kulshreshta, S.P. (1983). Assessment non- Scholastic Aspects –Learner Behaviour, New Delhi: Association of Indian University .

24. NCERT (1985),. Curriculum and Evaluation, New Delhi,: NCERT Newman, F.M. (1996). Authentic Achievement: Restructuring School for Intellectual quality. San Francisco, CA: Jossey- Bass. Nitko.
25. Norris N.(1990) Understanding Educational Evaluation, Kogan Page Ltd. Singh H.S. (1974) Modern Educational Testing. New Delhi: Sterling Publication.
26. Paul, Black (2012). Assessment for Learning, McGraw Hill.
27. Savery, J. and Duffy , Thomas M.(1995) Problem based learning: An Instructional Model and its constructivist framework. Educational Technology, 35, 31-38, 21.
28. Singh, H.S.(1974). Modern Educational Testing, New Delhi : Sterling Publication.
29. Stiehl, Ruth. (2000) The Outcomes Primer: Reconstructing the College Curriculum. Corvallis, OR: The Learning Organization.
30. Stiggins, Richard J. Opening Doors to Excellence in Assessment, A Guide for Using QualityAssessment to Promote Effective Instruction and Student Success, Assessment Training Institute, Inc. Portland, OR: July 1996.
31. Throndike, R.L. and Hagan (1977). Measurement and Evaluation in Psychology and Education.
32. Verma Ramesh, Suresh K. Sharma (1990) : Modern Trends in Teaching Technology, Anmol Publication Pvt. Ltd. New Delhi.
33. Wiggins, Grant. (1998). Educative Assessment: Designing Assessments to Inform and Improve Student Performance. San Francisco: Jossey-Bass.

Websites link

- http://www.aahe.org/assessment/assess_links.htm
  A hefty site updated by the American Association of Higher Education. Has many links to assessment articles, sites and listserves.
- http://www.duq.edu/~tomei/tomei/advancedsites.html
  Another hefty site that includes many links to articles and sites on assessment, Bloom's taxonomy, learning styles, etc.
- http://www.snow.utoronto.ca/Learn2/introll.html
  Learning to Learn, a thinking and learning skills site, is for learners, teachers, and researchers to learn about the value of self-awareness as a critical part of learning. It was created for educators developing their assessment and instructional design skills.
- http://www.ldcommunity.org/thesystem.html
  Learning Disabilities Resource Community (LDRC) site that focuses on teaching and assessment including the Intelligent Tutoring and Assessment System that plans to focus on the navigational tools available to users, including perceptual modes.

- http://www.sbctc.ctc.edu/Board/Educ/Outcomes/outcom_wag.htm
  Washington State Assessment Newsletter
- http://www.wwu.edu/~assess/airlinks.htm
  A site generated by Western Washington University that includes resources, articles and
- links to assessment sites.
- http://trgmcber.haygroup.com/Products/learning/lsius.htm
  An online version of David Kolb's Learning-Style Inventory. Material is not printable, but one can opt to pay for it, take it online or order copies for class use.
- http://www.keirsey.com/
  Links to Meyers Briggs information sites
- http://pss.uvm.edu/pss162/learning_styles.html
- http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/
- http//www. snow.utoronto.ca/Learn 2/mod3/ tchstyle.html for a Multiple Intelligence Inventory, Thinking Styles Inventory, Teaching Styles Inventory, Learning Styles Inventories and Tests on the Web, and Learning Styles Links.

PAPER CODE-9572

LANGUAGE ACROSS THE CURRICULUM

(Including reading and reflecting on text)

Objectives: After the completion of the course, the student teacher will be able to:

1. Understand the language background of students as the first or second language users.
2. Create sensitivity to the language diversity that exists in the classroom.
3. Understand the nature of classroom discourse and develop strategies for using oral language in the classroom.
4. Understand the nature of reading comprehension in the content area & writing in specific content areas.
5. Understand interplay of language and society.
6. Understand function of language and how to use it as a tool.
7. Understand language and speech disorders and make remedial measure, too.

COURSE CONTENT

UNIT –I Language and society

1. Relationship between language and society.

2. Multilingualism- concept, status of Indian classroom language.
3. Deficit theory and discontinuity theory.
4. Social stimulation- gestures, emotional and facial expressions, postures and movements, articulate speech, physiognomy.

UNIT- II Language development

1. Theories of language development
2. Language development in different stages.
3. Speech defects: lisping, slurring, stuttering and stammering and role of teachers in its resolution.
4. Language acquisition: stages, language and thought.
5. Meta- linguistics: concept, meaning, listening, speaking, reading, comprehension and writing for varying context, language proficiency for teacher.

UNIT- III Classroom and language

1. Classroom discourse- nature, meaning and medium.
2. Questioning in the classroom- type of questions, why and how of asking of questions, teachers role and control during questioning, encouraging questioning by students.
3. Functions of language within and outside the classroom.
4. Classroom as a language lab.
5. Role of literature in language learning.

UNIT- IV Reading and writing

1. Reading skills- purpose and methods.
2. Reading in the content areas- science, social science and Mathematics.
3. Reading strategies- note making, summarizing.
4. Process writing- analysis of children's writing to understand their conception and personality, writing with a sense of purpose, writing to learn and understand.

UNIT –V Reading and Reflecting on text

1. Nature of texts- expository v/s narrative texts, transactional v/s reflective texts
2. Scheme theory- text structures and examining content area.
3. Kinds of text-Textbooks, narratives, autobiographies, field notes, ethnographies.
4. Some practical activities to be conducted in a class -…….
   a. Read a text and prepare a summery

b. Read a document and organize a discussion on it

c. Expressing views on an editorial of a news paper

SESSIONAL WORK

Any two of the following:

1. Find out the different languages spoken by the students and prepare a plan to use multilingualism as a teaching strategy.
2. Identify speech defects of a student and make a remedial strategy.
3. Organize an activity based game to motivate students for creative questioning and present its report.
4. Read any empirical, conceptual, historical work or a policy document or studies about schools, teaching, learning or different people's experiences and submit reading reflections.
5. Plan a participatory transaction strategy for language acquisition.
6. Prepare abstracts of any two articles published in reputed Journals.

REFERENCES

1. Agnihotri, R.K. (1995). Multilingualism as a classroom resourse. In K. Heugh, A Siegruhn, & P. Pluddemann (Eds.) Multilingual education for South Africa 9pp. 3-&) Heinemann Educational books.
2. Anderson, R.C. (1984). Role of the Reader's Schema in comprehension, learning and memory. In R.C. Anderson, J. Osborn, & R.J. Tierney (Eds.) Learning to read in American school: Basad readers and content texts. Psychology Press.
3. Eller, R.G. (1989). Johnny can't talk, either: The perpetuation of the deficit theory in classroom: The Reaing Teacher, 670-674.
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5. Grellet, f. (1981). Developing reading skills: A practical gude to reading comprehension exercises. Cambridge University Press.
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PAPER CODE-9573

Course : 24 INTERNSHIP PROGRAMME (School Intership Phase-I)

School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives –

After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.
9. Get acquainted with the functioning of SMC.

Execution of the Internship Programme

The internship programme shall be divided into 2 years. In the first year, 4 weeks will be allotted. This will include one week of school observation and three weeks of practice - teaching during which each student - teacher has to teach 2 periods per day (one period each for 2 pedagogy subjects). Besides teaching, the student - teacher has to complete his/her tasks and assignments related to the courses mentioned in the first year. The three weeks practice teaching will also include the delivery of criticism lessons (one in each pedagogy subject) and also observation of 5 lessons of peers of each of the two subjects. This practice of teaching programme is adopted so as to give a proper training of teaching skills and thorough guidance to the student-teachers by the subject lecturer.

Practice Teaching

S. No.	Activity	Marks
1.	Practice Teaching in both the pedagogy subjects in Schools (for three weeks) (At least 13 lessons in each subject)	50+50=100
2.	Peer Group Lesson Observation(ordinary+criticism-5 lesson in each round (5+5)	5+5=10
3.	Criticism Lessons (1-1 in both pedagogy subjects)	10+10=20
4.	Test (Blue print + question paper + Evaluation Key+Remedial Teaching)	10+10=20
	Total Marks	**150**

PAPER CODE-9574

Course: 25 EXTERNAL ASSESSMENT

ONE FINAL LESSON OF PEDAGOGY OF A SCHOOL SUBJECT

[I YEAR]

4. The weightage of final lesson will be 100 marks. Final lesson will be conducted at the end of first academic year i.e. after the completion of 1st phase of internship.

5. During the final practical examination each candidate will have to teach one Lesson in any one of the two teaching subjects. However, he shall have to prepare lesson plan in both the teaching subjects and should be prepared to deliver lesson in both the subjects if required.

6. The Board of examiners for external examination will consist of:

d) The Principle of the college concerned.

e) One senior member of the college.

f) Two external examiners appointed by the university.

Note: - The selection of the faculty member and two examiners be such that, as for as possible, Board of Examiners represent all the three faculties-Humanities, Languages and Science

S. No.	EXTERNAL EVALUATION [I Year]	Marks
1.	Course 11- Final Lesson (Final Practical Exam)	100
	Total Marks (I Year)	**100**

Paper Code 9605

Course-26 सामान्य हिन्दी

पाठ्य पुस्तकें –

1. गद्य–वीथी : संपादक – डॉ. ओमप्रकाश शर्मा
प्रकाशक – माया प्रकाशन मंदिर, त्रिपोलिया बाजार, जयपुर
2. कथा दशक – संपादक – डॉ. परमानंद पांचाल
प्रकाशक – राजस्थान प्रकाशन, 28–29, त्रिपोलिया बाजार, जयपुर
3. हिन्दी भाषा ज्ञान – संपादक – डॉ. हरिचरण शर्मा
प्रकाशक – अनुभा प्रकाशन, शालीमार बाग, जयपुर

पाठ्य विषय – पाँच इकाइयों में विभक्त होगा।

इकाई – **I**

गद्य–वीथी पुस्तक से से संक्षेपण एवं 'कथादशक' पुस्तक से पल्लव संबंधी ज्ञान।
दोनों पुस्तकों से सामान्य तथ्यात्मक प्रश्नों का ज्ञान।

इकाई – **II**

शब्द ज्ञान
शब्द पर्याय और विलोम शब्दो ं का ज्ञान।
अनेकार्थी एवं समश्रुत शब्दो ं का ज्ञान।

इकाई – **III**

पत्र लेखन और पत्रो ं के प्रकार संबधं ी ज्ञान।
अंग्रेजी से हिन्दी अनुवाद का ज्ञान।
हिन्दी में पदनाम संबंधी ज्ञान। (अंग्रेजी से हिन्दी पदनाम)

इकाई – **IV**

मुहावरे – लोकोक्तियाँ
शब्द शुद्धि और वाक्य शुद्धि
पारिभाषिक शब्दावली
अनेक शब्दों के लिए एक शब्द।

इकाई – **V**

देवनागरी लिपि की विशषताएँ
देवनागरी लिपि एवं वर्तनी का मानक रूप
कम्प्यूटर में हिन्दी का अनुप्रयोग – एक प्रारंभिक परिचय।

PAPER CODE-9541

THIRD YEAR T.D.C., SCIENCE

(Effective from session 2016-17)

PHYSICS

Paper Code Paper & Title Hrs/week Max. Marks

3161 I: Quantum Mechanics, Atomic and Molecular Physics 2 50

3162 II: Electrodynamics, Electromagnetic Waves and Relativity 2 50

3163 III: Solid State, Nuclear and Particle Physics 2 50

3164 IV: Practical 4 75

Note:

1. Each theory question paper in the annual examination shall have three sections:

Section A shall contain one compulsory question of 5 marks having 10 parts. Two parts shall be set from each unit. The candidate is required to answer each part in one or few words**. (Total: 5 Marks)**

Section B shall contain five compulsory questions of 5 marks each with internal choice. One question with internal choice will be set from each unit. The answer may be given in approximately 250 words**. (Total 25 Marks)**

Section C shall contain four descriptive questions covering all units and candidates have to answer any two questions of ten marks each. The answer may be given in approximately 500 words. There can be two parts in a question from this section**. (Total 20 Marks)**

Paper-I: 3161, Quantum mechanics and Atomic & Molecular Physics

Unit-I

Introductory Schrodinger theory :

Rise and fall of Plank-Bohr quantum theory Duality of radiation and matter, de Broglie‟s hypothesis, justification for the relation , experimental confirmation Phase and group velocities of a wave ; formation of a wave packet, illustrations. Uncertainty principle relating to position and momentum, relating to energy and time, application complimentarity principle, photon interpretation of two slit interference,

Einstein-de-Brroglie relations as a link between particle and wave properties, general equation of wave propogation, propogation of matter waves, time dependent and time independent schrodinger equations, physical meaning of ψ, conditions to be satisfied by schrodinger equation as an operator equation. Postulatery approach to wave mechanics, operators, observable and measurements. Operators, eigen values and eigen functions; linear operators, product of two operators, commuting and non commuting operators, simulataneous eigen functions, orthogonal functions.Hermition operators, their eigen values, Hermition adjoint operators, expectation values of an operator.

Unit – II

Simple one dimensional problem ; particle in a box with rigid walls. Concept of a potential well. Wave functions and energies for the ground and excited states ; quantization of energy qualitative discussion of the solutions for a shallow potential well. Application of Operator methods ; Simple harmonic oscillator, step-up and step-down operators, eigen functions and eigen values of the ground state and excited state, zero point energy probability density and its variations with degree of excitation ; orthogonality of wave functions. Other one dimensional problems ; step potential, penetration through rectangular barrier. Transmission coefficients, barriers of special shapes, quantum mechanical tunneling, particle in of three dimensional cubical box, degeneracy.

UNIT-III

Angular momentum and spin

Central force ; orbital angular momentum, operators for its cartesian components, commutation relations, mutual as well as with L2 , operators L+ and L-, their interpretation as step operators eigen values of L2 , half integral values for quantum numbers. Angular momentum operators in spherical polar coordinates ; evaluation of their eigen functions explicitly in terms of the coordinates, their degeneracy. Schrodinger equation for hydrogen atom in spherical polar coordinates ; separations into radial and angular variation, qualitative discussion of spherical harmonics. Angular momentum and magnetic moment of electron due to orbital motion Bhor mageton.

Unit – IV

Mono valent and divalent atoms

Back ground from quantum theory : The four quantum numbers ; spectral terms arising from L-S oupling, s,p,d,f, notation, selection rules. Half life of excited states, width of a spectral line. Spectra of mono and divalent atoms : Doublet fine structures of hydrogen lines ; screening constant for monovalent atoms, series limits, doublet structure for alkali spectrum. Spectra of helium and alkaline earth atoms, singlet and triplet series. Effect of magnetic field on energy levels : Gyromagnetic ratios for orbital and spin

motions ; vector model, Lande g factor, strong and week field effects, illustrative cases of H, Na, Ca and Hg. X-ray spectra : The continuous x-ray spectrum, Duane and Hunt limit. Characteristic x-rays : Mosley‟s law, doublet fine structure, H-like character of x-ray states, x-ray absorption spectra, absorption edges.

Unit – V

Sharing of electrons : formation of molecular orbitals, H2 + ions H2 - molecule, electronic levels, singlet and triplet characters. Rotational energy levels, internuclear distance.

Vibrational energy levels, force constants, anharmonicity dissociation energy, isotope effects on rotational and vibrational energies. Raman effect (brief study).

Spectra of diatomic molecules : Pure rotation spectra ; selection rules, vibrationrotation spectra, selection rules, vibration-rotation spectra ; selection rules, P, Q and R branches.

Electronic band systems, sequences and progressions Frank-Candon principle. (Statement only, no derivation)

Recent developments in Physics including discussion of Nobel prizes in Physics (no questions to be set in the theory examination).

Text books:

1. Quantum mechanics : S.P. Singh, M.K. Bagde and Kamal Singh (S.Chand and Co
2. Quantum Mechanics by G.R. Chatwal and Anand SK, Himalaya Publishing Co.

Reference books

1. Quantum Mechanics Alistair I M Rac. ELBS (Low Drice edition)
2. Quantum mechanics , S. N. Biswas, Books and Allied, Calcutta (P) Ltd.
3. Atomic and Nuclear Physics ; A.B. Gupta, mew central book agency pvt. Ltd.

PAPER CODE-9542

PAPER-II: 3162, ELECTRODYNAMICS, ELECTROMAGNETIC WAVES

AND RELATIVITY

UNIT – I

Motion of charged particles in **E** and **B** fields: Case of cathode ray oscillograph, positive ray parabola, velocity selector, magnetic focusing, mass spectrography. Faraday‟s law for electromagnetic induction: Faraday‟s law integral and differential forms; self-inductance of a solenoid and of a straight conductor, energy stored in an inductor and in the magnetic field. Displacement current; modified Ampere‟s law,

Maxwell‟s equation for time-dependent electromagnetic field in vacuum and in material media, boundary conditions.

UNIT – II

Electromagnetic potentials: Magnetic vector potential **A** and scalar potential Φ. Poisson‟s equation for **A** in terms of current density, solutions for line surface currents. Coulomb and Lorentz gauge transformations, Lorentz law in terms of potentials.

Maxwell‟s equations and electromagnetic waves: Plane-wave solution for Maxwell‟s equation; orthogonality of **E**, **B** and propagation vector. Poynting vector; energy and momentum propagation, reflection and transmission at dielectric boundaries (normal incidence), polarization by reflection, Brewster‟s angle.

UNIT – III

Electromagnetic waves in conductors: Modified field equation; attenuation of the wave, reflection at and transmission through a conducting surface.Total internal reflection Radiation from accelerated charges: Modification(Conceptual only) of Coulomb‟s law to include velocity and acceleration dependent terms in **E** field. Radiation from an oscillating dipole and its polarization. Radial and spherical power of electromagnetic radiation, Radiation pressure equation in free space and medium

UNIT – IV

The Lorentz transformations: Galilean transformations; Newtonian relativity, instances of their failure; electromagnetism, aberration of light, Michelson-Morley experiment; Einstein‟s basic postulates and geometric derivation of Lorentz transformations; invariance of Maxwell‟s equations, length contraction, simultaneity, synchronization and time dilation, Einstein‟s velocity addition rule, Doppler effect in

light. Relativistic gravitational Red Shift

UNIT – V

Relativistic dynamics: Variation of mass with velocity, mass energy equivalence, relativistic formulae for momentum and energy.

The structure of space-time: Four vectors; invariance of an interval, time-like, spacelike

and light-like intervals, Minkowski space.

Relativistic electrodynamics: Electric field of a point charge in uniform motion; transverse components, magnetism as a relativistic phenomenon, transformation of **E** and **B** fields.

Recent developments in Physics including discussion of Nobel prizes in Physics (no questions to be set in the theory examination).

Text and Reference books:

1. D.J. Griffiths: Introduction to Electrodynamics, Prentice Hall of India, 1989.
2. Reitz and Milford: Introduction to Electrodynamics, Addison-Wesley.
3. A.M. Portis: Electromagnetic Fields
4. J.B. Marion: Classical Electromagnetic radiation (Academic Press)
5. R.P. Feynmann, R.B. Leighton and M. Sands: The Feynmann lectures in physics, Vol. II (B.I. Publications).
6. B. Saraf et al. : Physics through experiments Vol. I – EMF, constant and varying, Vikas Publishing House.
7. D.R. Corson and P. Lorrain: Introduction to Electromagnetic fields and waves, Freeman-Taraporevala, Bombay, 1970.
8. E.C. Jordan and K.G. Balmain: Electromagnetic waves and radiating systems, 2nd Ed., Prentice Hall of India, New Delhi, 1971.
9. Eletrodynamics ,Electromagetic Waves and Relativity (In Hindi) Kalra,Kakani and Bhandari

PAPER CODE-9543

Paper-III: 3163, SOLID STATE, NUCLEAR AND PARTICLE PHYSICS

UNIT – I

Crystal geometry: crystal lattice, crystal planes and Miller indices, unit cells. Typical crystal structures, coordination number, packing fraction, symmetry elements, rotation, inversion and reflection, point groups and crystal classes, space groups.

Crystallography: Bloch functions, Bloch‟s theorem, diffraction of X-rays by a crystal lattice. Laue‟s formulation of X-ray diffraction, reciprocal lattice, Brillouin zones, Laue spots, rotating crystal and Debye-Scherrer methods Introduction to nano particles, Definition, length scales, Importance of nanoscale and Technology.

UNIT – II

Types of binding in solids: covalent binding and its origin, ionic binding, energy of binding, transition between covalent and ionic binding, metallic binding, Van der Waal‟s binding, hydrogen bond.

Conduction in metals : Drude‟s theory, DC conductivity, AC conductivity, plasma frequency, thermal conductivity of metals, Fermi-Dirac distribution, thermal properties of free-electron gas, Sommerfeld‟s theory of conduction in metals.

UNIT – III

Conduction in semiconductor: Bands in solids, metals, insulators and semiconductors. Motion of free electrons on a chain of atoms, effective mass, electrons and holes, donor and acceptor impurities, donor impurity levels. Thermal excitation of carriers, electrical conductivity. Elementary ideas of Hall effect in metals and semiconductors and magnetoresistance. Charge transport in semi-conductors: Ionization energy of impurity atoms, carrier concentration in doped semiconductors at high and low temperatures, control of conductivity of semiconductors by impurities and current flow in semi-conductors.

UNIT – IV

Structure of nucleus: discovery of the nucleus, composition. Basic properties: charge, mass, size, spin, magnetic moment, electric quadrupole moment, binding energy, binding energy per nucleon and its observed variation with

mass number of the nucleus. Coulomb energy, volume energy, surface energy, other corrections, explanation of the binding energy curve. Liquid drop model of the nucleus.

Nuclear forces: two-nucleon system, deuteron problem, binding energy, nuclear potential well, results of p-p and n-p scattering experiments, meson theory of nuclear forces e.g. Bartlett, Heisenberg, Majorana forces and potentials (No derivations)

Radioactivity: decay constant and half-life, spectra of emitters, Geiger-Nuttal law, Gamow‟s explanation. Beta decay: elementary Fermi‟s theory (No derivations). Antineutrino. Nuclear radiation, energy levels.

UNIT – V

Detectors for charged particles: Ion chamber, Geiger counter, resolving time, cloud chamber.

Accelerators: Need for accelerators; cyclic accelerators, cyclotron, betatron, synchrocyclotron, variable energy cyclotron, phase stability. Brief introduction to Accelerator facilities in India.

Rutherford scattering formula, different types of nuclear reactions. Artificial radioactivity: Nuclear fission, neutron reactions, Fermi and transuranic elements, chain reaction, criticality, moderators. Brief discussion of Reactor facilities in India Discovery of cosmic rays: hard and soft components, discovery of muon, pion, heavy mesons and hyperons, mass and life time determination for muon and pion. Primary

cosmic rays: Extensive air showers, solar modulation of primary cosmic rays, effect of earth‟s magnetic field on the cosmic ray trajectories.

Elementary particles: Discovery and important properties, Standard Model Strangeness, conservation of strangeness in particle interactions, quark hypothesis, high energy electron scattering from protons, basic interactions of quarks and leptons, interrelation between particle physics and cosmology. Big Bang theory (Brief study. No derivations) Brief introduction to Larger Hadron Collider “Big Bang” experiments at CERN Recent developments in Physics including discussion of Nobel prizes in Physics (no questions to be set in the theory examination).

Text Book

1. Nuclear Physics, Brijlal & Subramannian

2. Solid State Physics, Charles Kittel

3. Solid State Physics, Nuclear Physics and Particle Physics (In Hindi) Kalra,Kakani and Mandot

Reference books:

1 D.J. Griffiths: Introduction to Electrodynamics, Prentice Hall of India, 1989.

2 Reitz and Milford: Introduction to Electrodynamics, Addison-Wesley.

3 A.M. Portis: Electromagnetic Fields

4 J.B. Marion: Classical Electromagnetic radiation (Academic Press)

5 R.P. Feynmann, R.B. Leighton and M. Sands: The Feynmann lectures in physics, Vol. II (B.I. Publications).

6 B. Saraf et al. : Physics through experiments Vol. I – EMF, constant and varying, Vikas Publishing House.

7 D.R. Corson and P. Lorrain: Introduction to Electromagnetic fields and waves, Freeman-Taraporevala, Bombay, 1970.

8 E.C. Jordan and K.G. Balmain: Electromagnetic waves and radiating systems, 2nd Ed., Prentice Hall of India, New Delhi, 1971.

PAPER CODE-9545

THIRD YEAR B.Sc CHEMISTRY 2018-19
Effective from session 2016-17

The examination shall consist of three theory papers and one practical.

Paper & Course	Hrs/Week	M. Marks
Paper - I Inorganic Chemistry	2	50
Paper - II Organic Chemistry	2	50
Paper - III Physical Chemistry	2	50
Practical	4	50

PAPER I : INORGANIC CHEMISTRY

UNIT I

Hard and **Soft Acids** and **Bases (HSAB)** : Classification of acids and bases as hard and soft. Pearson's HSAB concept, acid-base strength and hardness and softness. Symbiosis, theoretical basis of hardness and softness, electro-negativity and hardness and softness.

Metal-Ligand Bonding in Transition Metal Complexes : Limitation of valence bond theory, an elementary idea of crystal field theory, crystal field splitting in octahedral, tetrahedral and square planar complexes, factors affecting the crystal-field parameters, John- Teller effect.

UNIT II

Magnetic Properties of Transition Metal Complex : Types of magnetic behaviour, methods of determining magnetic susceptibility, spin-only formula. L-S coupling, correlation of m and meff values, orbital contribution to magnetic moments, application of magnetic moment data for 3d- metal complexes.

Electronic Spectra of Transition Metal Complexes : Types of electronic transitions, selection rule for d-d transitions, spectroscopic ground states, spectro-chemical series. Orgel-energy level diagram for d' and d^9 states, discussion of the electronic spectrum of $[Ti(H_2O)_3]^3$ complex ion.

UNIT III

Bioinorganic Chemistry : Essential and trace elements in biological processes, metallo-porphyrins with special reference to haemoglobin and myoglobin. Biological role of alkali and alkaline earth metal ions with special reference to Ca^{2+}.

Electro analytical Methods : EMF measurements, pH,- determination using hydrogen, glass, quinhydrone, antimony and calomel electrodes, potentiometric titrations.

Volumetric Estimation : Theory of oxidation - reduction titrations. Theory of complexometric titrations.

UNIT IV

Organometallic Chemistry - Definition, nomenclature and classification of organometallic compounds. Preparation, properties, bonding and applications of alkyl and aryl of Li, Al, Hg, Sn and Ti, a brief account of metal

- ethylenic complexes and homogeneous hydrogenation, mononuclear carbonyls and the nature of bonding in metal carbonyls.

Thermodynamic and Kinetic Aspects of Metal Complexes - A brief outline of thermodynamic stability of metal complexes and factors affecting the, stability, Substitution reactions of square planar complexes.

UNIT V

Molecular Symmetry and Group Theory : Symmetry elements, molecular point groups, group theory and basic properties, similarity transformation and classes, orthogonality theorem, multiplication tables and characters tables of C_{2v} and C_{2v} groups.

Mathematical Techniques : Least square treatment applied to linear equation y = my + c, correlation coefficient, S_m and S_c.

Recent Developments in Inorganic Chemistry: Question will not be asked from the recent development section.

BOOKS RECOMMENDED

1. Group theory and its chemical applications : P.K. Bhattacharya.
2. Inorganic chemistry : J.E. Huyee, Principles of Structure and Reactivity, 3rd Ed.
3. Selected topics in inorganic chemistry : W.U. Malik, G.D. Tuli and R. Madan.
4. Principles of Inorganic Chemistry : D. Banerjee.
5. Modern Aspect of Inorganic Chemistry : H.J. Emeleus and A.G. Sharpe.
6. Inorganic Chemistry (Hindi ed.) : Ameta, Sharma and Metha.

PAPER CODE-9546

PAPER II : ORGANIC CHEMISTRY

UNIT I

Electromagnetic Spectrum : Absorption Spectra : Ultraviolet (UV) absorption spectro-scopy- absorption laws (Beer-Lambert Law), molar absorptivity, presentation and analysis of UV spectra, types of electronic transition, effect of conjugation. Concept of chromophore and auxochrome. Bathochromic, hypsochromic, hyperchrornic and hypochromic shifts. UV spectra of conjugated enes and enones.

Infrared (IR) absorption spectroscopy- molecular vibrations, Hooke's, selection rules, intensity and position of JR bands, measurement of JR spectrum, fingerprint region, characteristic absorptions of various functional groups and interpretation of JR spectra of simple organic compounds.

Nuclear Magnetic Resonance (NMR) spectroscopy : Proton Magnetic Resonance (PMR) spectroscopy, nuclear shielding and desheilding, chemical shift and molecular structure, spin- spin splitting and coupling constants, areas of signals, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, ethanol, acetalclehyde, 1, 1,2 - tribromoethane, ethyl acetate, toluene and acetophenone.

Problem pertaining to the structure elucidation of simple organic compounds using UV, JR and PMR spectroscopic techniques.

UNIT II

Heterocyclic compounds : Introduction, molecular orbital picture and aromatic characteristics of pyrrole, furane, thiophene and pyridine, method of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives, comparision of basicity of pyridine, piperidine and pyrrole.

Introduction to condensed five and six membered heterocycles, preparation and reactions of indole, quinoline and isoquinoline with special reference to Fischer Indole synthesis, Skraup's synthesis and Bischler - Napieralski synthesis. Mechanism of electrophilic substituion reactions of indole, quinoline and isoquinoline.

Photochemistry: Principles: electronic excitation, excited states, modes of dissipation of energy , energy transfer and quantum efficiency, photoreduction and photochemistry of butadienes

UNIT III

Organic synthesis via Enolates - Acidity of alpha hydrogen, alkylation of diethylmalonate and ethylacetoacetate, synthesis of ethyl acetoacetate, Claisen condensation. Keto - Enol tautomensm of ethyl acetoacetate, alkylation of 1,3- dithianes, alkylation and acylation of enamines.
Carbohydrates - Classification and nomenclature, monosaccharides, mechanism of osazone formation, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses, configuration of glucose and fructose, erythro and threo diastereomers. Conversion of glucose into mannose, formation of glycosides, ether and esters. Determination of ring size of glucose and fructose, Cyclic structure of D (+) - glucose. Mechanism of mutarotation.

An introduction to disaccharide (maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.

UNIT IV

Amino Acids, Peptides, Proteins and **Nucleic Acids** - Classification, structure and stereochemistry of amino acids, acid-base behavior, isoelectric point and electrophoresis. Preparation and reactions of a-amino acids.
Structure and nomenclature of peptides and proteins, classification of proteins, peptide structure determination, and group analysis, selective hydrolysis of peptides. Classical peptide synthesis, solid-phase peptide synthesis. Structures of peptide and proteins. Levels of protein structure. Protein denaturation! renaturation.
Nucleic acids: Introduction, constituents of nucleic acids. Ribonucleosides and ribonucleotides. The double helical structure of DNA.
Fats, Oils and **Detergents** - Natural Fats, edible and industrial oils of vegetable origin, common fatty acids, glycerides, hydrogenation of unsaturated oils, saponification value, iodine value, acid value, soaps synthetic detergents, alkyl and aryl suiphonates.

UNIT V

Synthetic Polymers - Addition or chain - growth polymerization, free radical vinyl polymerization, ionic - vinyl polymerizations Ziegler-Natta polymerization and vinyl polymers. Condensation or step-growth polymerization, polyesters, polyamides, phenol formaldehyde resins, urea-formaldehyde resins, epoxy resins and polyurethanes. natural and synthetic rubbers.

Synthetic **Dyes** - Colour and constitution (electronic concept), classification of dyes. Chemistry and synthesis of methyl orange, Congo red, Malachite green, Crystal violet, Phenolphthalein, Fluorescein, Alizarin and Indigo.

Recent Developments in Organic Chemistry: Question will not be asked from the recent development section.

BOOKS RECOMMENDED

1. Organic Chemistry, Vol. I and II, S.M. Mukherji, S.P. Singh and R.P. Kapoor, Wiley Eastern Ltd.
2. A Text Book of Organic Chemistry, Vol. I and II, K.S. Tewari, S.N. Mehrortra and N.K. Vishnoi.
3. Organic Chemistry, M.K. Jain and S. Sharma.
4. A Text Book of Organic Chemistry, Vol. I and II, O.P. Agarwal.
5. A Text Book of Organic Chemistry, Raj. K. Bansal.
6. Organic Chemistry, Vol. I and II, I.L. Finar.
7. Organic Reaction and their Mechanisms, P.S. Kalsi.
8. Introduction of Petrochemicals, Sukumar Maiti.
9. Organic Chemistry (Hindi Ed.) Suresh Ameta, Punjabi and Sharma.
10. Organic Chemistry, Morrison and Boyd, Prentice Hall.
11. Fundamentals of Organic Chemistry, Solomons, John Wiley.
12. Organic Chemistry, P.L. Soni.
13. A Text Book of Organic Chemistry, V.K. Ahluwalia and Maduri Goyal, Narosa Publishing House Pvt. Ltd.

PAPER CODE-9547

PAPER III : PHYSICAL CHEMISTRY

Time : 3 Hrs. **M.M. 50**

UNIT I

Elementary Quantum Mechanics : Black-body radiation, Planck's radiation law, photo-electric effect, heat capacity of solids, Bohr's model of hydrogen atom (no derivation) and its defects, Compton effect. Sinusodial wave equation, Hamiltonian operator, Schrodinger wave equation and its importance, physical interpretation of the wave function, postulates of quantum mechanics, particle in one-dimensional box.

Schrodinger wave equation for H-atom, separation into three equations (without derivation), quantum numbers and their importance hydrogen like wave functions, radial wave functions, angular wave function.

Molecular orbital theory, basic ideas- criteria for forming M. 0. from A. 0., construction of M. 0's by LCAO- H_2 ion, calculation of energy levels from wave functions, physical picture of bonding and antibonding wave functions, concept of s, s, p p4' orbitals and their characteristics. Hybrid orbitals- sp, sp^2, sp^3, calculation of coefficients of A.O's used in these hybrid orbitals.

Introduction to valence bond model of H_2, M.O. and V. B. models.

UNIT II

Spectroscopy - Introduction: electromagnetic radiation, regions of the spectrum basic features of different spectrometers statement of the Born- Oppenheimer approximation degrees of freedom.

Rotational Spectrum - Diatomic molecules. energy levels of a rigid rotator (semi- classical principles) selection rules, spectral intensity, distribution using population distribution (Maxwell - Boltzmann distribution) determination of bond length, qualitative description of non-rigid rotor, isotope effect.

Vibrational Spectrum - Infrared spectrum, energy level of simple harmonic oscillator, selection rules, pure vibrational spectrums intensity, determination of force constant and qualitative relation of force constant and bond energies, effect of anharmonic motion and isotope on the spectrum, idea of vibrational frequencies of different functional groups.
Raman spectrum: Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules.

Electronic Spectrum - Concept of potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules and Franck Condon principle. Qualitative description of s, p and n M.O., their energy levels and the respective transitions.

UNIT III

Photochemistry - Interaction of radiation with matter, difference between thermal and photochemical processes, laws of photochemistry, Grotthus - Drapper law, Stark - Einstein law, Jablonski diagram depicting various processes occurring in the excited state, qualitative description of fluorescence, phosphorescence non-radiative process (internal conversion, intersystem crossing), high and low quantum yields, photosensitization photochemical equilibrium, photoionization photodimerisation of anthracene, photoinhibition. chemical actinometry.

Solutions, Dilute Solutions and **Colligative Properties :** Ideal and non-ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient. Dilute solution: colligative properties. Raoult's law, relative lowering of vapour pressure, molecular weight determination, Osmosis, law of osmotic pressure and its measurement.

Determination of molecular weight from osmotic pressure, elevation of boiling point and depression of freezing point, thermodynamic derivation of relation between molecular weight and elevation in boiling point and

depression in freezing point, experimental methods for determining various colligative properties, abnormal molar mass, degree of dissociation and association of solute, Vant-Hoff factor.

UNIT IV

Ionic Conductance - Electrical transport, conduction in metal and electrolytes, solutions, specific conductance, equivalent conductance and molecular conductance, effect of dilution on conductance, migration of ions, Kohlraush's law and its applications, transport numbers and its determination by Hittorfs method and moving boundary methods, ionic mobility, application of conductivity measurement, conductometric titrations.

UNIT V

Chemical Kinetics and Catalysis - Rate of reaction, factors influencing the rate of reaction, concentration, temperature, pressure, solvent, light and catalysis, order of a reaction, zero-order, first order and second order reaction, half life and mean life, conductometric, potentiometric, polarimeteric and spectrophotometric methods of determination of order of reactions, method of integration, half life method and isolation method, experimental methods of kinetics, elementary idea about opposing, parallel, consecutive and chain reaction, effect of temperature on reaction rates. Arrhenius equation, concept of activation energy and its measurement, simple collision's theory (hard sphere model), transition state theory (equffibnum hypothesis) limitation's.

Theory of unimolecular reactions, catalysis, theory and mechanism, classification of catalysis, enzyme catalysis and its mechanism.

Recent Developments in Physical Chemistry: Question will not be asked from the recent development section.

BOOKS RECOMMENDED

1. Principles of Physical Chemistry : B.R. Puri and L.R. Sharma.
2. A Text Book of Physical Chemistry : A.S. Negi and S.C. Anand.
3. A Text Book of Physical Chemistry : Kundu and Jain.
4. Physical Chemistry (Hindi Ed.) : Suresh Ameta, R.C. Khandelwal, R. Ameta and J. Vardia, Himanshu Pub.

PAPER CODE-9548

THIRD YEAR CHEMISTRY PRACTICALS 2018-19

Time : 5 Hrs (One day) **M.M. 50**

Distribution of Marks

	Exercises	Marks
1.	Synthesis of Inorganic complex and organic compound	10
2.	Analysis by Colorimetry/Solvent extraction/Ion exchange method	7
3.	Qualitative analysis : Organic mixture analysis	7
4.	One Physical experiment	10
5.	Vice-voce	8
6	Records	8
	Total	50 marks

LIST OF EXPERIMENTS

1. **Synthesis of Inorganic complexes and organic compounds**

Any one of the following preparation may be asked in the examination keeping in view that not more than five students are given the same preparation in a batch of 20 students and nature of preparation should be equally distributed both from the organic and inorganic list.

Inorganic Complexes

(a) Preparation of sodium trisoxalato ferrate (III)

(b) Preparation of Ni-DMG complex.
(c) Preparation of cis-and trans-bisoxalato diaquo chromate (III) ion.
(d) Cuprous chloride
(e) Sodium thiosulphate
(f) Ferrous sulphate from Kipp's waste
(g) Mercury tetrathiocyanate

Organic Synthesis

(a) Acetylation of salicylic acid, aniline, glucose and hydroquinone, benzoylation of aniline and phenol.
(b) Aliphatic electrophilic substitution : Preparation of iodoform from ethanol and acetone.
(c) Aromatic electrophillic substituion ;
Nitration -
Preparation of m-dinitrobenzene from nitrobenzene.
Preparation of p-nitroacetanilide from acetanilide.
Halogenation -
Preparation of p-bromoaccetanilide from acetanilide.
Preparation of 2,4,6-tribromophenol from phenol.
(d) Diazotization/coupling - Preparation of methyl orange and methyl red.
(e) Oxidation : Preparation of benzoic acid from toluene
(f) Reduction : Preparation of aniline from nitrobenezene.
Preparation of m-nitroaniline from m-dinitrobenzene.

2. (i) **Analysis by Colorimetry**
(a) Job's method (b) Mole - ratio method
Adulteration - Food stiffs
Effluent analysis, water analysis
(ii) **Solvent Extraction :** Separation and estimation of Mg (II) and Fe (II).
(iii) **Ion Exchange** : Separation and estimation of Mg (II) and Zn (II).

3. **Qualitative Analysis** : Analysis of an organic mixture containing two solid components separable by water, dil. NaHCO3 and dil. NaOH.

4. **Physical Chemistry Experiment** : Any one of the experiments may be given in the examination.

Chemical Kinetics

Study the kinetics of the following reactions.

Initial rate method: Iodide-persulphate reaction

Integrated rate method:

a. Acid hydrolysis of methyl acetate with hydrochloric acid.

b. Saponification of ethyl acetate.

c. Compare the strengths of HCl and H_2SO_4 by studying kinetics of hydrolysis of methyl acetate

Conductometry

(i) To determine the strength of the given acid conductometrically using standard alkali solution.
(ii) To determine the solubility and solubility products of a sparingly soluble electrolyte conductometrically.
(iii) To study the saponification of ethyl acetate conductometrically.
(iv) To determine the ionization constant of a weak acid conductometrically.

Potentiometry

(i) To titrate potentiometrically the given ferrous ammonium sulphate solution using $KMnO_4/K_2Cr_2O_7$ as titrate and calculate the redox potential of Fe^{3+}/Fe^{3+} system on the hydrogen scale.

(ii) To determine the strength of a given solution of HCl/CH_3COOH by titrating with standard NaOH solution potentiometrically/pH metrically.

Refractometry, Polarimetry

(i) To verify law of refraction of mixtures (e.g. of glycerol and water) using Abbe's refractometer.

(ii) To determine the specific rotation of a given optically active compound.

Colourimetry

(i) To verify Beer - Lambert law for $KMnO_4/K_2Cr_2O_7$ and determine the concentration of the given solution of the substances.

(ii) Estimation of iron colorimetrically.

(iii) Estimation of phosphate colorimetrically.

Virtual Experiments: (any two)

1. Preparation of inorganic/ organic compounds.
2. Kinetic study of acid/base catalyzed hydrolysis of esters.
3. Mechanochemical solvent free reactions.
4. Determination of optical rotation by Polarimetry.\
5. Instrumentation Techniques in spectroscopy (UV, IR, NMR etc)
6. Water Softening
7. Demineralized water
8. Any other virtual experiment related to the content of syllabus and availability of the experimental facilities.

BOOKS RECOMMENDED

1. Practical Chemistry - Giri, Bajpai and Pandey, S. Chand & Co. Ltd., New Delhi.
2. Laboratory Manual in Organic Chemistry, R.K. Bansal, Willey Eastern.
3. Experimental Organic Chemistry, Vol. I and II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
4. Experiments in Physical Chemistry - J.C. Ghose, Bharti Bhawan.
5. Experiments in General Chemistry, N.r. Rado and U.C. Agarwal, Eastern Press.
6. Practical Chemistry - Suresh Ameta and P.b. Punjabi, Himanshu Publication.

THIRD YEAR T. D.C.SCIENCE, 2018-19

ZOOLOGY

The third year TDC examination shall consist of three theory papers, each of three hours duration and a practical examination of five hours duration.

	Marks
Paper-I: Animal Physiology, Biochemistry and Immunology	**50**
Paper-II : Ecology and Biostatistics	**50**
Paper-III : Ethology and Evolution	**50**
Practical :	**50**

Pattern of question paper in the annual examination and distribution of marks:

Each theory paper in the annual examination shall have three sections i.e. A,B, and C. In section A, total 10 questions will be set in the paper, selecting at least two from each unit. These questions to be answered in a word or so. All questions are compulsory. Each question carries 0.5 mark, total 05 marks.

In section B, there shall be total 10 questions, selecting two questions from each unit, five questions to be answered by the student selecting at least one from each unit. Answer should be given in approximately 250 words. Each question carries 05 marks, total 25 marks.

In section C, 04 descriptive type questions will be set in the examination paper from five units of the syllabus of the paper, selecting not more than one question from a unit. Each question may have two sub divisions. Students are required to answer any two questions approximately in 500 words. Each question is of 10 marks, total 20 marks.

THIRD YEAR TDC SCIENCE- 2018-19

ZOOLOGY

PAPER-I : ANIMAL PHYSIOLOGY, BIOCHEMISTRY AND IMMUNOLOGY

Duration : 3 hours **M.M.: 50**

UNIT-I

1 Histology and function of the gastro-intestinal tract, liver, pancreas, lungs, kidney, testis and ovary.

2 Histology, functions and disorders of endocrine glands – pituitary, pancreas, adrenal, thyroid and parathyroid.

3 Digestion and absorption of food in alimentary canal.

UNIT-II

4 Metabolism of carbohydrates: Glycolysis, decarboxylation of pyruvic acid, Krebs cycle, electron transport system and oxidative phosphorylation; glycogenesis and glycogenolysis.

5 Metabolosm of proteins: Essential and non-essential amino acids, metabolism of amino acids, biosynthesis of glutamic acid..

6 Metabolism of lipids : Biosynthesis of saturated fatty acids and B-oxidative pathways of fatty acid,; formatio9n of ketone bodies..

UNIT-III

7 Respiration: Mechanism of respiration, vital capacity of lungs, transport of gases, dissociation curve of oxyhaemoglobin and control of respiration, chloride shift.

8 Blood: structure and functions of blood cells, ABO blood troups and Rh factor, mechanism of blood clotting.

9 Ultrastructure of cardiac and skeletal muscles. Physiology of muscle contraction.

UNIT-IV

10 Excretion : Structure and function of nephron, control of renal function.

11 Nerve physiology: Ultrastructure of neuron, synapse, conduction of nerve impulse and neuromuscular junctions.

12 Reproductive physiology: Hormonal control of testicular and ovarian functions with reference to estrous and mentstrual cycles.

UNIT-V

13 Immunology: Definition, types of immunity: innate and acquired, humoral and cell-mediated.

14 Cell of immunity: macrophages, lympho9cytes (B and T types), T-helper cells, T-killer cells, plasma cells and memory cells.

15 Antibody : definition structure and functions of each class of immunoglobulins.

16 Antigen: antigenecity of molecules, haptens. Antigen – antibody reactions, precipitation reaction, agglutination reaction, neutralizing reaction, complementary and lytic reactions and phagocytosis.

PAPER CODE-9550

THIRD YEAR TDC SCIENCE- 2018-19

ZOOLOGY

PAPER-II : ECOLOGY AND BIOSTATISTICS

Duration : 3 hours **M.M.: 50**

UNIT-I

1 Terminology and scope of Ecology.

2 Habitat and niche

3 Ecosystem: Components of ecosystem, energy flow and nutrient cycles, food chain, food web and ecological pyramids.

4 General idea of population and community ecology

UNIT-II

5 Freshwater environment: Physico-chemical features and biotic communities, productivity and eutrophication.

6 Marine environment: Characteristics, zonation, fauna and their adaptation, deep sea and estuarine fauna.

7 Terrestrial environment: General characteristics of desert, grass land and forest ecosystems.

UNIT-III

8 Environmental pollution: Biodegradable and non-biodegradable pollutants.

9 Air pollution: Source, nature, prevention and control, green house effect, ozone depletion and global warming.

10 Water pollution: Source, nature and abatement.

11 General account of noise pollution and radioactive pollution.

UNIT-IV

12 Conservation of natural resources: Wild life management, brief idea of national parks and wild life sanctuaries of India. Threatened and endangered species of India.

13 Environmental planning and environmental impact assessment.

14 Brief account of environmental Acts and Legislations (enacted after 1970).

UNIT-V

15 Concepts and applications of Biostatistics.

16 Frequency distribution, graphical presentation, mean, mode, median, standard deviation and standard error.

17 Correlation, T-test, Chi-square test.

18 Shanon and Weinner diversity index.

PAPER CODE-9551

THIRD YEAR TDC SCIENCE- 2018-19

ZOOLOGY

PAPER-III : ETHOLOGY AND EVOLUTION

Duration : 3 hours **M.M. : 50**

UNIT-I

1 Introduction and history of Ethology.

2 Methods of studying behaviour.

3 Neuroanatomical, neurophysiological, neurochemical, focal and scan sampling techniques.

4 Evolutionary approach to behaviour, levels of natural selection.

5 Human Ethology, general aspects.

6 Orientation taxes and kinesis.

7 Brief idea of learning.

UNIT-II

8 Social organization with reference to dominance, hierarchy, social competition and territoriality.

9 Reproductive behaviour with reference to courtship, mating, parental investment and stickle back fish (sexual dimorphism).

10 Elementary idea of role of pheromones and hormones in insects and vertebrates in relation to behaviour.

11 Adaptation and behaviour of Tiger.

UNIT-III

12 Origin of life

13 History of evolutionary thought Lamarckism and Neo-Lamarckism

14 Darwinism and Neo-Darwinism

15 Evidences of organic evolution.

16 Concept of micro and mega -evolution

UNIT-IV

17 Variation: Kinds and sources, role in evolution.

18 Isolation and speciation, definition, isolating mechanism, origin of species and processes of speciation.

19 Adaptation: Definition, kinds of adaptations, adaptive radiation, convergence and divergence.

20 Geological time scale

UNIT-V

21 Brief account of Zoogeographical regions of world

22 Fossils and their evolutionary significance.

23 Phylogeny of horse.

24 Evolution of man.

PAPER CODE-9552

THIRD YEAR TDC SCIENCE, 2018-19

ZOOLOGY - PRACTICAL

Duration : 5 Hrs. **M.M. :50**

S.No	**Exercise**	
1	Dissection	10
2	Ecology/ Ethology exercise	05
3	Physiological and Biochemical exercise	04
4	Spots (1-10)	15
5	Viva-voce	8
6	Record	8
	Total :-	**50**

Major Dissection marks will be given only if virtual dissection is available otherwise marks may be given according to availability of dissection alternate.

ETHOLOGY AND EVOLUTION.

1 Habituation in earthworm/mosquito larvae.

2 Feeding behaviour of housefly/stored product pest.

3 Antennal grooming behaviour of cockroach.

4 Trial and error and latent learning in rat /mice.

5 Phototaxis and chemotactic behaviour in *Paramecium*.

6 Visit to a zoo/natural habitat of wild animals.

7 Demonstration of social behaviour by honey bee colony.

8 Adaptive modifications in the feet of birds.

9 Adaptive modification in the beak of birds.

10 Adaptive modification in the mouth parts of insects.

11 To study nests and nesting habits of the birds and social insects.

12 To study the phototaxis behavior in insect larvae.

13 Study of circadian functions in animals (daily eating, sleep and temperature patterns)

BIOCHEMICAL, PHYSIOLOGICAL AND ECOLOGICAL EXERCISES

1 Various biochemical tests of

(a) Proteins

(b) Carbohydrates

(c) Lipids

2 Action of salivary amylase.

3 RBC and WBC counts.

4 Estimation of Haemoglobin.

5 Blood groups (ABO and Rh).

6 Measurement of blood-pressure.

7 Abnormal and normal values of constituents of urine.

8 Water analysis: pH, alkalinity, dissolved oxygen, chloride and transparency.

9 Soil analysis: texture, moisture, organic and inorganic contents.

DISSECTIONS:

- **Digital animals:** Virtual dissection will be done (if facility of virtual is made available by University).
- Virtual dissection of Scoliodon cranial nerves and brain

MUSEUM SPECIMENS/ SLIDES SHOWING ADAPTATIONS :

Students are required to write about specific adaptations of following animals in relation to habit and habitat only:

Cursorial : *Acinonyx jubatus*, *Equus caballus*, *Moschus moschiferous.*

Flight : *Columba livia, Pteropus*, *Draco*, *Exocoetus*, *Papilio.*

Arboreal : *Chamaeleon, Hyla, Preshytis.*

Aquatic : *Physalia, Chiton, Hydrophis, Labeo Anguilla, Notopterus*

Fossorial : *Pheretima*, *Teredo*, *Chaetopterus, Talpa*, *Lepus*, *Ichthyophis, Naja.*

Parasitic : *Taenia, Fasciola, Enterobius, Ascaris, Schistosoma, Hirudinaria*, *Pediculus*, *Ixodes.*

- The teacher concerned will provide e-materials to practical in the form of video or demonstrations or written materials including dissections.

REFERENCE BOOKS (LATEST EDITIONS):

ANIMAL PHYSIOLOGY :

1 William S. Hoar, General and Comparative Physiology, Prentice Hall of India Pvt. Ltd.

2 Wood, D.W., Principles of Animal Physiology.

3 Prosser CL., Comparative Animal Physiology, Satish Book Enterprise.

4 Eckert, Animal Physiology. (W.H. Freeman).

5 Ganong : Review of Medical Physiology (Lange).

BIOCHEMISTRY :

6 Stryer, L : Biochemistry (Freeman)

7 Conn et al : Outlines of Biochemistry (Wiley)

8 R.K.Murray et al, Harpers Biochemistry, Lang Medical Book.

IMMUNOLOGY

9 Roitt I : Essential Immunology (ELBS)

10 Kuby : Immunology (W.H. Freeman).

ECOLOGY

11 Odum : Ecology (Amerind).

12 Odum : Fundamentals of Ecology (Saunders).

13 Ricklefy : Ecology (W.H.Freeman).

BIOSTATISTICS :

14 Green, R.H.Sampling design and statistical methods for environmental biologists. John Wiley and Sons New York.

15 Snedecor, G.W. and W.G. Cochran. Statistical methods. Affilited East-West Press, New Delhi (Indian Ed.)

16 P.N.Arora and P.K.Malhan, Biostastics, Himalaya Publishing House, Bombay.

ETHOLOGY

17 Drickamer & Vessey: Animal Behaviour, Concepts, Processes and Methods (Wadsworth).

18 Grier : Biology of Animal Behaviour (Mosby College)

19 Immelmann : Introduction to Ethology (Plenum Press)

20 Lorenz : The Foundation of Ethology (Springer-Verlag)

21 Manning : An Introduction to Animal Behaviour (Addison-Wesley)

22 Reena Mathur : Animal Behaviour, Rastogi Publications, Merrut.

EVOLUTION :

23 Dobzhansky, Ayala, Stebbins & Valentine : Evolution (WH Freeman)

24 Dobzhansky : Genetics and Origin of species (Columbia University Press)

25 Major : Population, Species and Evolution

26 White : Animal Cytology and Evolution.

27 Moody : Introduction to Evolution

28 Savage : Evolution (Holt, Reinhart and Winston).

PRACTICAL :

29 Verma, PS, A manual of practical Zoology Vertebrates S.Chand and Co. Ltd., Ram Nagar, New Delhi(English and Hindi Editions).

30 Lal, SS : Practical Zoology Vertebrates, Rastogi Publication, Meerut (English and Hindi Editions).

31 Verma PS & Srivastava PC, Advanced Practical Zoology, S.Chand & Co.

PAPER CODE-9553

THIRD YEAR B.Sc. Botany Effective from session 2016-17

PAPER I: Paper Code…….

ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

Unit-1

Definition, scope and aims of ecological studies, relation with other sciences; factors affecting plant growth and distribution - climatic, edaphic, biotic and topographic. **-10 hours**

Unit-2

Plant population - natality, mortality, age and sex ratio, growth rate, biotic potential. Plant Community - concept and characters (qualitative and quantitative characters); Plant succession - xerosere, hydrosere. Ecosystem concept - structure and function : food chain, food web, trophic levels, ecological pyramids, energy flow and biogeochemical cycles. **-10 hours**

Unit-3

Pollution : air, water, land, noise and their control. Conservation and management of natural resources, endangered plants and their conservation; biosphere reserves, National Parks and sancturies; Chipko movement.

-10 hours

Unit-4

Biodiversity and its Conservation; Hotspots in India. Morphological, Anatomical and Physiological adaptations of hydrophytes, xerophytes and halophytes; natural vegetation of Rajasthan. Plant indicators. **-10 hours**

Unit-5

Phytogeography - definition, aims, objectives, scope and relation with other disciplines; phytogeographical regions of world and India; continuous and discontinuous distributions, endemism, continental drift theory, land bridges, age and area hypothesis, migration.

-10 hours

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks. In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A**: 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks **: 05**
- **Section B**: 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

THIRD YEAR B.Sc. Botany Effective from session 2016-17

PAPER II: Paper Code…….

PLANT PHYSIOLOGY AND BIOCHEMISTRY

Unit-1

Different models of cell membrane to explain structure and function; water relations – osmosis, diffusion, diffusion pressure deficit (DPD), turgor pressure, wall pressure; concept of water potential. Mechanism and factors affecting transpiration, role of macro and micro elements, carrier concept of ion absorption. **-10 hours**

Unit-2

Photosynthesis - photosynthetic pigments; light absorption and mechanism of carbon fixation, C3 and C4 plants. Brief account of CAM, photorespiration, CO2 compensation point. Factors affecting photosynthesis. Enzymes : general characteristics, traditional and modern methods od enzyme classification, mode of action. Isozymes. **-10 hours**

Unit-3

Respiration - glycolysis, Krebs cycle, electron transport system and oxidative phosphorylation, factors affecting respiration. Synthesis and degradation of fatty acids. **-10 hours**

Unit-4

Plant Growth Regulators : auxins, gibberellins, cytokinins, ethylene and abscisic acid, their physiological effects and application in agriculture and horticulture; Seed dormancy, senescence, photoperiodism and vernalization. **-10 hours**

Unit-5

Principles and use of following techniques : pH metry, centrifugation, colorimetry, chromatography. Microscopy: light and compound; scanning electron microscopy. **-10 hours**

Note: The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks. In short, pattern of question paper and distribution of marks for UG classes will be as under:

 Section A: 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks **: 05**

 Section B: 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**

 Section C: 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9555

THIRD YEAR B.Sc. Botany Effective from session 2016-17

PAPER III: Paper Code…….

MOLECULAR BIOLOGY AND BIOTECHNOLOGY

Unit-1

Bacterial genome. Methods of genetic recombination in bacteria (Transformation, Transduction and Conjugation). Principles of recombinant DNA technology. Basic tools and techniques. *Neurospora* genetics. Molecular aspects of biological nitrogen fixation. **-10 hours**

Unit-2

Structure, chemistry and types of nucleic acids. Replication of DNA. Central dogma, transcription and translation, genetic code. Gene regulation - operon model, twocomponent regulatory system. **-10 hours**

Unit-3

History of plant tissue culture, contribution made by Haberlandt, White, Nobecourt, Gautheret, Steward, Reinert, Morel and Vasil. Highlights of work done by Indian Scientists. Basic tools and techniques of plant tissue culture, maintenance of aseptic conditions, Laminar Air Flow Bench, Autoclave, Growth Chamber, methods of sterilization, culture media and their preparation. **-10 hours**

Unit-4

Explant types, initiation of cultures, maintenance of cultures, callus and liquid suspension culture, single cell culture, protoplast isolation, purification, culture and regeneration. Regeneration *in vitro* through organogenesis, somatic embryogenesis, androgenesis and haploid production. **-10 hours**

Unit-5

Methods of gene transfer in plants - microinjection, electroporation, particle - gun technology, *Agrobacterium*-mediated gene transfer. Plant tissue culture in Industry. Secondary plant products with special reference to alkaloids. Prospects of drug production in cell cultures and Bioreactor. **-10 hours**

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B,** 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to

attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A**: 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks **: 05**
- **Section B**: 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

PAPER CODE-9557

THIRD YEAR B.Sc. MATHEMATICS 2017-18

PAPER – I

REAL ANALYSIS

Duration: 3 Hours **Max. Marks: 50**

UNIT - I

Real number system:

(i) Field, ordered field, upper and lower bounds of a set in an ordered field. Superemum and infimum of a set and their properties. Completeness, Archimedean and denseness properties of an ordered field, the set Q of rational numbers as a non-complete dense. Archimedean ordered field and the set R of real numbers as a complete dense Archimedean ordered field,

(ii) Open interval, closed interval, neighbourhood of a number. Real line R-Interior points and limit points of a set in R, open sets and closed sets in R and their properties, Nested Interval property. Bolzano-Weierstrass theorem, Heine Boral theorem, Compact set and connected set and their properties.

UNIT - II

(i) Sequence, Bounded sequence, monotonic sequence, limit of a sequence, convergent sequence, properties of convergent sequence, Cauchy first and second theorems on limits, subsequence and it's properties, Cauchy sequence and it's properties, Cauchy general principle of convergence, Examples of convergent sequences.

(ii) Series: Convergence and divergence of an Infinite series of real numbers, the necessary and sufficient conditions, various tests of convergence problems and their illustrations with regard to infinite series of positive terms. Series: Alternating series and Leibnitz test, absolute and semi (or conditional) convergence.

UNIT-III

Riemann Integration: Upper and Lower Darboux sum, Upper and Lower Riemann integrals, Riemann integrability of a bounded function in a closed interval, the necessary and sufficient condition for R integrability in terms of Darboux sums, properties of R-integrable functions, Fundamental theorem of integral Calculus.

UNIT - IV

(i) Uniform convergence of sequences and series of functions, various tests including M_n-test and Weirstrass M-test, relations of uniform convergence with the continuity of the limit and the sum functions and also with term by term differentiation and term by term integration.

(ii) Fourier series representation of periodic functions which are even, odd and none of these in the full interval or half the interval.

UNIT - V

(i) Convergence of improper integrals - various tests and their applications, Evaluation of such integrals.

(ii) Equivalent sets and their examples, nature of the relations of equivalence. Denumerable and non numerable sets, countable and uncountable sets, Nature of subsets of a countable set and that of a denumerable (countable) sets, union of denumerable (countable) sets, Denumerability of the sets of integers and rational numbers and non denumerability of the closed unit interval [0, 1] and the sets of real numbers and irrational numbers.

References:

1. T. M. Apostol : Mathematical Analysis.
2. R. R. Goldbeg : Real Analysis
3. Walter Rudin : Principles of Mathematical Analysis
4. P.K. Jain& S. K. Kaushuik : An introduction to Real Analysis.
5. D. Somasundaram & B. Chaudhary : A First Course of Mathematical Analysis.
6. G. F. Simmon : Introduction to Topology.
7. Bhargava & Goyal : Real Analysis.
8. Gokhroo & others : Real Analysis.
9. Sharma & Purohit : Elements of Real Analysis.

PAPER CODE-9558

THIRD YEAR B.Sc. MATHEMATICS 2017-18

PAPER – II

ABSTRACT ALGEBRA

Duration: 3 Hours **Max. Marks: 75**

UNIT – I

Rings, definition and examples of various kinds of rings, integral domain, division ring, field, characteristic of a ring and integral domain, subring and subfield With examples. Left and right ideals with examples and properties, Principal ideal, principal ideal ring. Maximal, prime and Principal ideals in Commutative rings and their theorems.

UNIT -II

Quotient ring, Homomorphism and isomorphism in rings, kernel of homomorphism, Fundamental theorem of ring homomorphism. The three isomorphism theorems in rings, Embedding of a ring into a ring with unity and also into a ring of endomorphism of some abelian groups, Quotient field of an integral domain.

UNIT - III

Definition and various examples of vector spaces, subspaces and examples, Intersection, sum and direct sum of two subspaces, Linear span, Linear dependence, independence and their basic properties and problems.

UNIT- IV

Basis, Dimension and examples, Finite dimensional vector spaces, Existence theorem for a basis, Extension theorem, Invariance of the number of elements of a basis set, Existence of complementary subspaces of a subspace of a finite dimensional vector space, Dimension of sum (and direct sum) of two subspaces, Quotient space and its dimension.

UNIT - V

Linear transformations, Rank and Nullity of a linear transformation,Sylvester law of nullity, to obtain a matrix from a linear transformation and vice-versa and their problems relating to the same and different bases. The algebra of linear transformations, dual space and dual basis and dimension of dual space, bidual space and natural isomorphism (Reflexivity).

References:

1. Surjeet Singh and Quazi Zarneeruddin : Modern Algebra.
2. I.N.Herstein : Topics in Algebra.
3. R.S.Agrawal : Algebra.
4. Gokhroo, Saini : Advance Abstract Algebra.
5. Shanti Narayan : A Text-Book of Modern Abstract Algebra.

6. Hoffman and Kunze : Linear Algebra, (Second Edition).

7. Purohit, Pareek and Sharma : Linear Algebra.

8. Halmos, Paul R : Finite - Dimensional Vector spaces.

Paper –III (Optional): Any one of the following papers –

PAPER CODE-9559

THIRD YEAR B.Sc. MATHEMATICS 2017-18

PAPER -III (A)

DISCRETE MATHEMATICS

Duration: 3 Hours **Max. Marks: 75**

UNIT – I

Sets and propositions – cardinality, Mathematical Induction, Principle of Inclusion and exclusion. Computability and formal language- ordered set. Language phrase structure Grammars. Types of Grammars and languages. Permutation and combinations: Simple problems.

UNIT –II

Relations and functions:- Binary Relations, Equivalent Relations and Partitions, Partial order relations and lattices, Pegeon Hole principle. Graphs and planar graphs: - Basic Terminology; Multigraphs, weighted graphs, paths and circuits shortest paths. Eulerian paths and circuits. Planar graphs.

UNIT – III

Trees: Rooted trees, Binary tree, Decision or sorting tree, spanning tree, minimal spanning tree. Pumping lemma. Finite state machine: Equivalent machines, Finite state machine as Recognizers. Analysing Algorithms– Time complexity, complexity of problems.

UNIT –IV

Recurrence Relations and Recursive Algorithms: Linear Recurrence Relations with constant coefficients, Homogeneous solutions, Particular solution, Total solution, Solution by the method of generating functions.

UNIT – V

Brief review of groups and Rings. Boolean Algebras – Lattices and Algebraic structures. Duality, Distribution and complemented Lattices, Boolean Lattice and Boolean Algebras, Boolean function and expressions, Propositional calculus, Design and Implementation of Digital network - Switching circuits.

References:

1. C.L. Liu : Elements of Discrete Math emetics
2. K.D. Joshi : Foundation of Discrete Mathematics

3. Mradula Garg & R. Panday : विविक्त गणित

4. Gokhroo et.al : विविक्त गणित

PAPER CODE-9559

THIRD YEAR B.Sc. MATHEMATICS 2017-18

PAPER- III (B)

NUMERICAL ANALYSIS AND OPERATIONS RESERCH

Duration: 3 Hours **Max. Marks: 75**

UNIT - I

Differences, Relation between differences and derivatives, differences of Polynomial, Newton-Gregory formula for forward and backward interpolation, divided differences. Newton's General interpolation formula, Lagranges's interpolation formula.

UNIT - II

Gauss's central difference formula, Stirling's and Bessels interpolation formula, Inverse interpolation. Numerical differentiation, Derivatives from Interpolation formulae, Method of operators, Numerical Integration: Newton-cotes Quadrature formula, Trapezoidal, Simpson's one third, Simpson's three-eight rules.

UNIT-III

Gauss Quadrature formulae, Estimation of errors in quadrature formula, location of roots by Descarte's method of sign, Newtons theorem on multiple roots, Numerical solution of Algebraic and Transcendental equations, Bisection method, Regula-Falsi method, Method of integration .

UNIT-IV

Introduction to linear programming problems, Mathematical formulation Graphical method of solution of linear programming problems (Problems of two variables only), Theory of convex sets, Theory of Simplex method and its applications to simple linear programming problems.

UNIT - V

Concepts of duality in linear programming, formation of dual problems, Elementary theorems of duality. Assignment and transportation problems and their optimum solutions.

References:

1. C. E. Froberg : Introduction to Numerical Analysis

2. M. K. Jain, S. R. K. Iyenger and R.K. Jain : Numerical methods: Problems & solutions

3. G. Hadley : Linear Programming

4. Kanti Swaroop, P. K. Gupta and Man Mohan : Operation Research

5. H.C. Saxena : Numerical Analysis

6. Goyal, Mittal : Numerical Analysis

7. Goyal, Mittal : Numerical Analysis (Hindi ed.)

8. Goyal, Mittal : Numerical Analysis (Hindi ed.)

9. Goyal, Mittal : Operations Research

10. S.D.Sharma : Operations Research

11. Gokhroo, Saini, Jain : Operations Research (Hindi ed.)

12. Bhargava, Bhati, Sharma : Linear Programming (Hindi ed.)

13. Gokhroo, Saini, Jain : Linear Programming (Hindi ed.)

PAPER CODE-9559

THIRD YEAR B.Sc. MATHEMATICS 2017-18

PAPER- III(C)

MATHEMATICAL STATISTICS

Duration: 3 Hours **Max. Marks: 75**

UNIT -I

Probability: Definitions of Probability, Addition and Multiplication laws, Conditional probability , Independent events, Baye's Theorem.

UNIT II

Random variable, Distribution function, Probability mass & density functions, probability distribution, Joint, marginal and conditional probability functions.

UNIT –III

Mathematical expectation and Moments, Addition & Multiplication law, Covariance, Expectation and Variance of linear combination of two variables, Moment generating, cumulant generating & characteristic functions.

UNIT –IV

Theoretical Probability distributions- Binomial, Poisson and Normal distributions and their properties.

UNIT –V

Curve fitting by the principle of least squares, fitting of straight line and parabola, Bivariate linear correlation and regression.

Books Recommended:

1. Mathematical Statistics, J. N. Kapur & H.C. Saxana, S. Chand & Co., New Delhi.

2. Fundamentals of Mathematical Statistics, V. K. Kapoor & S.C. Gupta, Sultan Chand

& Sons, New Delhi.

3. Mathematical Statistics by Dr. Gokhroo & Saini.

NOTE:

Candidates who have offered Statistics as an optional subject will not be permitted to offer the paper III (B) and III (C). Candidates who have offered Computer science as an optional subject will not be permitted to offer paper III (B).

FORTH YEAR

B.Sc.B.Ed FOUR YEARS INTEGRATED COURSE IV Year					
Course No.	**Paper Code**	**Name of Subject**	**Paper**	**Max. Marks**	**Min. Marks**
Course 32	**9671**	**Educational Management & creating an Inclusive school**	**Theory**	**100 (80+20)**	**36**
Course 33	**9672**	**Knowledge & Curriculam.**	**Theory**	**100 (80+20)**	**36**
Course 34	**9673**	**Drama & Art. (Internal Assessment)**		**50**	**20**
Course 35	**9674**	**Optional Courses (any 1). 1. Health & Physical Education. 2. Guidance & Counselling. 3. Peace Education.**		**50 (40+10)**	**18**
Course 36	**9675**	**School Internship (Phase II, 16 Weeks) Engagement with the field: Tasks and Assignment for courses 12 &13.**		**250**	**100**
Course 37	**9676**	**External Assessment Viva-Voce for School Internship subject**		**150**	**60**

PAPER CODE-9671

EDUCATIONAL MANAGEMENT AND CREATING INCLUSIVE SCHOOL

Objectives: After completing the course the student Teachers will be able to -

1. Develop understanding about concept and importance of Educational Management
2. Understand the educational Management structure at different levels.
3. Understand the role of Heads and Teachers in School Management.
4. Understand the importance of Management of different resources in school system
5. Develop an institutional plan for a secondary school
6. Understand the characteristics of inclusive school and appreciate diversity
7. Develop skills and practices for creating inclusive school so as to address the special needs of children with different backgrounds.

COURSE CONTENT

UNIT-1 Introduction to Educational Management

1. Concept, need, Functions & recent trends in Education Management
2. Characteristics of Effective Educational Management.
3. Management structure of education in India at different levels – Centre, State and Local.
4. Educational Management in the state of Rajasthan with special reference to School Education.

UNIT-2 Management of Resources

1. Leadership role of Principal – Characteristics & skills. Role in building the climate of a school.
2. Material resource Management.
3. Human Resource Management – Recruitment, Orientation and Professional development of Teachers.
4. Financial Management –Budgeting, Monitoring and Auditing.
5. School community Symbioses – Utilization of Community resources for school development, role of PTA and SMC.
6. Managing school supervision- Concept, need, principles, scope and techniques of supervision.

UNIT-3 Management of School Activities

1. Time Management – School Calendar, preparation of time table – concept, principles, types
2. Curricular & Co curricular activities- Their importance, Principles, planning and effective organization.

3. Institutional Planning, Concept, Areas and Steps

UNIT-4 Inclusive Education:

1. Meaning, Need and Importance of inclusive education
2. Historical overview of education of children with disabilities – from welfare to right
3. Policies related to inclusive education
4. Barriors of Learning and Participation
5. Challenges in Inclusive Education.

UNIT-5 Creating inclusive School

1. Characteristics of inclusive school
2. Understanding student needs.
3. Inclusive Practices – Collaboration, Team work peer strategies and innovative instructional practices.
4. Role of Teacher in inclusive education
5. Role of Principal in managing inclusive schools.
6. Role of Government for promoting inclusive education.

PRACTICUM/ SESSIONAL WORK

(One from each of the following two sections)

Section -A

1. Study of an institutional plan of a school
2. A critical study of a secondary school time-table
3. Study the management of co-curricular activities of a school.
4. Study the leadership role of Headmaster of a Secondary School.

Section -B

1. Case-study of an inclusive school.
2. Case study of an individual with disability.
3. Study of inclusive practices of a secondary school.

REFERENCES

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PAPER CODE-9672

KNOWLEDGE AND CURRICULUM

Objectives: On completion the course the student teacher will be able to:

1. Develop understanding of meaning philosophical basis and sourses of knowledge.
2. Develop understanding of the relationship between knowledge and curriculum.
3. Develop understanding of Activity, Discovery and Dialogue related to modern child centered education with reference to Gandhi, Tagore, Dewey, Plato and Freire.
4. Understand the concept of Nationalism, Secularism and Universalisation with special reference to Tagore and J.krishnamurthi.
5. Understand the changes brought about by Industrialization,
6. Implications of Democracy, Individual autonomy, Equality, Social justice for education.
7. Understand the difference between Curriculum framework, Curriculum, Syllabus and textbook.
8. Understand the Principles of Curriculum Construction.
9. Understand the assessment modes of Curriculum Evaluation.

COURSE CONTENT

UNIT- I Epistemology, Knowledge and Knowing

1. Epistemology: Meaning; Philosophical basis of Knowledge according to Western and Indian Philosophy.
2. Distinction between : Knowledge and Belief; Knowledge and Information ; Knowledge and Skill; Knowledge and Reason; Knowledge and Education; knowledge and Training
3. Facets of Knowledge Such as Local and Universal ; Concrete and Abstract ; Theoretical and Practical; Contextual and Textual; School and out of School.
4. Process of Knowing Process of Construction of Knowledge; Factors involved in construction of Knowledge; The role of Knower and Known in Construction and Transmission of Knowledge; The role of Culture in Knowing

UNIT -II Forms of Knowledge and Its Organization in Schools.

1. Categorization of Knowledge; Basis of Categorization;
2. The essential forms of Knowledge.
3. Basis of selection of categories of Knowledge in School Education.
4. The responsibility of Selection Legitimacy of inclusion of knowledge in School curriculum.

UNIT- III Educational Thinkers and Child Centered Education

Basis of Child Centered Education in relation to Activity, Discovery and Dialogue with reference to Gandhi, Tagore, Dewey, Plato and Freire. Social basis of Education in the context of society in relation to Democracy, Industrialization and Ideas of Individual Autonomy Equality and Social- justice.

1. Concepts of Nationalism, Universalization and Secularism and their interrelationship with education.
2. Critical Multiculturalism and Democratic education as the basis of analyzing concepts of learning rooted in school practices.

UNIT- IV Principles of Curriculum construction

1. Meaning and need of Curriculum.
2. Principles of Curriculum construction
3. Differentiation between curriculum framework, Curriculum and Syllabus.
4. Determinates of Curriculum
5. Social-Political-cultural-economic diversity.
6. Socio-Political aspirations including ideologies.
7. Economic necessities and Technological possibilities.
8. National priorities and International contexts.
9. Considerations in curriculum making.
10. Relevance and specificity of educational objectives for concerned level.
11. Critical issues: Environmental concerns, Gender differences, Values and Social sensitivity.

UNIT –V Curriculum Development and its Implementation

1. Different approaches of curriculum development: Subject centered: Environmentalist (incorporating local concerns) Behaviorist ; Competency based, Learner centered and Constructivist
2. Role of external agencies in providing curriculum and pedagogic supports to teachers within schools; teacher's role in transacting, developing and researching curriculum.
3. Operationalisation of curriculum into learning situations; selection and development of learning resources i.e. text books, teaching – learning materials and resources outside the school- local environment, community and media.
4. Process of Curriculum evaluation; Evolving assessment modes, need of model of Continuous Comprehensive Evaluation; Feedback from learners, teachers, community and administrators.

PRACTICUMS

Attempt any two of the following.

1. Report on analysis of operationalisation of Curriculum into learning situations in school and outside school in any one school.
2. Conduct a survey on feedback of curriculum from learners/ Teachers/ community and prepare a report.
3. Prepare a report of a group discussion conducted on 'democratic ducation'/'multiculturalism' as the basis of analyzing school practices.
4. Prepare three activities to develop awareness about Environmental concerns, Gender ensitivity and Social Sensitivity (one on each issue).

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Course 34 - DRAMA AND ART IN EDUCATION

(Internal Assessment)

Objectives: After completion of this course, the student teachers will be able to:

1. Understand the role of fine arts in enhancing the creative potentials of an individual;
2. Understand the concept and basics of different art forms (all the visual and performing arts);
3. Understand the significant implications for the role of art, music and drama in education, to nurture children's creativity and aesthetic sensibilities through genuine exploration, experience and free expression;
4. Respond to the beauty in different Art forms;
5. Develop ability to appreciate the inherent rhythm, beauty and harmony in visual and performing art forms(specifically regional, traditional and classical art forms)
6. Enhance skills for integrating different Art forms across school curriculum at secondary level ;
7. Develop skill to create artistic pieces through waste materials;
8. Develop awareness regarding the rich cultural and artistic heritage of India and the specific regions;
9. Develop awareness regarding the role of arts and crafts in the society and day-to-day life situation;
10. Get acquainted with the life and work of the local artists/artistes;
11. Deepen understanding, appreciation and skills in one chosen medium through self work and evaluate self as an artist;
12. Develop the ability to use drama and other visual and performing art processes to generate new knowledge, understanding and perception of the world;
13. Get acquainted with the vast range of the regional and traditional art forms in the light of National Integration.
14. Gets an opportunity for self expression resulting in emotional harmony.
15. Communicate important social issues through drama.

COURSE CONTENT

Note : The entire course will be based on practical oriented.

UNIT - I: Visual Arts and Crafts

Experiencing visual and plastic resources and means of creative expression:

1. Exploration and Experimentation with different '*materials'* of two dimensional and three dimensional Visual Arts - such as lines, strokes, colours, shades, tones, textures etc. by rendering through pencil, charcoal, crayon and pastel, pen and ink, water, poster and acrylic colours, rangoli, alpana, and mandana materials, clay and metal scraps wire, thread, cloured papers, printed materials from magazines and news paper, cardboards and other available throw away materials.
2. Exploration, experimentation and expressing with different techniques of Visual Arts like Sketching; Drawing; Painting; Poster making; Chart making; Block and Stencil printing; Collage and Mosaic work with a variety of coloured papers and coloured printed pictures/ photographs from magazines and news papers; Clay modeling; Hanging mobiles and Stables; Paper cutting and folding, and other local crafts work etc.
3. Framing and displaying of Art works.

UNIT–II Performing Arts: Dance, Music, Theatre and Puppetry Performing arts: Music and Dance
Experiencing Rhythmic and Kinetic resources and means of creative expression through:
1. Exploration and Experimentation with the terms used in Music and Dance like-Nada, Swara (Shudha, Komal, Tivra), Saptak, Sargham, Mandra, Madhyama, Tar, Arohi Avarohi, Raga, Ragini, Laya, Maatra, Tal, Avartal, Mishra Sam Tal, Gati, Padghat, Classical, Regional and Folk forms of Music and Dance and other related elements.
2. Listening/viewing and exploring Regional Art forms of music and dance through live and recorded performances.

PAPER CODE-9674

Course 35 - OPTIONAL COURSE

1. HEALTH AND PHYSICAL EDUCATION

Objectives: On completion of the course the student teacher will be able to:
1. Develop Physical fitness.
2. Understand the concept, aims & objectives of Health & physical education.
3. Understand various communicable diseases
4. Understand and practice good posture, Balance diet, first aid
5. Understand the characteristics of hygienic environment along with contributing factors and its importance.
6. Understand the rules & regulations and develop skill of organizing different physical education activities.
7. Develop competencies in games & athletic events
8. Conduct tournaments, competitions & Athletic Meets.

COURSE CONTENTS

UNIT-I Health Education

1. Meaning, Concept, Aims & Objectives, School Health Programme. Nutrition & Balanced Diet Components of balanced diet, major sources & mal nutrition.

2. Posture Concept & values Postural deformities and their management.

3. Communicable diseases Mode, Control & Prevention Physical fitness & first aid Physical fitness meaning, elements & importance. First aid in the following- Wounds, cuts, Hammaerage, dislocation, fracture, bites of insects, sprain & strain.

UNIT-II Physical Education

1. Concept, definition, aims, objectives and importance. Its place in school programme. A suggestive physical education programme in an Indian school

UNIT-III Management & organization of different physical education activities.

1. Rules of important major games and sports. Methods of marking a standard track (400 m), Connected areas & their rules.

2. Organization, Management & administration of tournaments, intramurals, play day, health day, play centers and other similar activities. Organizing Indigenous games like Kho-Kho, Kabbadi, Malkham etc.Indian street games-Satoliya, Gilli–Danda, and Rumal Jhapatta etc.

3. Officiating, Coaching, fundamental skills & ground marking of any two major games.

SESSIONAL WORK

Any one of the following:

1. Organize games / sports / health activities during OAS/SUPW Camp

2. Conduct awareness programme on issue of social health

3. Prepare an exhibition / awareness rally/poster competition on health awareness in nearby schools.

4. Organize a programme on health & hygiene.

5. Organize intramurals.

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2. GUIDANCE AND COUNSELLING

Objectives: On completion of this course the student will be able to:-

1. Understand the meaning, nature and scope of guidance.
2. Understand various types of guidance.
3. Develop skills in administrating and interpreting testing and non testing tools of data collection.
4. Know and use the information and methods of guidance programme of special learners.
5. Understand with the meaning, nature and techniques of counselling.
6. Develop/learn the skills to organize guidance programme in the secondary schools.

COURSE CONTENTS

UNIT-1 Introduction to Guidance and Counselling

1. Meaning, Purpose, Scope, Nature and Functions of Guidance.
2. Need of Guidance at various stages
3. Principles of Guidance
4. Types of Guidance: Educational, Vocational and Personal guidance (Their Meaning, Objectives, needs and Importance)
5. Guidance services: Need and Importance
6. Types of Guidance Service, Individual inventory service, Information Service, Counselling Service,

Follow up service.

UNIT-2 Guidance Programme, Services and Procedures

1. Individual and group procedure of guidance and counselling.
2. Characteristic of good guidance programme.
3. Group guidance Techniques, Class-talks, Career Talks, Career Conference, Group discussion, Career exhibitions, Audio-Visuals Techniques.
4. Role of various community Agencies in school guidance progrmme.
5. Out line of minimum guidance programme at secondary on senior secondary level.
6. Meaning of Nature of Counselling and Role of Teachers as a Counsellor

UNIT-3 Guidance for special learner and Tools and Techniques

1. Concept of special learner Guidance needs of special learner
2. *Guidance methods for*
3. Special learner
4. Case study method
5. Remedial measures
6. *Tools and Techniques*
7. Types of tools
8. Standardized and self made tools
9. Techniques; Interview; Observation; Rating Scale & Check List
10. *Sources of Collecting data*
11. Cumulative record card
12. Anecdotal record card
13. Autobiography

PRACTICUM/SESSIONAL WORK

Any one of the following:-

1. Group Guidance – One career talk
2. Critical study of guidance programme in any senior secondary school.
3. Survey of Guidance needs of Adolescents
4. Celebration of Career day ensuring participation of all

SUGGESTED READING

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3. PEACE EDUCATION

Objectives: On completion of this course the student will be able to-

1. Explain about peace and peace education, their relevance and connection to inner harmony as well as harmony in social relationships.
2. Understand the views of different philosophies about peace.
3. Understand importance of Peace and factors responsible for disturbing peace.
4. Understand and resolve conflicts within self and in society.
5. Use pedagogical skills and strategies in and out of classroom for promoting peace.

COURSE CONTENT

UNIT-I Understanding peace as a dynamic Social reality

1. Concept, Need and importance of peace education.
2. Peace values vis-a-vis constitutional values : Importance of the attitudes, beliefs and values of peace viz compassion, cooperation, love etc. that foster inner peace and constitutional values of justice , equality, freedom, respect for differences and ecological resources that ensure peace in society.
3. Challenges to peace by increasing stresses, conflicts crimes, terrorism, violence and wars resulting in poor equality of life.

4. Nature and causes of conflicts.

5. Conflicts at different levels in society: With himself, interpersonal, intrapersonal, organizational, interstate and global.

6. Role of Social and Ecological condition and processes that sustain conflict: limited resources, poverty, political interest, economic interest, socio-cultural and ecological conditions, environmental resources viz. water, mineral, forests, energy etc.

UNIT-II Role of various thinkers and agencies in promoting peace

1. Concept of Peace according to the following thinkers - Gandhi, Krishnamurthy, Aurbindo, Vivekananda, Rabindranath Tagore, Gijubhai Badheko, Mother Terasa initiatives at National and International levels.

2. Agencies contributing to peace – UNESCO, Gandhi Peace Foundation etc.

UNIT-III Empowerment of Self

Awareness of the influence of Social milieu on self Understanding adequate self as a product of positive experiences of caring, warmth and appreciation in the family, school, neighborhood, etc. which promote healthy discipline, shunning violence.

1. Negative experiences generate stress, anger, aggressor

2. Yoga, meditation, anger/stress management, as practices that restore positive physical healthy and attitudes.

3. Role of different subjects in inculcation of PEACE.

4. Suggested Activities in schools for promoting peace.

a. Celebration of Festivals of different religions/ important days

b. Exposure to personalities working or fostering peace in society.

c. Practice of Yoga & Meditation.

d. Peace Rallies

5. Intervention in resolution of societal conflicts.

PRACTICUM/SESSIONAL

Any one of the following:-

1. Visits to organizations connected with peace and inter cultural harmony and aesthetic appreciation to experience peace as reality submission of reports on experiences.

2. Analysis of morning assembly programme of a school from the point of peace.

3. Preparation of a report on school programmes for promoting to Peace.

4. Case study of a child suffering from bad habit.

5. Developing an action plan for Peace in school and local community.

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PAPER CODE-9675

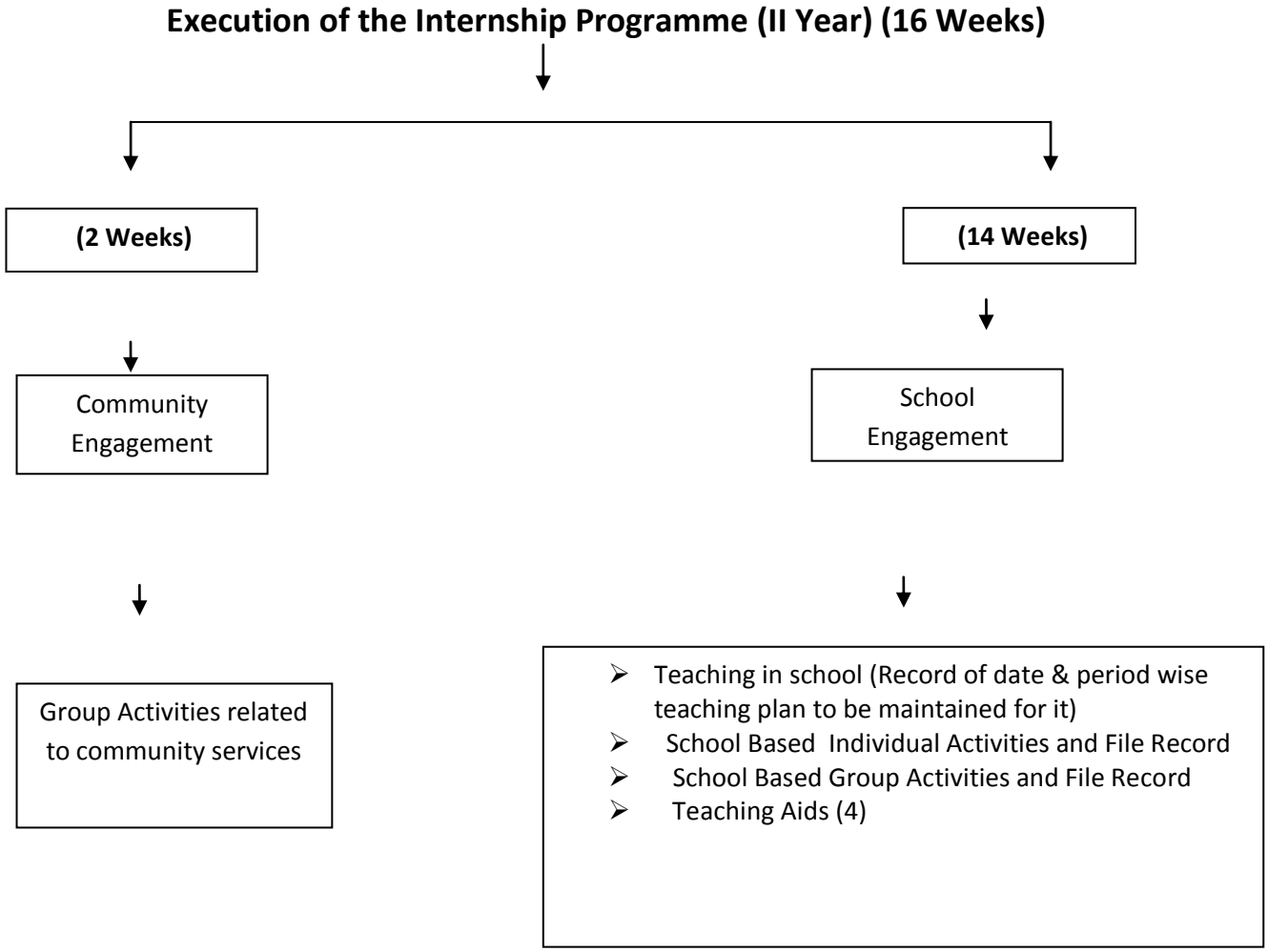
Course 36 - INTERNSHIP PROGRAMME (School Internship Phase-II)

School Internship is designed to lead to the development of broad repertoire of perspectives, professional capacities, teacher dispositions, sensibilities and skills. During the internship, a student-teacher shall work as a regular teacher and participate in all the school activities, including planning, teaching and assessment, interacting with school teachers, community members and children.

Objectives: After completion of the Internship the student - teachers will be able to –

1. Develop the understanding of the school and its management.
2. Develop the ability to plan and manage the class-room teaching.
3. Develop the sensibility towards diverse needs of learners in school.
4. Develop ability to discharge various responsibilities expected from a teacher.
5. Organize and conduct the co- curricular activities.
6. Get acquainted with various school records maintained by the school.
7. Maintain records expected from a teacher.
8. Develop skills of conducting community contact programmes.
9. Get acquainted with the functioning of SMC.

As per the School Internship: Framework and Guidelines (Jan., 2016) of the NCTE Regulations, 2014, following revised plan of the School Internship is proposed for the consideration of the committee.



During the 14 weeks period of internship in schools, the student-teachers will perform the under mentioned tasks:-

1) Interact with Headmaster and mentor teachers of the school about the two teaching Subjects he/she has offered.

2) They will teach at least 3-4 periods per day (Minimum of 200 lessons).

3) They will have to discharge the duties of a class- teacher of any class.

4) They will have to participate in the following activities individually as well as in group. The suggested individual and the group activities are as follows:-

A) <u>Individual Activity</u>

1. Preparation of time table of the school other than that in force.
2. Maintaining students' attendance and preparing a monthly record of students' attendance.
3. Maintaining Teacher's diary.
4. Case study of a special child.
5. A critical study and report of Institutional plan of the school.
6. Preparation of a progress report of a student of the class of which he /she is the Class teacher.

7. Analysis of school syllabus and textbooks of their pedagogy subjects.

8. Undertaking of Action Research Project on at least one problem area of Schooling.

B) <u>Group Activity</u>

1. Organising Morning Assembly
2. Organising Literary and Cultural Activities
3. Organising Games and Sports Activities

4. Participation in Parent's-Teacher Meeting and Meeting of School Management Committee (SMC)
5. Observing and participating in Mid-day Meal Programme
6. Organising Science Club or other Club Activities
7. Maintaining discipline in the school.
8. Participating in Community Contact Programmes like- Rallies, awareness Campaigns, community health campaigns, cleanliness campaigns and so on.

NOTE: - From group activities (1) to (7), each student- teacher has to participate in at least 5 of the activities and activity no. (8) Is compulsory for all student-teachers

5) Study of various records maintained by the school (for instance, stock register, service book, letter receipt & dispatch register, Library book accession & issue register, scholar register, leave account, T.A. bill etc.)

NOTE: - Each student - teacher has to submit a file in which detailed reports of all the activities and tasks observed and discharged by him/her are to be mentioned along with reflective thinking. A viva- voce will be conducted after the internship programme. The file record, the viva-voce and the lesson plan diary will form the basis of assessment of the internship programme. The student-teachers performance shall be assessed jointly by the TEI Principal and faculty (The grade recommended for a particular student by the Principal and mentor teachers of internship school must also be considered.)

Evaluation for Internship Programme

Evaluation for internship programme will consist of two parts – Internal Evaluation & External Evaluation, the details of which are as follows:

INTERNAL EVALUATION		
1	Teaching in Schools (Record of date and period wise teaching plan to be maintained for it.	100
2	Individual Activities and File Record	80
3	Group Activities and File Record	30
4	Teaching Aid (4)	20
5	Community Engagement and Report writing	20
	Total Marks	**250**
	EXTERNAL EVALUATION	
1.	Viva-Voce for Internship Programme (50 marks) Written test based on internship (50 marks) Power point presentation and documentation of internship (50 marks)	150
	Total Marks	**400**

Note:-

1. The grand total for the internship programme of both the years is 550 marks (150+400)
2. The weightage of external evaluation (Viva-voce for II Year) of internship will be 150 marks.
3. During the viva- voce, student will present all the records of the work done during the internship (II Year) programme viz. teaching in school, individual and group activities.
4. Power point presentation (including videos of various activities) of the work done by the students during the second year of internship is desirable at the time of viva-voce.

The Board of examiners for Viva-voce will consist of:

a) The Principal of the college concerned.

b) One senior member of the college. (Preferably Internship Incharge)

c) Two external members appointed by the university.

Mohanlal Sukhadia University, Udaipur

Faculty of Education

Department of Education

MASTER OF EDUCATION (M.Ed.)

(Two Year Programme)

Syllabus

Scheme of Examination and Course of Studies

Session-2017-18

Department of Education

Mohanlal Sukhadia University, Udaipur

MASTER OF EDUCATION (M.Ed.)

Syllabus

Scheme of Examination and Course of Studies

(Two Year Programme)

From the academic session 2515-16, Mohan Lal Sukhadia University - one of the premiere universities of Rajasthan, under the directions of NCTE, New Delhi has decided to introduce a Master's degree course in Education, which would run across two years.

The two year M.Ed. programme is designed to provide opportunities for students to extend as well as deepen their knowledge and understanding of education, specialize in selected areas whether elementary or secondary education and also to develop research capacities. It would also endeavour to develop in the future practitioners a deep, introspective and critical awareness of professional ethics and an ability to engage in and reflect on the practical aspects.

1. PERSPECTIVES

The new vision of two year M.Ed. curriculum stems from the concerns of NCF 2505, NCFTE 2509 and Justice Verma Committee (JVC) report that had recommended the following:

- Emphasis on the mastery over the content areas and stage specificity in training for various school levels.
- Reorientation of perception about the learners and learning - holistic approach in learning.
- Need for building education as a discipline and strengthening of knowledge base of education in Indian context and creating opportunity for interdisciplinary enquiry.
- Emphasis on integrative, eclectic, humanistic, non deductive and exploratory nature of teacher education responsive to changing socio-cultural contexts, diversity in learning needs, multicultural contexts, inclusive education and reflective practices.
- A logical framework of core courses and specialization streams that train entrants for the various professional roles.
- A logical balance between theory and field exposure.
- Comprehensive evaluation - both quantitative and qualitative.
- Integration of ICT, multimedia and e-learning in transaction of the programme.

Along with these concerns, M. Ed. is sought to be developed as a Teacher educator Training Programme with specialization in elementary/secondary teacher education so as to make it stage specific.

2. PROVISIONS FOR ADMISSION TO M.ED. PROGRAMME

Admission shall be made on merit, on the basis of entrance test i.e. Pre-M.Ed. Examination to be conducted by the agency decided by the State Government.

Eligibility for the course:

The eligibility of the applicants for admission to M.Ed. course would be:-

a) B.Ed. degree of 1 or 2 years duration*, or

b) 4 year integrated teacher education degree programme (B.El.Ed./B.Sc.B.Ed./B.A.B.Ed.)*, or

c) D.El.Ed./D.Ed. with Bachelor's degree (B.A./B.Sc./B.Com, etc.)*

(* with at least 50% aggregate marks)

Reservation and relaxation for SC/ST/OBC/PWD and other applicable categories would apply as per State Government rules.

Duration of the course:

The M. Ed. programme shall be of the duration of two academic years.

Working days needed for the course:

a) There shall be at least two hundred working days each year exclusive of the period of admission and inclusive of classroom transaction, practicum, field study and conduct of examination.

b) Institutions shall work for a minimum of thirty six hours a week, during which the faculty and students concerned with the conduct of the programme shall be available for interaction, dialogue, consultation and mentoring students.

c) The minimum attendance of students shall have to be 75% for all course work and practicum, and 90% for internship.

3. COURSE OBJECTIVES:

The students will be helped to:

- Understand the nature of education as a discipline/area of study.
- Understand the basic concepts/issues of education especially with reference to the kind of concerns that NCF-2505 has raised in the context of understanding-oriented teaching.
- Understand the concepts, theories/issues drawn from disciplines cognate to education, i.e. Psychology, Sociology, Philosophy, Economics and Management, etc. and which could be used/practised suitably in the perspectives of teaching-learning in schools.
- Understand the need of teacher education in the context of changing school education.
- Integrate information and communication technology to teaching-learning and training transaction.
- Develop skills among students to manage internship, practical and in-service training programme.
- Develop competency in students to analyze and reflect upon her/his professional experience.
- Understand the process of school education and teacher education and the various factors enriching the processes.
- Develop social sensitivity and finer human qualities.

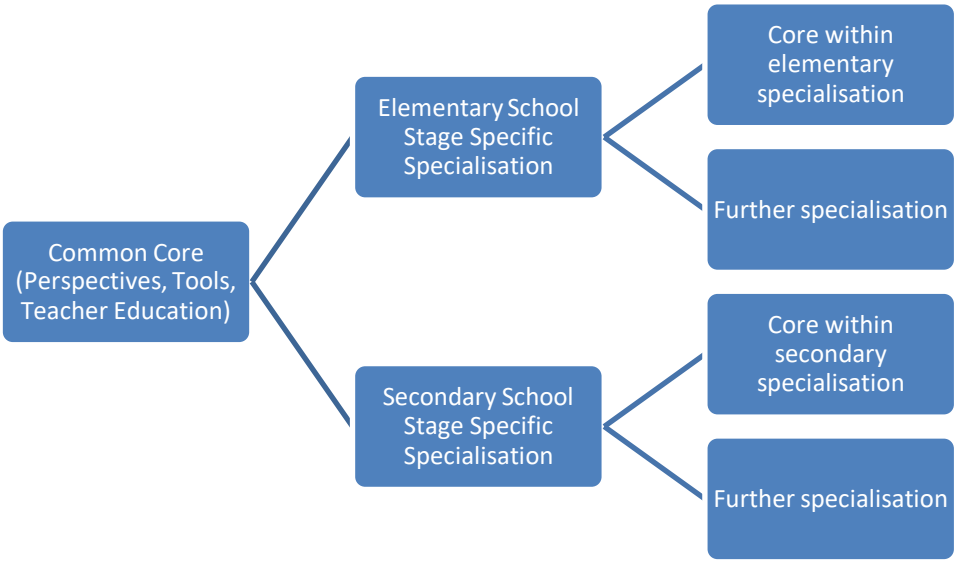
4. MODES OF LEARNING ENGAGEMENT:

- Overall intention of modes of learning engagement are:
    - The curriculum is so designed that the students shall internalize the nature of education and pedagogic process through enriched experiences.
    - The kinds of learning engagements suggested will contribute to reduction of the gap between theory and practice.
    - Interactive processes wherein group reflection, critical thinking and meaning making is supposed to be encouraged.
    - In this respect, critical theory, critical pedagogy and critical thinking become very crucial theoretical inputs and are embedded implicitly in various papers.
- Some specific modes of learning engagements envisaged:
    - Overarching lectures cum discussions
    - Project reviews

- Case studies
- Use of video clips and transcripts of classroom teaching
- Observation and participation in schools and other field sites
- Panel/group discussion on issues
- Individual projects
- Article/ Abstract writing
- Using library and ICT resources
- Peer Group Learning
- Collaborative Learning

5. COMPONENTS OF THE M. ED. COURSE:

The programme comprises of the components that are briefly described in the subsequent table.



As shown in the graphic above, the M. Ed. programme is composed of:

a) A common core that includes **perspective courses, tool courses and teacher education** courses.

- Perspective courses shall consist of: Education as a field of studies, Philosophical and sociological foundation, Learner and learning process, Indian education with reference to its development, major policies, prospects and challenges.
- Tool courses shall comprise of those in basic and advanced level educational research, Data Analysis, academic/professional writing and communication skills, and educational technology including workshops/courses in ICT.

- Teacher education course (which are also linked with the field internship/immersion/attachment in a teacher education institution) shall be included in the Core as an essentials of Teacher education.

b) **Specialisation branches** where students choose to specialise in any one of the school levels/areas such as elementary or secondary. The courses within the school stage specialisation shall represent selected thematic areas pertinent to that stage:

I and II Year: Area (A) Elementary Education
Area (B) Secondary Education

c) **Elective/optional Area**: A student shall choose any one of the following elective areas in which s/he shall study two papers one in each year:

I and II Year: Area (A) Comparative Education
Area (B) Guidance and Counseling
Area (C) Inclusive Education
Area (D) ET and ICT in Education
Area (E) Educational Management

d) **Practicum:** Organization of workshops, practicum activities and seminars to enhance professional skills and understanding of the students, shall be part of the teaching modality of the various taught courses.

M Ed Syllabus-First Year

Papers	Paper No.	Name of the Papers	Max. M.

Core Papers	**I**	**Education as a Field of Study**	**100 (80+20)**
	II	**Philosophical and Sociological Foundation**	**100 (80+20)**
	III	**Learner and Learning Process**	**100 (80+20)**
	IV	**Methodology of Educational Research**	**100 (80+20)**
Specialization	**V**	**Any one of the following:** **Area (A) Elementary Education** (i)Structure, Management and Quality concerns of Elementary Education- **Area (B) Secondary Education** (ii)Structure,Management and Quality concerns of Secondary Education-	**100 (80+20)**
Elective/ Optional	**VI**	**Any one of the following:** **Area (A) Comparative Education** (i) Essentials of Comparative Education **Area (B) Guidance and Counseling** (i) Principles and Procedures of Guidance and Counseling **Area (C) Inclusive Education** (i) Theory of Inclusive Education **Area (D) ET and ICT in Education** (i) Principles of ET and ICT **Area (E) Educational Management** (i) Principles of Educational Management	**100 (80+20)**
Practical/ Field Work		Preparation of synopsis and seminar presentation, workshop on tool development of dissertation	50 marks
		Internship (Pre and In-Service)	50 marks
		Professional writing	25 marks
		Yoga for Self Development	25 marks
		Open Air Session and Social Participation	50 marks
Practical Total			**200 marks**
Total marks			**800 marks**

a) Internship: The students shall be involved in internship programme covering both pre-service as well as in-service teacher education programmes.

b) Dissertation: Each student shall select a research topic and present a dissertation, on the basis of research work done on the topic selected for research.

Keeping the above points in mind, the two-year curriculum framework of the M. Ed. course is being presented underneath:

M. Ed. Syllabus-Second Year

Papers	Paper No.	Name of the Papers	Max.M.
Core Papers	**I**	Essentials of Teacher Education	100 marks

			(80+20)
	II	Indian Education – Its Development, Major Policies Prospects and Challenges	100 marks (75+25)
	III	Data Analysis (Quantitative and Qualitative)	100 marks (75+25)
Specialization	**IV**	**Any one of the following same area as selected in 1st year:** **Area (A) Elementary Education** (ii) Issues, Curriculum and Assessment of Elementary Education **Area (B) Secondary Education** (ii) Issues, Curriculum and Assessment of Secondary Education	100 marks (75+25)
Elective/ Optional	**V**	**Any one of the following same area as selected in 1st year:** **Area (A) Comparative Education** (ii) Comparative study of systems of Education in India, UK, USA and Japan. **Area (B) Guidance and Counseling** (ii) Dynamics and Techniques of Guidance and Counseling. **Area (C) Inclusive Education** (ii) Inclusive education for Diverse Need **Area (D) ET and ICT in Education** (ii) Implications of ET and ICT in Education. **Area (E) Educational Management** (ii) Practices of Educational Management	100 marks (75+25)
Practicals/ Field Work		Finalization and Submission of Dissertation (50 marks Internal, 50 Marks External, 50 Viva-Voce)	150 Marks
		Communication skills	25 marks
		Yoga for Self Development	25 marks
Total Practical Marks			200 marks
Total			**700 marks**

6.INTERNSHIP (I YEAR)

Internship is compulsory and has to be done in the area of specialization(Elementary/ Secondary). Internship will carry a weightage of 50 marks and will be evaluated internally. Duration of internship will be 15 days which will include the experience of 10 days in pre-service teacher education and 5 days of in-service teacher education programme.

After completing internship, candidates will submit a report about the work done during internship.

Guidelines for Assessment **Maximum Marks:** 50

Sr.No.	Activity	Duration	Marks	Mode of Evaluation
1	Participation in Guidance, Supervision and Feedback during internship of 5 students	5 days	15 marks	To be evaluated by concerned supervisor.
2.	Participation in theory programme – tutorial work, teaching a topic	5 days	15 marks	To be evaluated by lecturer concerned and Tutor.
3	Observation, Participation and reporting of an in-service teacher-education programme (Academic participation of the internee is expected	5 days	25 marks	To be evaluated by the lecturer incharge of internship in consultation with the in-service teacher education programme incharge.
	Total	**15 days**	**50 marks**	

7. OPEN AIR SESSION AND SOCIAL PARTICIPATION (I YEAR)

Open Air Session will be organized for M.Ed. students. M.Ed. students will help in organization of the camp and also participate in different activities. The duration of the camp will be 5 days.

Every student is also expected to participate in the co-curricular activities organized in the institution during the session.

Guideline for Assessment

Maximum Marks: 50

1.	Participation in Planning	-	5 marks
2.	Presentation of Report of survey/ study	-	10 marks
3.	Participation in Community Awareness Programme	-	10 marks
4.	Participation in Organization of programmes(Community/ Literary / Cultural and aesthetic)	-	10 marks
5.	Participation in Co-curricular	-	15 marks

activities during the session

Total **50** marks

8. DISSERTATION (II YEAR)

The dissertation is a compulsory component of M.Ed. Course. The various skills expected to be developed through this component are:

- Articulating and Formulating Research Problem and Research questions
- Designing a research plan
- Executing the research plan
- Analysis and interpretation of data
- Report writing
- Presentation of the work done

The problem for the research work should be preferably related to the area of specialization that a student have opted for. Candidates will prepare and present their research proposal in 1st year and final submission will be done at the end of 2nd year.

The process of completion of research work will include participation in workshops and research seminars, presentation of the work in progress and viva-voce.

Guidelines for assessment of Dissertation

Maximum Marks: 150

1	Assessment by Supervisor	50 Marks (Internal)
2	Assessment by Examiner	50 Marks (External)
3	Vivo-voce	50 marks (Jointly by a Committee consisting of External Examiner, Principal and Supervisor.
	Total	**150 Marks**

9.PRACTICALS (YEAR WISE)

I Year

(A)Yoga for Self Development

Course content:

- Importance of yoga for healthful living and self development
- Warming up exercises
- Surya Namaskar
- Asanas - Padmasan, Halasan,

  Sarvangasan, Paschimottasan,

Bhujangasan, Shalabhasan

Dhanurasan and Shavasan

- Pranayam – Kapal Bhati, Anulomvilom
- Meditation
- Practicing correct postures in Standing, Sitting, Walking

Scheme of Internal Assessment

S.NO	Activity	Marks
1	Written Test	05 marks
2	Participation in yogic Programme regularly	10 marks
3	Practical Test of Yoga Asanas/Pranayam	10 mark

(B)Professional Writing

COURSE CONTENT:

Organization of various activities i.e. workshop, seminar, symposium etc. to develop the following skills related to professional writing among the students.

- Academic Proposal
- Article Writing
- Citation
- Research Paper
- Term Paper
- Project Report
- Abstract
- Report Writing
- Reference and Bibliography
- Editing and Proof Reading
- Press Note
- Advertisement for Recruitment
- Collection of Newspaper cutting and Preparation of a report or article based on it.

Scheme of Internal Assessment

S.No	Activity	Marks
1	Written Test	05 marks
2	Participation in the activities	10 marks

3	Practical Test	10 mark

II Year

(A) Yoga for self development

Course content :-

- Some activities like, movement of fingers, Wrist, arms, shoulders, head, butterfly movement, cycling, grinding movement
- Warming up exercises
- Surya Namaskar
- Asanas First year asans to be repeated and in addition following asanas to be practiced – Chakrasan, Vajrasan, Matsyasan, Chatuspadasan, Trikonasan
- Pranayams – Kapal Bhati, Anulom Vilom, Bhramari, Bhastrika.

Scheme of Internal Assessment

S.No	Activity	Marks
1	Written Test	05 marks
2	Participation in Yogic Programmes regularly	10 marks
3	Practical Test of Yoga Asanas/Pranayam	10 mark

(B)Communication Skills

Course Content:-

Organization of various activities i.e. workshop, seminar, symposium etc. to develop the following communication skills among the students.

- Applying for job – Covering letter, Resume, Joining Report
- Mock Interview
- Public Address
- Speech in Assembly
- Group Discussion
- PPT Presentation
- Video Conferencing

- Briefing Session
- Preparation of Notice, Agenda, Meeting Minutes.
- Drafting Circulars
- E-mail Writing
- Correspondence - Formal/Official, Social

Scheme of Internal Assessment

S.No	Activity	Marks
1	Written Test	05 marks
2	Participation in the activities	10 marks
3	Practical Test	10 mark

10. EVALUATION

- In case of papers having both external and internal evaluation:
    a) Each Theory paper (Core, Specialization and Elective) will carry a weightage of 100 marks, out of which 75 marks will be for external university examination and 25 marks further to be divided into 10 marks for term test, 10 marks for internal assessment work and 5 marks for viva-voce for the sessional work for internal evaluation.
    b) Each theory paper will consist of five units.
    c) Each theory paper will consist of 5 questions with internal choice preferably covering all the units and each question will carry 15 marks.

- In case of internship/practicals having total internal evaluation, all the practical/field work and sessional work will be evaluated internally. Its marks distribution is discussed in the earlier part.
- Dissertation including viva-voce will be evaluated both internally and externally. Its details are given earlier.

11. WORKING OUT THE RESULT FOR AWARDING OF DIVISION:

A candidate in order to be declared successful at the M.Ed. examination shall be required to pass with at least 40% of marks in aggregate of all the theory papers. The successful candidates will be classified in three divisions as:-

I Division – 60% and above

II Division – 48% to below 60%

III Division - 40% to below 48%

I Year

Core Paper

Paper – I

Education as a Field of Study

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the nature of education as a discipline an area of study.
- Examine issues related to education as interdisciplinary knowledge.
- Understand the basic concepts/ issues of education with reference to kind of concerns the NCF (2505) and NCFTE (2509) have raised.
- Examine critically the theories and basic concept of Education drawn from various disciplines cognate to education
- Reflect on multiple contexts in which the school and teacher education institutions are functioning.
- Discuss the emerging dimensions of school & teacher education.

COURSE CONTENT

Unit-I Theoretical Perspectives of Education as a Discipline:

- Education as a discipline and an area of study.
- Prioritizing the aims of Indian Education to the context of a democratic, secular and a human society.
- Need for developing a vision of school education and teacher education.
- Concept of Values, National values enshrined in the Indian Constitution and their Educational Implications.
- Role of Education to protect sustainable future.

Unit-II Education as Interdisciplinary Knowledge

- Interdisciplinary nature of education: relationship with disciplines/ subject such as philosophy, Psychology, Sociology, Management, Economics, Anthropology etc. Connecting

knowledge cross disciplinary boundaries to provide a broad framework for insightful construction of knowledge.

- Contribution of science & technology to education and challenges ahead.
- Axiological issues in education for quality life, role of peers and other values, rights and duties.
- Dynamic relationship of education with development.

Unit-III Changing Context of Education

- Multiple school contexts rural/urban, tribal, school affiliated to different boards.
- Changed view of education, teaching and role of teacher.
- Need for Nurturing / learning friendly school environment.
- Teachers autonomy & academic freedom.

Unit-IV Education in Changing Social Scenario.

- Educational goals as reflective of Social ideology of a Society.
- Social forces as necessary support & an inevitable constrains to education.
- Education as a field of knowledge.
- Linkage & humanistic nature of school and teacher education.
- Linkage between education & other social sectors such as NGOs, industry, community, corporate world etc.

Unit-V Education for Transformation

- Educational transformation and National development.
- Need for developing a vision of school education in the light of Globalization, Privatization and Liberalization.
- Vision of education according to NCF 2505
- Education for responsible citizenship.

PRACTICUM:

Any two of the following:

1. A term paper on any topic related to this paper.
2. Two Abstracts of articles on education published in standard journals.
3. A study on Autonomy of teachers in your university.

4. A report on identifying citizenship values to be inculcated through education
5. A Study of educational projects being conducted by an NGO.
6. A study of an institution runs by some corporate house.

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I year

Core Paper

Paper- II

Philosophical and Sociological Foundation

Maximum Marks: 100 marks
External Assessment: 75 marks
Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the nature and functions of philosophy of education.
- Do Logical analysis, interpretation and synthesis of various concepts, propositions and philosophical assumptions about educational phenomena.
- Understand and use philosophical methods in studying educational data.
- Do Critical appraisal of contributions made to education by prominent educational thinkers- both Indian and Western.
- Understand and relate philosophical theories and traditions with educational aims and practices.

COURSE CONTENT

UNIT-I Nature of Educational Philosophy

- Meaning, Concept, Nature and Scope of Educational Philosophy and its functions (Speculative, Normative and Analytical)
- Concept of Metaphysics, Epistemology, Axiology and their Implication for Education. Metaphysical problems related to nature, man and Society and their implications in education.

UNIT–II Philosophical Perspective of Education: Indian Perspective

- Education, Goal of Life, Theory of Knowledge, Nature of Learner as advocated in Vedanta (Advaita) Upanishad, Geeta.

- Indian Philosophical, foundation of education to Buddhism, Jainism, Nyaya and Sankhya with reference to theory of knowledge, aims of education. Discipline, Curriculum and Values.
- Critical analysis of thoughts of great educators :

  i) Swami Vivekanand ii) Rabindranath Tagore

  iii) M.K. Gandhiji iv) Shri Aurobindo
- Educational implications of Shrimad Bhagwadgeeta

UNIT–III Philosophical Perspective of Education: Western Perspective

- Metaphysics and Nature of Learner, Aim of Education, Teacher-Pupil Relationship, Method of Education, Freedom and Discipline, Values and Curriculum of –
  - Idealism
  - Naturalism
  - Pragmatism
  - Existentialism
  - Humanism
- Critical analysis of thoughts of great educators :

  a)Plato b)Aristotal c)Rousseau d) John Dewey

UNIT–IV Sociological Foundation of Education

- Nature & Scope of Sociology of Education
- Development of school as a formal institution of education in society
- School as an Institution of socialization.
- Education and Social Change
- Social Stratification and education
- Education and Social mobility
- Role of family, community and Media in education of children

UNIT–V Changing Socio-Political Context of Education

- Socio-Political context of Education.
- Equality in Educational opportunity ways in which schooling, teaching, learning and curriculum, contribution to social inequality.
- Education for marginalized sections of society (SC, ST, women, minorities) and Constitutional provisions for their education

- Gender sensitivity and education

PRACTICUM:

Any two of the following:

- Prepare a life sketch of any one Philosopher.
- Write three abstracts on any recent articles published in Philosophical/Sociological journals.
- Organize a seminar on any one philosophical aspect of education.
- Conduct a social survey of Educational work done by an NGO.
- Survey of educational status in a marginalized section of society.

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I Year

Core Paper

Paper III

Learner and Learning Process

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the concept and principles of educational psychology as an applied science.
- Understand implications of psychological theories for education.
- Understand the theories of learning.
- Understand the theories of personality
- Understand and use the process of assessing personality
- Understand the education of children with special needs.
- Understand the concept of motivation and its implications for learning.
- Understand the concept of creativity and measures to foster creativity
- Understand the concept of self concept, self esteem and self identity.
- Understand ways of fostering mental health of learner.

COURSE CONTENT

Unit – I Educational Psychology and Development of Individual

- Nature and scope of educational psychology.
- Methods of study of human behavior : experimental, clinical.
- Piaget's theory of cognitive development.
- Helping students with adjustment problems - counseling, psychotherapy, psychodrama.
- Affective development - Development of attitudes, interests, values, emotions, emotional maturity and emotional intelligence

Unit – II Psychology of Learning

- Nature of learning
- Learning theories – Skinner, Guthrie, Hull, Tolman, Lewin,Bruner and Vygotsky.
- Gagne's conditions of learning and phases of learning.
- Group dynamics and learning in a group.

Unit – III Personality

- Concept of personality and its development
- Theories of personality - Allport, Cattle, Psychoanalytic, Erickson
- Assessment of personality- Projective, Semi-Projective and non Projective.
- Detailed analysis of CAT ,TAT, Rorschash Ink Blot Test, Sentence completion test.

Unit – IV Mental Health and Adjustment

- Mental Health – Concept, Mental health of learner and ways to foster mental health of learner. Factors affecting mental health of teacher and ways of maintaining teacher's mental health.
- Adjustment, adjustment mechanisms and various types of adjustment problems among students (depression, Attention Deficient Hyper Disorder, Addictive behavior, psychosomatic diseases and phobia).

Unit – V Psychological Principles of Learner's Development

- Creativity – Concept, its assessments and ways of fostering it.
- Motivation: Concept, Types (Intrinsic and extrinsic) and motivational devices
- Theory of Achievement Motivation and its importance in education
- Personal development – Nature of self concept, self esteem, self identity and their development

PRACTICUM:

1. Administrations, Analyses and Interpretation of any one of the following test/Experiment:
   (a) Any one projective test of personality

   (b) Learning experiment

   (c) Test of creativity

(d) Performance test of intelligence

2. Case study of a child with behavioral problem.

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I YEAR

Core Paper

Paper-IV

Methodology of Educational Research

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Develop an understanding of the concept of Research.
- Describe the nature, purpose, scope, areas and types of research in Education.
- Explain the characteristics of qualitative and quantitative research.
- Select the method appropriate for a research study
- Understand method of drawing a sample to undertake research and draw appropriate sample for their research project.
- Conduct review of related Literature.
- Develop a research proposal.
- Examine the nature of hypothesis and their role in research and propose appropriate hypotheses for their research problem.
- Develop an understanding of methods of construction of tools and selecting appropriate tools for their research.
- Develop skill in writing a research proposal and research report.
- Appraise critically completed research study

COURSE CONTENT

Unit-I Research in Education: Conceptual Issues

- Nature, Meaning, Purpose and Characteristics of Research, Educational research and its scope, Areas of Educational Research.
- Scientific method and scientific inquiry.
- Prerequisites for research – sensitivity, faith in-change, desire for bringing about improvement, faith in scientific method.
- Fundamental, Applied and action Research.
- Qualitative and Quantitative research.

Unit-II Formulation of Research Problem

- Sources of Research Problem
- Characteristics of a good research problem.
- Variables- Dependent, independent, intervening.
- Review of Related Literature: importance and various sources.
- Hypothesis :Concept, types of Hypothesis, characteristics of a good hypothesis, sources of hypothesis
- Objectives – Primary, Secondary & Concomitant.

Unit-III Methods of Educational Research

- Survey Method – Descriptive & Normative including base lines studies, policy research.
- Experimental research and its types.
- Historical and Developmental Research
- Case study and Evaluative Research
- Phenomenological Research
- Ethnographical Research

Unit-IV Sampling

- Population and sample, units of sample, sample size, importance of sampling
- Probability sampling and non probability sampling techniques-Random, Stratified, Purposive, Cluster and Quota sampling. Random number Tables and their use for selection of random sample.
- Sampling errors and how to reduce them. Characteristics of a good sample.

Unit-V Tool, Technique and Research Report

- Tools-technique of Data collection: Techniques -observation, interview, socio-metric technique. Tools-Questionnaire, rating scale, interview schedule, observation schedule, attitude scale and their construction.
- Item Analysis
- Reliability and validity of various tools – Concept and types, factors influencing reliability and validity of Tools.
- Developing a research proposal (synopsis)
- Research report: outline of a research report.
- Mechanics and Style of report writing
- Bibliography and references (Method of Writing).

PRACTICUM:

Any two of the following:

1. Review of an M.Ed. dissertation
2. Construction and try out of a tool of data collection
3. Development of a Research Proposal on an identified research Problem.
4. Abstract of three Research Articles published in standard research journals.
5. Presenting details of a research of any experimental study.
6. Preparing an outline of any policy research.

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I Year

Specialization

Paper-V

Area (A) Elementary Education

Structure, Management & Quality Concerns of Elementary Education

Maximum Marks: 100 marks
External Assessment: 75 marks
Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand perspective & concept of Elementary Education.
- Develop understanding about structure of the Elementary Education System.
- Analyze the history & development of Elementary Education in India.
- Understand the quality concerns in Elementary Education.
- Understand the strategy & programmes for quality enhancement of Elementary Education in India.

Unit-I Structure of Elementary Education

- Meaning, concepts & types of Elementary Education.
- Objectives & Functions of Primary Education as Elementary Education.
- Management of Elementary Education
- Elementary Education as the base of Education System.

Unit-II Perspectives and Context of Elementary Education

- Developmental characteristics and norms for Elementary stage of Education-physical, cognitive process and abilities, language development, socio-emotional development during early and late childhood
- Influence of home, school and community related factors on child's development.
- Conceptual analysis of the concepts in elementary education like learner / learning centered approach, activity centered approach, freedom and discipline; reflection on present practices.

Unit-III Development of Elementary Education

- Indigenous system of Elementary education in India
- Nature and focus of Elementary Education after independence.
- Relevance of educational thought of Mahatama Gandhi and Tagore to elementary education.
- Constitutional provision for education and Directive Principles related to elementary education and their implications.
- Right to Education as fundamental right; provision in RTE Act and related issues. Elementary education as highlighted in NPE-1986, POA-1992, National Curriculum Framework (NCF)-2505.

Unit-IV IV-Strategies and Programmes in Elementary Education

- Panchayatiraj and community involvement in educational planning and management related issues. Role of BRC, CRC, SMC.
- Participation of NGOs in achieving goals of UEE
- ECCE programme, women empowerment as support services
- Providing minimum facilities, improving internal efficiency of the system teacher empowerment and incentive schemes, capacity enhancement of teachers (role of DIETs and SIERT, managing learning in multigrade contexts).
- Strategies and programmes for quality enhancement of Elementary Education- Lok Jumbish, DPEP, SSA, Sambalan Programme, incentive schemes for enhancing enrollment and ensuring and retention in Elementary School such as Mid Day Meal programme.

Unit-VQuality Concern in Elementary Education

- Minimum Level of Learning (MLL)
- Early Childhood Care and Education (ECCE)
- Continuous Comprehensive Evaluation at Elementary level
- Multi-grade teaching in elementary schools.

- Teacher's commitment.
- Use of modern technologies and media.

PRACTICUM:

Any two of the following:

1. Prepare a report on functioning of an Elementary School.
2. Study a Multi-graded School and prepare an Analytical Report on it.
3. Prepare a note on Educational Thoughts of any thinker on Elementary Education.
4. A study of implementation of a government scheme related to Elementary Education.
5. A report of functioning of a BRC / CRC
6. A report of conduct of an in service training programme for Elementary School Teachers.

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I year

Specialization

Paper-V

Area (B) Secondary Education

Structure, Management & Quality Concerns of Secondary Education

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Develop an idea about the structure of secondary education in India.
- Know about the historical development of secondary education in Pre and Post Independent India.
- Understand the constitutional provisions, educational policies and documents of secondary education
- Understand the management system of secondary education at National and State Level.
- Know about the quality indicators of Secondary education
- Reflect upon various programmes to uplift quality in secondary school.

COURSE CONTENT

Unit-I Structure of Secondary Education

- Meaning, aims, objectives & functions of secondary education.
- Structure of secondary education in India.
- Status of secondary education with reference to access enrolment, retention, syllabus, availability of resources and quality learning.

- Vocationalization of secondary education in India (the efforts, present status, problems and prospects)

Unit-II Development of Secondary Education in India

- Secondary education in India – historical development in pre and post- independent Era
- Constitutional provision for secondary education.
- Policies and documents related to secondary education – Mudaliar commission, Kothari commission, NPE 1986, NCF 2505
- Universalization of secondary education: Issues and challenges.

Unit-III Management of Secondary Education

- Importance, function and management of secondary education.
- Management at national level:Role of MHRD, CABE, NCERT
- Management of secondary level in Rajasthan
- Supervision for effective management in secondary education
- Privatization of secondary education

Unit-IV Management at Institutional Level

- Aims, objectives and role of secondary educational institution in the light of constitutional goals, NPE 1986 and NCF 2505.
- Management of secondary schools- planning (institutional Plan), coordinating, team building, visioning.
- Role of Heads/Principals and teachers in creating academic culture and appropriate climate in school
- Criteria of quality secondary school

Unit-V Quality Concern in Secondary Education

- Concept, indicators of quality, setting standards for performance
- Continuous professional development of Heads and teachers through in-service training programmes and in-house capacity building activities.
- Team work and transparency in functioning among teachers
- Total quality management (TQM) for institutional upliftment

PRACTICUM:

Any two of the following:-

1. A comparative study on the functioning of any two different types of schools in India such as CBSE, Madarsa, Convent, urban, rural, Residential etc.
2. Visit a local school and evaluate the role of School Management Committee during last 2 years and prepare a report with pictures, photographs and sketches.
3. Conduct interviews of the teachers and students of various schools and Prepare a report based on their educational aspirations and problems with reference to the effectiveness of management
4. Conduct a study on 'good Practices' in various schools and prepare a report including leadership, communication process, information system, data management etc.
5. A study of implementation of government scheme related to secondary education.
6. A study of implementation of recommendations of any national document on education.

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I year

Elective / Optional

Paper-VI

Area (A) Comparative Education

Essentials of Comparative Education

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand comparative education as an emerging discipline of education.
- Know and understand concept, Nature and scope of comparative Education.
- Understand approaches & methods of study in comparative education.
- Know the factors responsible for shaping the education system of different countries.
- Know and appreciate role of national, international agencies in promoting education.

COURSE CONTENT

Unit-I Concept, Nature and Objectives

- Historical Development of comparative Education.
- Concept, nature and importance of comparative Education.
- Aims and Objectives of comparative education.
- Comparative education and International studies in education.

Unit-II Purpose and Scope of Comparative Education

- Intellectual value: comparative education as an academic pursuit.
- Reformative value: comparative education for effective improvement / reforms.
- Practical value: comparative education for better understanding of educational issues in a particular country.

- Humanitarian value: comparative education for better international understanding.
- Comparative education as a means for formulating Principles, generalization and policies.

Unit-III Methodology in Comparative Education

a. Methods of Comparison

- Discipline based classification
- Purpose based classification

b. Approaches of Comparative Education

- Historical approach
- Cross – disciplinary approach
- Problem approach
- Statistical approach

Unit-IV Factors and Forces Influencing Education System

- Geographical & Economical Factors
- Social & Political
- Historical & Cultural
- Technological

Unit-V National and International Initiatives in Education

- Role of UNO
- Salient Features of Delors Commission Report
- NPE 1986
- National knowledge commission, RTE 2509

PRACTICUM:

Any two of the following:

1. Two abstracts of recent articles any aspect of comparative education.
2. A study on political influence of education in India.
3. Economic and technological factors influencing education in any above countries

4. A term paper on national and international initiatives in the field of school education.
5. A study of influence of geographical factors on education of any two countries.
6. A review of main recommendation of Delors commission report.

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I year

Elective / Optional

Paper-VI

Area (B) Guidance and Counseling

Principles and Procedures of Guidance and Counseling

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the meaning, nature and scope of guidance.
- Understand the objectives and need for guidance.
- Understand Principles and problems of different types of Guidance.
- Understand the essential services involved in school guidance programme.
- Understand the resources required and their optimum use in managing guidance programme at different levels.
- Understand the meaning, nature, scope and objectives of counseling.
- Understand the skills and qualities of an effective counselor.
- Understand different types and areas of counseling and steps involved in group counseling process.

COURSE CONTENT

Unit-I Understanding Guidance

- Meaning and definitions
- Need for guidance
- Nature and scope of guidance
- Objectives of guidance; self understanding, self discovery, self direction, self actualization
- Principles of Guidance

Unit-II Types of Guidance

- Types of guidance - educational, vocational and personal.
- Educational, vocational and personal guidance at different level.
- Guiding children for career development, approaches to career guidance.
- Occupational Information – Sources, storage and dissemination.

Unit-III Organising Guidance Programme

- Essential guidance services- Individual inventory services, Information service, Counseling service, Placement service and Follow-up service.
- Essentials of good guidance programme.
- Planning a guidance programme.
- Resources required for organising guidance services – men (different types of guidance personnel) & material.
- Organising guidance programme at different level.
- Outline of a minimum essential guidance programme for an Indian secondary/ sr. secondary school

Unit-IV Understanding Counseling

- Meaning, scope and importance of counseling.
- Objectives of counseling: Resolution of problems, modification of behaviour, promotion of mental health.
- Principles of counseling.
- Characteristics of good counseling.

Unit-V Types and Areas of Counseling

- Types of counseling: Directive, non directive, Eclectic counseling.
- Areas of counseling; Family counseling, marital counseling, parental counseling, adolescent counseling, special children counseling and its relevance to the Indian situation.
- Steps and skills of counseling.

- Qualities and professional ethics of a counselor.

PRACTICUM

Any two of the following

1. Conduct counseling of a student with some behavioral problem.
2. An outline of guidance programme for a secondary school.
3. A critical study of guidance activity in any secondary school.
4. Preparation of a career pamphlet/career talk on any career.
5. A report of organisation of a career conference in school.
6. A report of organisation of guidance day in a school.

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I year

Elective / Optional

Paper-VI

Area (C) Inclusive Education

Theory of Inclusive Education

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand concept, need and types of inclusive education.
- Develop an understanding of historical perspective of inclusive education.
- Develop an understanding of the recommendations of various commissions and committees towards teacher preparation for inclusive education.
- Develop an understanding of factors related to inclusion.
- Understand roles, responsibilities and professional ethics of teachers promoting inclusive practices.
- Prepare conducive teaching learning environment for inclusive education in varied school settings.
- Identify research trends in the area of inclusive education.
- Understand the need for planning inclusive education programme.

COURSE CONTENT

Unit– I Meaning and Background of Inclusive Education

- Meaning and concept of special education, integrated education and inclusive education.

- Need and Advantages of inclusive education.
- Types of inclusive education.
- Historical perspectives of inclusive education.

Unit-II Policy Perspectives

National Initiatives for Inclusive Education:

- Recommendations of Indian Education Commission (1964-66).
- Integrated Education for Disabled Children (IEDC, 1974)
- National Policy on Education (NPE, 1986)
- Project Integrated Education for Disabled Children (PIED, 1987).
- District Primary Education Program (DPEP)
- The Person with Disabilities Act (1995).
- National Curriculum Framework (2505)
- NCFTE(2509) NCERT.
- National Policy of Disabilities (2506).
- Inclusive Education under Sarva Shiksha Abhiyan (SSA)
- Right to Education.
- RAMSA
- Constitutional provisions for Marginalized Sections of Society.
- Concessions: Transport, income tax, age concessions, reservations, exemption from examination fee, family pension.

International Initiatives for Inclusive Education:

- The World Declaration on Education for all and its framework for actions to meet basic learning need, 1990 (Article 3 clause 5)
- The World Declaration on Survival, Protection and Development of Children and the plans of action (Outcomes of the UNICEF World summit for children ,1990).

- The World conference on special needs Education and the Salamanca Statement and framework for action on special needs education.
- Initiatives of UNESCO

Unit – III Factors Related to Inclusion

- Access – In terms of proximity, gender and socially backward children, minorities, Physically challenged, program to equate deprived children.
- Barrier Free Environment (BFE)
- Enrolment – Reasons for non enrolment, probable strategies from educational social point of view, gross enrolment and net enrolment.
- Achievement - Factors affecting achievement, strategies for enhancing achievement levels and role of community / parents/ teachers in achieving 100% achievement.

Unit –IV Teacher Preparation and Inclusive Education:

- Roles, responsibilities and professional ethics of teachers and teacher educators with reference to inclusive education.
- Provision of in-service training and follow up programs for effective inclusive education in schools.
- Role of NCERT, UGC, Universities and teacher education institutions in promoting inclusive education.
- Research trends in the area of inclusive Education.

Unit – V Planning Inclusive Education:

- Meaning, concept and need of planning of inclusive education.
- Models of Inclusive education.
- Components of inclusive education.
- Planning on site Assessment of resources, team collaboration, time table preparation, planning an Inclusive Education Programme.

PRACTICUM:

Any two of the following:

1. Study and review any two national policies in the light of inclusive education.
2. Identify suitable research areas in inclusive education.
3. Observe an inclusive class at least for five days and find out skills and competencies used by teacher. Give suggestive strategy / plan of teaching for betterment.
4. Conduct a survey on the type of supportive service needed for inclusion for Children with any disability of your choice and share findings in the class.
5. Case study of a child with disability with a view to find out the extent to which he/she has derived benefit from inclusive education.
6. Report of survey of schools to identify various forms of inequality with reference to marginalized groups.

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I year

Elective / Optional

Paper-VI

Area (D) ET and ICT in Education

Principles of Educational Technology and Information Communication Technology

Maximum Marks: 100 marks
External Assessment: 75 marks
Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Know about the concept, nature scope and historical development of Education Technology.
- Understand the concept and scope of Instructional Technology.
- Understand concept, and application of systems approach in education.
- Understand the concept of models of teaching.
- Use following three models of teaching – concept attainment model, inquiry training model and information processing model.
- Understand the concept of communication
- Identify components of communication process.
- Understand classification and barriers of communication.
- Understand Principles of effective communication.
- Understand the use of ICT in teaching and Learning.
- Become familiar with various devices of ICT.

COURSE CONTENT

Unit-I Basics of Educational Technology

- Concept of Educational Technology, Scope, historical development of Educational Technology

- Components of Educational Technology - Software, Hardware
- Instructional Technology

Unit-II System Approach

- Systems Approach – Definition, Characteristics and application in education.

Unit-III Models of Teaching

- Meaning, Fundamental elements of Teaching models.
- Detailed Study of following models –
  - Concept attainment model
  - Inquiry training model
  - Information processing model

Unit-IV Communication Process

- Meaning of Communication and mass-communication
- Components of communication process
- Classification of Communication –
  - Audio, Visual, Audio-Visual
  - Hardware and software
  - Static and motion
  - Primitive, Industrial & Modern
- Importance and effect of Mass communication in modern context
- Barriers of Communication -
  - Physical, Psychological and Language
- Principles of effective communication

Unit-V Communication and Information Technology

- Concept, nature and scope of Information and Communication Technology
- Information basics – Nature and scope of communication system (Sender, receiver, message and medium).

- Information and communication Technology in Teaching Learning context.
- Information and Communication Technology devices.

PRACTICUM:

1. Prepare a teaching plan based on any one of the models of teaching.
2. Developing a script and slides (at least ten) to teach a course content.
3. A report on use of ICT in a teacher education institute / school.
4. A critical review of radio / T.V. Programme on Education
5. Develop a self instructional material on teaching any topic of B.Ed. syllabus.
6. A paper on comparative analysis of audio, audio-visual and multimedia programme.
7. Preparation of a script for media production related to education.

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I year

Elective / Optional

Paper-VI

Area (E) Educational Management

Principles of Educational Management

Maximum Marks: 100 Marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVE:

After completion of the course, the students will be able to:

- Get acquainted with concept and principles of Educational Management.
- Understand various approaches and theories related to educational management.
- Analyze educational management as a process.
- Explain the concept, need & importance of Educational Finance.
- Develop appreciation of the financial Problems and issues of Educational management.
- Develop conceptual understanding of leadership.
- Develop capacities for being efficient and effective educational leaders.
- Understand concept, types and forms of Educational Supervision.

COURSE CONTENT

Unit-I Educational Management

- Concept, nature and scope of Management
- Principles and characteristics of Educational Management
- Approaches of Educational Management
  - Scientific Management approach
  - Human relation approaches
  - Integrated / situational approach

- Systems approach

- Theories of Educational Management -
  - Decision making theory of Griffiths
  - Role conflict theory of Getzel
  - Organization equilibrium theory

Unit-II Educational Management as a Process

- Planning, organization, coordination, direction, communication and evaluation.
- Importance of Communication and decision making in the management process.
- Issues in educational management.
- Existing research and needed studies in educational management.

Unit-III Leadership in Education

- Meaning, concept, need, importance of educational Leadership
- Leadership styles.
- Functions of educational Leaders.
- Leadership for Managing educational change and improvement.
- Measurement of leadership.

Unit-IV Educational Finance

- Concept of educational Finance
- Need and importance of Education Finance.
- Calculation of Unit cost of education at particular educational level.
- Efficiency cost minimization and quality improvement.
- Problems and issues of educational finance in India.

Unit-V Educational Supervision

- Meaning and nature of educational supervision.
- Types and Forms of educational supervision.
- Process of educational supervision.
- Planning, organizing and implementing supervisory programmes.
- Some innovations in the field of supervision launched in Rajasthan.

PRACTICUM:

Any two of the following:

1. Abstract of two recent articles published in some standard journals related to educational management.
2. One term paper on any aspect of educational management.
3. Study of leadership behaviour of a head of an educational institution.
4. Critical analysis of four supervision reports of secondary/ sr. secondary schools.
5. A report on a budget of an educational organization.
6. A Study of innovative practices of an educational institution.

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II Year

Core Paper

Paper-I

Essentials of Teacher Education

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the meaning, scope and system of teacher Education.
- Examine the development of teacher Education in India after Independence.
- Understand the Problems and challenges related to teacher education in National and Global context.
- Familiarize with the emerging Trends in Teacher Education.
- Critically examine the role and contribution of various regulating bodies and support institutions for improving quality of teacher Education.
- Use various methods and Techniques for Transacting curriculum of teacher education.
- Develop an understanding of process of in service teacher Education.
- Use various Techniques for the evaluation of in-service teacher Education Programmes.
- Develop understanding regarding organizations and supervision of school experience programme.
- Understand various innovations and researches in Teacher Education Programme.

COURSE CONTENT

Unit-I Concept, Need and Structure of Teacher Education

- Teacher education- concept, aims, need and scope.
- Structure of Teacher education at elementary and secondary level.
- Curriculum of Teacher education at elementary and secondary level.
- Challenges and initiatives in the field of Teacher education in National and Global scenario.
- Pre service and in service teacher education programmes.

Unit-II Historical Background of Teacher Education in India

- Evolution and development of Teacher Education in India after Independence.
- Recommendation of various reports on education regarding teacher education published after independence.
- Critical Evaluation of existing education programme in Teacher Education.

Unit-III Organization of Pre-service Teacher Education Programme

- Organization of Pre-service Teacher Education.
- Transaction of Curriculum of Teacher Education- Tutorials, Seminars, Practicum, field studies, reflective thinking sessions.
- Organization of Teaching Practice and Internship.
- Assessment of Teaching Proficiencies - criteria, Tools and Techniques.

Unit-IV Organization of In-service Teacher Education Programme

- In-service Teacher Education Programme - Concept, Need and Objectives.
- Centrally sponsored scheme for the reconstructing and strengthening of In-service Teacher Education, Role and functions of IASE, CTE and DIETs.
- Planning, organization, monitoring and evaluation
- Strategies for organizing effective In-service Teacher Education Programme - Workshop, Seminars, Field based activities, simulation, role playing, brain storming, experience sharing.

Unit-V Research and Innovations in Teacher Education

- Need of Research in Teacher Education, Areas of Research in Teacher Education.

- Action Research for quality improvement in Teacher Education.
- Current trends of Researches in Teacher Education.
- Innovations in Teacher Education – Constructivism, Total Quality Management (TQM), Interdisciplinary approaches in Teacher Education and open learning.
- Innovations in teacher education being conducted by different universities / institutions in India.

PRACTICUM:

Any two of the following:-

1. Prepare a Report of teacher education institute on the basis of quality criteria determined by the NAAC.
2. To prepare a review of a research conducted in the area of teacher education.
3. Evaluation of curriculum of Teacher Education Program of any state at secondary or elementary level.
4. Preparation of guidelines for organization of class room resources for teaching a topic using constructivist approach.
5. A critical study of organization of internship in a Teacher Education Institution.
6. A report on Identification of Training needs of teachers in a particular subject.

REFERENCES:

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II Year

Core Paper

Paper II

Indian Education: Its Development, Major Policies, Prospects & Challenges

Maximum Marks:100 marks

External Assessment:75 marks

Internal Assessment:25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the historical Background of development of Education in India.
- Identify the provisions related to education in Indian Constitution.
- Summaries the recommendations of various national documents on education.
- Understand the role of different agencies and their functioning for the development of education.
- Understand the changing perspective of the education and educational development.
- Understand challenges related to educational development.

COURSE CONTENT

Unit-I Development of Indian Education

- Concept and Aims of Education in Indian context
- Development of Education in different period: Vedic, Buddha, Medieval.
- Development of Education in Pre-Independence: Charter Act of 1813, Adam's Report, Macaulay's Minute, The Wood's Dispatch.
- Development of Educational Institutions or centers of higher learning in ancient, Medieval and Pre independence period.

Unit-II Development of Education in Post- Independent India

- Education for social and economic reconstruction of the nation
- Role of State and Society in Development of Education.
- Provisions related to education in the Indian Constitution.
- Education for marginalized section of the society.
- Universalization of Elementary education, RTE-2509: Its implication & challenges
- Expansion of the Education: Literacy, institutions, enrollment, schools, universities

Unit-III Landmark of Educational Development in India

- Establishment of UGC, NCERT, NCTE and their role in the development of Education
- Education Policy 1986 & Revised Policy 1992
- SSA
- RAMSA
- Establishment of NAAC
- Centrally sponsored schemes like-CTE, IASE, DIET, Mid-Day-Meal.
- Open universities, Open school, Central Universities, Navodaya Vidyalaya and central school schemes

Unit-IV Changing Perspective

- Yashpal Committee Report (1992)
- National Curriculum Framework (2505)
- National Curriculum Framework for Teacher Education(2509)
- Development of Education through Planning: Five year Plan, contribution and weightage on Education, Present five year plan.
- Vocationalization of Education

Unit-V Challenges Related to Education & Educational Development

- Quality vs. Quantity
- Inclusiveness & education for all
- Socio cultural issues
- Curriculum development & transaction

- evaluation system
- Liberalization, Privatization, Globalization
- Professionalization

PRACTICUM:

Any two of the following:

1. Prepare a term paper on any topic related to this paper.
2. Prepare a summary of recommendations made in any national document of education.
3. A critical review of any policy on education in India during British Period.
4. Two abstracts of articles on education published in standard educational journals.
5. A study of implementation of recommendation made by any national commission of education.
6. Report on problems encountered in the implementation of CCE in nearby school.
7. A study of educational development in your district in past two decades.

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II Year

Core Paper

Paper III

Data Analysis–Qualitative & Quantitative

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Present the external characteristics of a set of data by representing in tabular and graphical forms.
- Compute relevant measures of central tendencies and measures of variability.
- Examine relationship between different types of variables of a research study.
- Explain or predict values of dependent variable based on the values of one or more independent variables.
- Estimate the characteristics of populations based on their sample data.
- Test specific hypothesis about populations based on their sample data.
- Use appropriate procedures to analyze qualitative data.
- Demonstrate competence in the use of statistical packages for analysis of data.

COURSE CONTENT

UNIT-I Nature and Measures of Educational Data: Qualitative and Quantitative

- **Qualitative Data:** Its analysis with examples on content analysis of interview based and observation based data, Coding and categorization in case of qualitative area.
- **Quantitative Data:** Data types: Nominal, Ordinal, Interval & Ratio Scales
- **Graphical Representation of Data:** Concepts of scores, Tabulation of scores, Preparation of histogram, Frequency polygon and ogive curves.
- **Measures of Central Tendency :** Mean, Median, Mode, Quartiles, Deciles, Percentiles, percentile ranks, and uses of these measures. Calculation of Standard scores.

- **Measures of Variability :** Range, Average deviation, Standard deviation, Quartile deviation, Merits and limitations of different measures of variability, Combined means and S.D.'s

UNIT-II Descriptive Analysis of Quantitative Data

- **Correlation :** Concept of Correlation, Rank difference and pearson product moment coefficient of correlation. Tetra choric correlation, Phi coefficient.
- **Linear Regression Analysis :** Concept of regression, regression equation, regression line and their uses, Accuracy of prediction.
- **Normal Distribution :**Theoretical and empirical distributions, Characteristics of normal probability curve and its applications.
- Skewness and its types, Kurtosis.

UNIT-III Inferential Analysis of Quantitative Data

- **Estimation of a Parameter :** Concept of parameter and statistics, Sampling error, Sampling distribution, Standard error of mean.
- **Testing of Hypothesis :** Null and alternate hypothesis, Directional alternative hypothesis, Testing of null hypothesis, Types of errors and levels of significance.
- **Testing significance of difference between the following statistics for Independent and Correlated Samples:** Proportions, Means (Including small samples), Variances.
- **Inferential Statistics :** Standard errors, Confidence limits, Two tailed and one tailed tests.

UNIT-IV Inferential Statistics

- **Analysis of variance and co-variance (ANOVA and ANCOVA)-** Concepts, assumption and uses.
- **Analysis of Frequencies using chi-square :** Chi-square as test of goodness of fit and test of independence, Contingency co-efficient and its uses.
- **Non Parametric Tests:** Chi-square, Mann-Whitney U test.
- Difference between parametric and non parametric tests.

Unit-V : Analysis of Qualitative Data:

- Data reduction, Data display, Conclusion drawing and verification, Removing, Categorization and classification, Analysis of visual data.

- Use of computer for data analysis, Knowledge of software for statistical analysis such as SPSS, Excel.
- Coding of data and data entry in various computer software.

PRACTICUM:

Any two of the following -

1. Critical assessment of statistical techniques used in research report.
2. Graphical presentation of a given data.
3. Selection and description of appropriate statistical technique(s) for answering a given research question or testing a given hypothesis.
4. Entering given data in Excel and analyzing it using SPSS package.
5. Calculation of percentile / deciles on the basis of a given data.
6. Writing a term paper on any of the concepts included in the paper.

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II Year

Specialization

Paper- IV

Area (A): Elementary Education

Issues, Curriculum and Assessment of Elementary Education

Maximum Marks :100 marks

External Assessment : 75 marks

Internal Assessment :25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the different issues related to Elementary Education Level.
- Understand the process of curriculum development and planning at Elementary level.
- Understand the evaluation process, tools and techniques of assessment in Elementary Education.
- Acquaint with the agencies for the training of Elementary Teachers.

COURSE CONTENT

Unit- I Social Context of Elementary Education

- Developmental Characteristics and norms in Social Context i.e
- Socialization of a child.
- Different issues related to elementary educations such as Low enrollment, Dropout rate, Infrastructure, Distance from location of child, education of girl child, education of children from marginalized sections of society, Teacher pupil ratio etc.
- Transition from home to School-issues of Concerns.

Unit-II Curriculum and Evaluation in Elementary Education

- Principles of Curriculum at Elementary Stage.
- Objectives, Planning, Organization and Evaluation of curriculum at elementary Stage.

Unit- III Challenges in Elementary Education in India

- Universalization of Elementary Education.
- Education of street children
- Critical appraisal of issues in Elementary Education in India in represent the equality disadvantages groups including First generation learners of migrant population
- Marginalization including gender issues and its impacts on Elementary Education.
- Different Kinds of Challegened learner in Elementary Education.

Unit- IV Assessment in Elementary Education

- Meaning, Concept and Importance of Assessment in Elementary Education
- CCE in Elementary Education.
- Formative Assessment /Summative Assessment and its uses in different discipline
- Critical Appraisal of no detention policy,
- public examination at the end of the elementary stage and its viability
- Techniques and Tools of Assessment in Elementary Education.

Unit – V Professional Development of Teachers in Elementary Education

- Role of different agencies for organizing in-service training programmes for Elementary School Teachers – DIETS, SIERT, SSA, BRC, CRC, NCERT
- Role of SMC in Elementary Education
- Role and responsibilities of Elementary School Teachers.
- Professional Ethics of Elementary school teachers

PRACTICUM:

Any two of the following:-

1. School mapping of a neighbouring area.
2. Critical appraisal of elementary school curriculum of any state
3. Report on functioning of an DIET/ Elementary teacher education institution
4. Report of functioning of an SMC.
5. Report on functioning of CCE in any elementary school.
6. Survey of status of education of girls in any village.

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II Year

Specialization

Paper-IV

Area (B) Secondary Education

Issues, Curriculum & Assessment in Secondary Education

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand the importance of secondary education in relation to changing social, political, economic and cultural conditions of India.
- Understand the trends, issues and challenges of Indian society with reference to secondary education.
- Understand principles of curriculum development related to secondary education.
- Understand the evaluation process, tools and techniques of assessment in secondary education.
- Develop understanding about future perspectives of secondary education in India.

COURSE CONTENT

Unit-I Issues of Secondary Education in India

- Socio-cultural context of Secondary education in India.
- Problems and issues of Secondary Education in India - Equalization of Educational Opportunity(removing gender disparity, different types of schooling, rural urban disparity), wastage and stagnation in Sec. School Level, Privatization and Commercialization.
- Education for secularism, Pluralism and egalitarianism
- Education for national and emotional integration

Unit-II Curriculum of Secondary Education

- Curriculum, Objectives, stage specific and subject specific planning, and organization at secondary level (including distance education& open learning).

- Preparation and use of different types of curricular materials – text based materials, Activities, learning environment, Audio visual materials, role of ICT.
- Critical appraisal of present secondary school curriculum in the state (Relevance, National development, sustainability and local context).

Unit-III Assessment and Evaluation in Secondary Education

- Meaning, nature and functions of evaluation and assessment in secondary education.
- New trends in evaluation- CCE, grading system, internal assessment, semester system, Self-assessment, feedback, online assessment and Open book exam.
- Critical appraisal of the present evaluation system at secondary Education.

Unit-IV Professional Development of Teachers at Secondary Education Level

- Preparation of teachers for Secondary Education level with reference to the recommendation of various commissions/ Committees concerning Teacher Education System.
- Role, Function and need to empower secondary school heads and teachers in the present context.
- Role of NCERT, NCTE, IASE, CTE in professional development of sec. school teachers.

Unit-V Future Perspective of Secondary Education

- Recommendations of NPE 1986 about revitalization of Secondary Education.
- Role of RAMSA in strengthening Secondary Education
- The vision of NCF-2505 with reference to Secondary Education.
- Research needs in the area of secondary education.

PRACTICUM:

Any two of the following:-

1. A term paper on any one of the issues related to secondary education in India
2. Two abstracts on articles related to secondary education published in some standard Journals
3. A report on the status of dropout rates in the secondary schools of your city and also enumerate its causes
4. A survey of the evaluation practices in government and private schools

5. A critical appraisal of a training programme organized by IASEs and CTEs
6. A study of the changes in secondary education curriculum in the last one decade.

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II Year

Elective/Optional

Paper-V

Area (A) Comparative Education

Comparative Study of Educational System - India, U.K., U.S.A. & Japan

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After the completion of the course, the students will be able to:

- Understand aims and objective of education at different levels with reference to India, U.K., U.S.A. & Japan.
- Understand and reflect on the major educational policies in the countries to be studied.
- Understand the educational structure, its administration and supervision practices in Education.
- Understand the system of Teacher education of difference countries.

COURSE CONTENT

Study of the following aspects of Education in India, UK, USA & Japan:

Unit-I

- Aims and objectives of education at different educational levels.

Unit-II

- Study of educational policies and present vision about education.

Unit-III

- Administrative structure and Supervision practices in Education.

Unit-IV

Salient features and challenges of school education at elementary and secondary level.

Unit-V

System of Teacher Education

- Aims and objectives
- Organization of Teacher education at different level
- In-service and Extension Education Programmes

PRACTICUM:

Any two of the following:-

1. Two abstracts of recent articles on any aspect of comparative education from any standard journals.
2. A comparative study of aims and objectives of elementary and secondary level of education.
3. A term paper on comparison of educational policies of India and any other country included in the course.
4. A comparative study of Teacher Education of India and any other country included in the course.
5. A term paper on educational structure/Educational administration and supervision of India and any other country included in the course.
6. A report on the challenges of school education at different levels of any country.

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II YEAR

Elective/Optional

Paper - V

Area (B) Guidance and Counseling

Dynamics and Techniques of Guidance and Counseling

Maximum Marks: 100 marks

External Assessment: 75 marks

Internal Assessment: 25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Develop understanding about guidance and assessment of students with behavioral problems and special abilities.
- Develop understanding about the nature, process, underlying assumptions and principles of psychological assessment and appraisal.
- Gain insight into different techniques of psychological assessment, their need, importance and application in guidance and counseling.
- Develop skills for administering, scoring, interpreting and analysing test results.
- Develop knowledge and understanding of the major psychological concepts such as intelligence, aptitude, interest and personality and their assessment for providing guidance and counseling.

COURSE CONTENT

Unit-I Guidance and Assessment of Students with Behavioral Problems

- Nature and causes of behavioral problems.
- Identification and Guidance of students with following behavioral problems - indiscipline, violence, bullying, Delinquency, drug abuse, truancy, addictive behavior, attention disorder etc.
- Stress and coping skills – nature of stress, its causes, consequences and coping skills.

Unit-II Guidance and Assessment of Students with Special Abilities and Needs

- Students with special abilities - Concept and identification
- Students with special needs - Concept and identification
- Guidance for children with special abilities.
- Guidance for socially and economically disadvantaged students.
- Guidance for physically and intellectually challenged students.
- Guidance for educationally backward students.

Unit-III Assessment and Appraisal in Guidance and Counseling

- Concept of assessment and appraisal.
- Nature and importance of assessment and appraisal in guidance and counseling.
- Assumptions and principles of assessment and appraisal

Unit-IV Techniques for Assessment

- Need and importance of qualitative and quantitative assessment.
- Simple guidance tools – observation, interview, anecdotal record, case study, autobiography, rating scale, sociometry
- Psychological testing – nature and preliminary precautions, role and advantages and limitations, acquaintance with various psychological test and Procedure of their administration, scoring and interpretation.
- procedure of development, administration, scoring and interpretation of self made assessment tools.

Unit-V Individual Attributes and their Assessment

- Concept of intelligence: Changing perspective assessment of intelligence.
- Concept of personality, Self concept, Adjustment, Guidance for Adjustment, Assessment of personality (Projective, semi projective and non–projective techniques, Non testing devices)
- Concept of interest and its assessment.

PRACTICUM:

Any two of the following:

1. Report of a Sociometric study of a group of students.
2. Development of any two of the following tools –
    a. Rating Scale
    b. Anecdotal Record form
    c. Individual inventory form
    d. Problem checklist
3. A critical appraisal of any one research report in the area of guidance.
4. One term paper related to topic prescribed in this paper.
5. Two abstracts of articles related to guidance and counseling published in some standard journals.
6. Report of counseling of any one of the following behavioral problems –
    a. Truancy
    b. Bullying
    c. Delinquency
    d. Addictive behavior

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II Year

Elective/Optional

Paper – V

Area (C) Inclusive Education

Inclusive Education for Diverse Needs

Maximum Marks:100 marks

External Assessment: 75 marks

Internal Assessment:25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand concept of diverse needs.

- Understand the nature of difficulties encountered by children with special needs and prepare conducive teaching learning environment.
- Identify and utilize existing resources for promoting inclusive practices.
- Develop an understanding of the needs and magnitude of the challenges faced by children and persons with diverse needs.
- Understand the roles and responsibilities of teachers' parents and community for supporting inclusion.
- Understand the schemes and programs for education of socially disadvantaged groups.
- Understand the concept and importance of gender, justice and equality.
- Analyze the status of education of girls in schools with regard to access, enrolment, achievement.

COURSE CONTENT

Unit- I Children with Diverse Needs and Preparation for Inclusive Education

- Concept and Meaning of diverse needs.
- Definition and characteristics of children with sensory, (hearing, visual and physically challenged) intellectual (gifted, talented and mentally challenged children) developmental disabilities (autism, cerebral palsy, learning disabilities) social and emotional problems, scholastic backwardness, under achievement, slow learners ,children with special health problems, environmental/ ecological difficulties and children belonging to other marginal groups-SC,ST,OBC and slum children.
- Educational approaches and measures for meeting the diverse needs-concept of remedial education, special education, integrated education and inclusive education.
- Building learning friendly classrooms, overcoming barriers for inclusion.
- Role of teachers, parents and other community members for supporting inclusion of children with diverse needs.

Unit-II Utilization of Resources

- Role of teachers working in inclusive settings and resource teachers in developing and enriching academic skills.

- Curriculum and co-curricular activities for meeting diverse needs of children from sensory, intellectual, learning disabled, rural ,tribal, girls, SC, ST and linguistic and other minority groups.
- Special teaching learning materials for children with diverse needs
- Aids and appliances for children with diverse needs.

Unit – III –Curriculum Adaptations for Children with Diverse Needs

- Curriculum adaptations for children with sensory (hearing, visual and physically challenged), intellectual (gifted, talented and mentally challenged children), developmental disabilities (autism, cerebral palsy, learning disabilities), social and emotional problems, scholastic backwardness, underachievement, slow learners, Children with special problem, environmental/ ecological difficulties and children belonging to other marginalized groups.
- Guidance for adaptation for teaching / practicing science, mathematics, social studies, languages, physical education, Yoga, heritage art, theatre, drama etc, in inclusive settings.
- Utilization of records / case profiles for identification, assessment and intervention for inclusive classrooms.

Unit –IV Educational Problems and Support Services of Disadvantaged Sections

- Problems/ constraints in education of Socially disadvantaged children, multicultural education, organization and management of schools to address socio cultural diversity.
- Bias in text books, hidden curriculum (teacher attitude, expectations)
- Support materials and support services for children with diverse needs.
- Schemes, programs for education of socially disadvantaged sections.

Unit -V Status, Problems and Issue of Girls' Education in India:

- Position of India in Human Development Index (with focus on gender) status of girls / women in Indian society.
- Status of access enrolment, retention and achievement of girls coming from disadvantaged sections and first generation learners.
- Social construction of gender, socialization, family and gender identity, media, gender roles, caste, class, community and gender relations.

- Gender inequality in schooling: Organization of schooling gender bias in text books, curricular choices and the hidden curriculum (expectations of teachers, student teacher interaction). Gender Bias in family and society.
- Co – education- its educational implications.

PRACTICUM:

Any two of the following:-

1. Preparation of status report on school education of children with diverse needs in your city.
2. Evaluation of text books from the perspective of differently abled children/ gender perspective / socially disadvantaged group.
3. Observation report of a school promoting inclusive education.
4. Survey the locality for identification of children with disabilities.
5. Visit to special, integrated and inclusive classrooms, residential /Ashram schools and minorities' institution and reporting.
6. Preparation of report on institution /schools practicing innovations in the area of education for socially disadvantaged.
7. Report of a visit of any one institution for children with visually impaired, hearing impaired, mental retardation or handicapped. (It must include reflection on problems faced by disabled children, resources, infrastructure, assistive devices, aids and appliances and support services.)

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- Sharma P.L. (1990) Teachers handbook on IED-Helping Children with special needs, NCERT publications.
- Sharma, P.L. (2503) Planning Inclusive Education in small schools, RIE Mysore.

II Year

Elective / Optional

Paper- V

Area (D): ET and ICT in Education

Application of Educational Technology and Information Communication Technology in Education

Maximum Marks: 100 marks

External assessment:75 marks

Internal assessment:25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

1. Understand use of ET in formal, non formal and informal Education.
2. Understand use of ET in Distance Education and Open Learning System.
3. Enhance knowledge about various agencies working in the field of ET.
4. Understand the concept, importance and process of instructional design.
5. Understand importance of instruction design for competency based teaching and self learning.
6. Understand concept, definition, trends and management of e-learning.
7. Use ICT in teaching learning process.
8. Access different educational websites.
9. Use ET & ICT in research.

COURSE CONTENT

Unit-I Application of Educational Technology in Education

- Use of Educational Technology in Formal, Non Formal & Informal Education.
- Use of Educational Technology in Distance Education, Open Learning Systems and Evaluation.

Unit-II Agencies Working in the Field of Educational Technology

- CIET
- UGC
- IGNOU

- EMRC
- SIET

Unit-III Instructional Design

- Concept and importance.
- Process and stages of development of instructional design.
- Use of instructional design for competency based teaching and self learning.
- Programmed Instruction.

Unit-IV E-Learning

- Definition, Scope, Trends, Attributes and Opportunity.
- Digital Learning
- Management of e-learning
- On-line learning
- Virtual class-rooms and smart-class rooms.
- Adaptive e-learning.

Unit-V Application of ICT in Education

- Meaning, advantages & concepts of multi-media.
- Multi-media packages and their use.
- Use of Internet
- Websites with educational contents
- Research in E.T. and I.C.T.

PRACTICUM:

Any two of the following:

1. Critical analysis of a computer based media package.
2. Preparation of fifteen program learning frames related to any topic.
3. Preparation of a trend report on research in area of ET/ICT.
4. Report on use of ET in any non-formal education programme.
5. Review of use of ET in distance learning programme.
6. A report on experiences of online learner (at least two).

REFERENCES:

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- Singh, C.P. (2511) Advances Educational Technology New Delhi.
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- Rasbenberg, M.I. (2501) e-learning New York: Mc Graw Hill
- Schank, R.C. (2501) Virtual Learning Mc Graw Hill.

II Year

Elective/Optional

Paper-V

Area (E) Educational Management

Practices of Educational Management

Maximum Marks: 100 marks

External Assessment:75 marks

Internal Assessment:25 marks

OBJECTIVES:

After completion of the course, the students will be able to:

- Understand constitutional provisions related to educational management.
- Understand the role of centre, state and local body in educational management.
- Understand the role of different agency in relation to management of education in India.
- Understand management of Elementary & Secondary Education System.
- Understand the importance, types and approaches of educational planning.
- Critically review educational planning process in India.
- Identify and understand issues related to educational management.
- Understand the importance of innovations in educational management.

COURSE CONTENT

Unit-I Management of Education at Central Level

- Constitutional Provisions.
- Role of centre, state and local bodies.
- Centre state relationship.
- Important agencies and their role in managing education–MHRD, CABE, NCERT, NCTE, NUEPA.

Unit-II Management Practices in Elementary Education

- Vision of Elementary Education in Policy documents.

- Present status and challenges in management of Elementary Education.
- Policies and Programmes implementation strategies.
- Management of Elementary Education in Rajasthan.
- Role of SSA, SIERT and DIET's in quality improvement of elementary education.

Unit-III Management Practices of Secondary Education

- Vision of secondary Education in Policy documents.
- Present status and Challenges related to management of Secondary Education.
- Policies programmes and Implementation of secondary education.
- Efforts for quality improvement by RAMSA, IASE's and CTE's.
- Some supervision practices followed in Rajasthan for Secondary Schools.

Unit-IV Educational Planning

- Need, importance and Purpose of Educational Planning.
- Types and approaches of educational planning.
- A review of Educational Planning in India.
- A review of current five year plan with reference to education sector.

Unit-V Management Issues and Innovations

- T.Q.M. for quality management.
- SWOT analysis.
- Organizational & Institutional Climate.
- Stress Management and time Management
- Innovation for change and improvement.

PRACTICUM:

Any two of the following:-

1. A term paper on any one topic related to this paper.
2. Critical review of the central-state relationship in education after Independence with reference to educational management.
3. SWOT analysis of an institution of any one school / Teacher Education Institution.
4. Study of innovation of an educational institution.
5. A critical analysis of present five year plan with reference to education sector.
6. Study of management structure and functioning of an educational Institution.
7. A survey of public opinion on implementation of any welfare scheme related to education.

REFERENCES:

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- Singh, B. (1967) Education as Investment. Delhi: Meenakshi Prakashan.
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Faculty of Engineering

Courses offered-

- B. Tech.

Programme Outcomes For Every degree Programme broad expectations should be listed by the University. Examples are given below from NBA for an Engineering Degree Programme.

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

POs of General Higher Education Programmes should be identified by the University/Autonomous College offering the three year Programmes

Sample POs of General Higher Education Programmes: Students of all undergraduate general degree Programmes at the time of graduation will be able to

PO1.Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Faculty of Humanities

Department of English

Courses offered-

- M.A.

B.A.(PASS COURSE Pt. I)ENGLISH LITERATURE
Paper I: Drama and Poetry

Objectives

- To familiarize the students with the basic concepts of English literature and acquaint them with the different literary genres such as poetry, drama.
- To make them familiar with the early history of English literature.

The Pattern of question paper will be as follows: **M.M. 100**
Section A **(10 Marks)**
Ten very short answer questions of one mark each,covering all units.
Section B **(50 Marks)**
Five short answers/explanations (approx. 250-300 words) with internal choice covering all units.
a. Short answers- from Fiction, Prose, Criticism and background
b. Explanations from Poetry and Drama
Section C **(40 Marks)**
Two full-length questions out of five(approx. 800 words), each carry 20 marks.

Unit I

William Shakespeare: *As You Like It*

Unit II

Following poems from
Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* Oxford University Press. 1989.

William Shakespeare:	'When to the Sessions', 'Like as the Waves'
John Milton:	'When the Assault was Intended to the City'
Alexander Pope:	'From*An Essay on Man*'
William Blake:	'The Tiger'

Unit III

Following poems from
Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* Oxford University Press. 1989.

William Cowper:	'On the Receipt of My Mother's Picture'
William Wordsworth:	'She was a Phantom of Delight'
Percy Bysshe Shelley:	'The Cloud'
Alfred Tennyson:	'Ulysses'

Unit IV

Following poems from
Gokak,Vinayak Krishna, editor. *Golden Treasury of Indo – Anglian Poetry*, Sahitya Akademi, 2007.

Henry L. Derozio:	'Song of the Hindustanee Minstrel'
Michael Madhusudan Dutt:	'King Porus–A Legend of Old', 'The Queen of Delhi's Dream'
Toru Dutt:	'The Lotus', 'Lakshman'

Unit V

Following poems from
Gokak, Vinayak Krishna, editor. *Golden Treasury of Indo – Anglian Poetry*, Sahitya Akademi, 2007.

Swami Vivekananda: 'The Cup', 'Kali the Mother'
V. K. Gokak: 'English Words', 'The Song of India'

Recommended Reading List

- Abrams, M.H. and Geoffrey Galt Harpman, *A Glossary of Literary Terms*, Laxmi Publications, 2017.
- Compton-Rickett, Arthur.*History of English Literature*, Nabu Press, 2010.
- Prasad, Birjadish.*A Short History of English Poetry*, Laxmi Publications, 2017.

Course Outcomes

- Better understanding of the early history of English literature.
- Familiarity with different literary genres.

B.A. (PASS COURSE Pt. I)ENGLISH LITERATURE
Paper II: Prose and Fiction

Objectives

- To impart knowledge and understanding of prose through the essays and novels by leading writers of English language.
- To acquaint the students with different styles and history of essay writing and short stories.

The pattern of question paper will be as follows: **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each from all Units.

Section B **(50 Marks)**

Five short type questions (250-300 words) with internal choice covering all Units.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks. (800 words)

Unit I

Francis Bacon:	'Of Youth and Age'
Richard Steele:	'The Spectator Club'
Joseph Addison:	'Meditations in Westminster Abbey'
Oliver Goldsmith:	'Beau Tibbs at Home'

Unit II

Lockitt, C. H., editor.*Art of the Essayist*. Longman, 1952.

Charles Lamb:	'Detached Thoughts on Books and Reading'
E. V. Lucas:	'Third Thoughts'
G.K. Chesterton:	'On the Pleasures of No Longer Being VeryYoung'
Robert Wilson Lynd:	'The Student'

Unit III

Chinua Achebe:	'Marriage is a Private Affair'
O. Henry:	'The Ransom of Red Chief'
K.A. Abbas:	'Sparrows'

Unit IV

Shashikumar, J., and Paul Gunashekar, editors. *Spectrum: An Anthology of Short Stories*. Orient Black Swan, 2009.

Maxim Gorky:	'The Mother of a Traitor'
W.Somerset Maugham:	'The Verger'

Unit V

Thomas Hardy:	*The Mayor of Casterbridge*

Recommended Reading List

- Albert, Edward. *History of English Literature*. OUP, 2017.
- Hudson, W.H. *An Outline History of English Literature***.** Maple Press, 2012.
- Louis, Landa A. *Essays in Eighteenth-Century English Literature*. Pennsylvania University Press, 1980.
- Millgate, Michael. *Thomas Hardy: His Career as a Novelist.*Palgrave Macmillan, 1994.
- Singh, R.P. *An Anthology of English Short Stories.* OUP, 2000.

Outcomes

- Students will acquire an understanding of the characteristic aspects of the literary genres of novel, prose and essay to enhance their understanding of literature.
- The prescribed texts will enrich their knowledge about complex human relationships in the given socio-historical context.

B.A. (PASS COURSE Pt. II) ENGLISH LITERATURE
Paper I: Drama

Objectives

- To acquaint the students with the history, forms, themes and technical aspects of drama.
- To engage them in activities like role play, dialogue delivery and critical evaluation of plays
- To provide them with an insight into how drama can be an effective tool for raising awareness among masses and to enrich their critical capabilities.

The pattern of question paper will be as follows: **M.M. 100**
Section A **(10 Marks)**
Ten very short type questions of one mark each from all Units.
Section B **(50 Marks)**
Five short type questions /explanations (250-300 words) with internal choice covering all units.
Section C **(40 Marks)**
Two full length questions (800 words) out of five, each carrying 20 marks.

Unit I

Shakespearean Tragedy: Tragic Hero; Supernatural Elements; Good & Evil

Unit II

William Shakespeare*:* *Macbeth*

Unit III

Comedy, Kitchen-Sink Drama, Problem Play

Unit IV

Henrik Ibsen: *A Doll's House*

Unit V

George Bernard Shaw: *Arms and the Man*

Recommended Reading List

- Boulton, Marjorie. *The Anatomy of Drama*. London: Routledge and Kegan Paul, 1960.
- Bradley, AC. *Shakespearean Tragedy*. 1904. Penguin, 1991.

- Egan, Michael. *Henrik Ibsen: The Critical Heritage*. Routledge, 2003.
- McCabe, Joseph. *George Bernard Shaw: A Critical Study*. Forgotten Books, 2018.
- Nagarajan, S. and S. Viswanathan. editors. *Shakespeare in India*. OUP, 1987.
- Naik, M.K. *A Short History of Indian English Literature*, Sahitya Akademi, 2001
- Peck, John and Martin Coyle. *Literary Terms and Criticism.* The Macmillan Press Ltd, 1993.
- Sanders,Andrew. *The Short Oxford History of English Literature*. OUP, 1996.

Outcomes

- Students will learn that drama can be an effective tool in enhancing language skills and in personality development.
- The course will encourage peer cooperation as the students will be engaged in various team activities.

B.A. (PASS COURSE Pt. II) ENGLISH LITERATURE
Paper II: Poetry

Objectives

- To familiarize the students with the literary terms that are required to appreciate poetry.
- To introduce the different schools of poetry in English, such as Metaphysical poetry, Romantic poetry, Victorian poetry and Modern poetry.
- To generate an appreciation for Indian English Poetry.

The pattern of the question paper will be as follows:

Section A **(10 Marks)**

Ten very short type questions of one mark each from all units.

Section B **(50 Marks)**

Five short type questions /explanations (250-300 words) with internal choice covering all units.

Section C **(40 Marks)**

Two full length questions (800 words) out of five, each carrying 20 marks.

Unit I

Dustoor,P.E. and Homai P. Dustoor, editors.*The Poet's Pen.* Oxford University Press. 1989.
Board ofEditors, *Fifteen Poets*. Oxford University Press, 2015

John Donne:	'Go, and Catch a Falling Star'
Andrew Marvell:	'Thoughts in a Garden'
Thomas Gray:	'Elegy Written in a Country Churchyard'

Unit II

Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* Oxford University Press. 1989.
Board ofEditors, *Fifteen Poets*. Oxford University Press, 2015

William Wordsworth:	'Daffodils'
Percy Bysshe Shelley:	'Ode to the West Wind'
John Keats:	'To Autumn'

Unit III

Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* Oxford University Press. 1989.

Robert Browning:	'My Last Duchess'
Matthew Arnold:	'Dover Beach'

William Butler Yeats: ‘To a Shade’

Unit IV

Singh. R.P and S. K. Prasad, editors.*An Anthology of Indian English Poetry*.Orient Blackswan, 1989.

Rabindranath Tagore:	‘Heaven of Freedom’ / ‘Where the Mind is without Fear’, ‘Silent Steps’ (from *Gitanjali*)
Sri Aurobindo:	‘Transformation’, ‘The Tiger and the Deer’
Sarojini Naidu:	‘Village Song’, ‘The Soul's Prayer’

Unit V

Sonnet, Lyric, Ballad, Ode, Simile, Metaphor, Soliloquy, Irony, Alliteration

Recommended Reading List

- Abrams, M.H. and Geoffrey Galt Harpham, *A Glossary of Literary Terms,* Laxmi Publications, 2017.
- Compton-Rickett, Arthur.*History of English Literature*, Nabu Press, 2010.
- Mehrotra,Arvind K.*An Illustrated History of Indian Literature in English,* Permanent Black, 2003.
- Prasad,Birjadhish.*A Short History of English Poetry*, Laxmi Publications, 2017.

Outcomes

- Students will be able to critically analyze poetryusing various elements, such as diction, tone, form, genre, imagery, figures of speech, symbolism and theme.
- They will grasp the aesthetics of poetry, as well as the ability to read, appreciate and independently evaluate poetic works critically.

B.A. (HONS. PT.- I) ENGLISH
Paper I: Drama I

Objectives

- To enable students to learn about the nuances of the genre of drama.
- To inculcate an understanding of socio-cultural elements in drama.
- To develop critical skills for effective analysis of characters, plot and themes in a drama.

The pattern of question paper will be as follows: **M.M. 100**
Section A **(10 Marks)**
Ten very short answer type questions of one mark each from all Units.
Section B **(50 Marks)**
Five short answers (150-200words) with internal choice covering all units.
Section C **(40 Marks)**
Two full length questions (800 words) out of five, each carrying 20 marks.

Unit I

William Shakespeare: *As You Like It*

Unit II

William Congreve: *The Way of the World*

Unit III

John Galsworthy: *Justice*

Unit IV

Sean O Casey: *The Shadow of a Gunman*

Unit V

Mahesh Dattani: *Final Solutions*

Recommended Reading List

- Ayling, Ronald. *Sean O'Casey From Times Past*. The Macmillan Education, 1982.
- Cahn, L.Victor. *Introducing Shakespeare's Comedies, Histories and Romances*. Rowman & Littlefield, 2017.
- Frechet, Alec. *John Galsworthy: A Reassessment.* Translated from the French by Denis Mahaffey.The Macmillan Press LTD, 1982

- Gindin, James. *John Galsworthy's Life and Art*. The Macmillan Press LTD, 1987.
- Joshipura, Pranav. *A Critical Study of Mahesh Dattani's Plays*. Sarup Book Pub, 2009.
- Lindsay Alexander, Howard Erskine. *William Congreve: The Critical Heritage.* Routledge, 2002.
- Maslen, R.W. *Shakespeare and Comedy*. Bloomsbury, 2005.
- Salinger, Leo. *Shakespeare and the Traditions of Comedy*.1976.
- Smith, Emma. *Shakespeare's Comedies*. Blackwell Publication, 2004

Outcomes

- The students will have knowledge of contemporary issues and concerns mirrored in the prescribed plays.
- The plays will develop a sense of social and ethical responsibility among students towards their fellow beings.
- Drama enactment by the students will prove an effective tool in acquisition of English language skills.

B.A. (HONS. PT.- I) ENGLISH
Paper II :Poetry I

Objectives

- To enable the students to evaluate poetry and relate to poetry as an intrinsic part of human experience.
- To introduce the different schools of poetry in English.

The pattern of the question paper will be as follows: **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each, from all units.

Section B **(50 Marks)**

Five questions, explaining with reference to the context, (150- 200 words), one from each unit, with internal choice

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks.(Approx. 500 words)

Unit I

Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* OUP. 1989.

William Shakespeare:	'When to the Sessions', 'Like as the Waves'
John Milton:	'Lycidas'

Unit II

John Donne:	'Go and Catch a Falling Star'
Andrew Marvell:	'To His Coy Mistress'
John Dryden:	'Alexander's Feast'

Unit III

William Blake:	'London'
William Collins:	'Ode to Evening'
Thomas Gray:	'Elegy Written in a Country Churchyard'

Unit IV

William Wordsworth:	'Daffodils', 'Lines Composed above Tintern Abbey'
S.T. Coleridge:	'Kubla Khan'

Unit V

P.B. Shelley:	'Ode to the Westwind', 'To a Skylark'
John Keats:	'Ode to a Nightingale', 'To Autumn'

Recommended Reading List

- Abrams, Meyer. *The Mirror and the Lamp: Romantic Theory and the Critical Tradition*. OUP, 1953.

- Butler, Marilyn. *Romantics, Rebels and Reactionaries: English Literature and Its Background 1760-1830*.OUP, 1981.
- Curran, Stuart. *Poetic Form and British Romanticism*. OUP, 1986.
- Daiches, David. *A Critical History of English Literature* (Vol. II). Secker and Warburg Ltd., 1961.
- Gaull, Marilyn. *English Romanticism: The Human Context.*W.W Norton,1988.
- Magnuson, Paul. *Coleridge and Wordsworth: A Lyrical Dialogue*. Princeton University Press, 1988.
- Mellor, Anne, editor. *Romanticism and Feminism*. Indiana University Press, 1988.
- ---. *English Romantic Irony*.Harvard University Press,1980.

Outcomes

- The students will be able to critically analyze poetry using various elements, such as diction, tone, form, genre, imagery, figures of speech, symbolism and theme.
- Enhanced awareness of the aesthetics of poetry, as well as the ability to read, appreciate and independently evaluate poetic works critically.

B.A. (HONS. PT. - I) ENGLISH
Paper III: Fiction I

Objectives

- The students will cultivate an understanding of the genres of novel and short story.
- To enhance ability to analyze and appreciate fiction in a larger context.

The pattern of question papers will be as follows**:** **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each from all sections

Section B **(50 Marks)**

Five short answers (150-200 words) with internal choice covering all sections

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks.(Approx. 500 words)

Unit I

Thomas Hardy: *The Mayor of Casterbridge*

Unit II

Somerset Maugham: *Of Human Bondage*

Unit III

Aldous Huxley: *Brave New World*

Unit IV

Short Stories (from *Spectrum*)

Earnest Hemmingway: 'A Day's Wait'
Chinua Achebe: 'Marriage is a Private affair'
O' Henry: 'The Ransom of Red Chief'

Unit V

K. Abbas: 'Sparrows'
Maxim Gorky: 'The Mother of a Traitor'
W. Somerset Maugham: 'The Verger'

Recommended Reading List

- Achebe, Chinua. *The Heinemann Book of Contemporary African Short Stories*.Heinemann, 1997.
- Blunden, Edmund. *Thomas Hardy*. Macmillan, 1942.
- McKinney, John F. *Maugham's of Human Bondage*. Monarch Press, 1964.
- Sion, Ronald T. *Aldous Huxley- Literary Prophet: A Study of Six of His Novels*.Xlibris, 2000.

Outcomes

- The students will develop an understanding of the socio-cultural forces that define and shape fiction of a particular time and place.
- A better understanding of life and human nature
- Ability to analyse, interpret and express ideas in a comprehensive manner.

B.A. (HONS. PT.- I) ENGLISH
PAPER IV: Prose and Literary Terms

Objectives

- The students will be introduced the genre of essay
- To familiarize with basic literary terms which are essential to appreciate different forms of literary terms
- To inculcate an ability to write essays and short notes

The pattern of question paper will be as follows: **M Marks 100**
Section A **(10 Marks)**
Ten very short type questions of one mark each from all sections
Section B **(50 Marks)**
Five short answers (150-200 words) with internal choice covering all sections
Section C **(40 Marks)**
Two full length questions out of five, each carrying 20 marks.(Approx. 500 words)

Unit I

Lockitt, C. H. editor. *The Art of the Essayist.* Orient Blackswan, 1949

Francis Bacon:	'Of Studies'
Richard Steele:	'Character of Will Wimble'
Joseph Addison:	'Meditations in Westminster Abbey'

Unit II

Charles Lamb:	'Detached Thoughts on Books and Readings'
E. V. Lucas:	'Third Thoughts'
G. K. Chesterton:	'On the Pleasures of No Longer Being Very Young'

Unit III

Robert Lynd:	'The Student'
Herbert Read:	'The Poet and the Film'

From: *Art of the Essayist Ed by C H Lockitt*. Longman, Green, 1952.

UnitIV

Sonnet, Lyric, Ode, Ballad, Elegy, Soliloquy, Dramatic Monologue,Satire, Irony, Burlesque

Unit V

Simile, Metaphor, Alliteration, Blank Verse, Heroic Couplet

Recommended Reading List

- Abrams, W. H. and Geoffrey Galt Harpham. *A Glossary of Literary Terms.* Cengage Learning India Private Limited, 2015.
- Alexander, L.G. *Appreciation of Poetry & Prose*. Longman, 1963.
- Chaudhuri, Sukanta, editor. *Bacon's Essays: A Selection*. OUP, 1977.
- Cuddon, J. A. *Dictionary of Literary Terms and Literary Theory.* Penguin Books, 2000.
- Read, Herbert. *English Prose Style*. 1928. Pantheon Books, 1952.

Outcomes

- The students will be able to follow sequence of ideas, facts etc. through reading of prose.
- The students will develop an understanding of form and structure of English prose and poetry.

B.A. (HONS. PT.- II) ENGLISH
Paper I: Drama II

Objectives

- To enable students to learn about the nuances of the genre of drama.
- To inculcate an understanding of socio-cultural elements in drama.

The pattern of question paper will be as follows: **M.M. 100**
Section A **(10 Marks)**
Ten very short type questions of one mark each from all Units.
Section B **(50 Marks)**
Five short answers (150-200words) with internal choice covering all units.
Section C **(40 Marks)**
Two full length questions out of five, each carrying 20 marks. (Approx.500 words)

Unit I

William Shakespeare: *Macbeth*

Unit II

Henrik Ibsen: *A Doll's House*

Unit III

G. B. Shaw: *Arms and the Man*

Unit IV

Edward Albee: *Who's Afraid of Virginia Woolf*?

Unit V

Habib Tanvir: *Charandas Chor*

Recommended Reading List

- Banerjee, Swapan Kumar. *Feminism in Modern English Drama (1892-1914).* Atlantic, 2013.
- Boulton, Marjorie. *The Anatomy of Drama*. Routledge and Kegan Paul, 1960.
- Bradley, A.C. *Shakespearean Tragedy*. 1904. Penguin, 1991.
- Bradbrook, M.C. *Themes and Conventions of Elizabethan Theatre.* CUP, 1935.
- Styan, J. L. *The Elements of Drama*. CUP, 1969.

Outcomes

- The students will develop a sense of social and ethical responsibility towards society.
- They will acquire a feminist perspective as most of the plays have strong female characters.
- Students will understand literary aspects of theatre.

B.A. (HONS. PT.- II) ENGLISH
Paper II: Poetry II

Objectives

- To enable the students to evaluate poetry and relate to poetry as an intrinsic part of human experience.
- To introduce the different schools of poetry in English.
- To generate an appreciation for Indian English Poetry.

The pattern of the question paper will be as follows: **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each, from all units.

Section B **(50 Marks)**

Five questions, explaining with reference to the context, (150- 200 words), one from each unit, with internal choice.

Section C **(40 Marks)**

Two full length questions out of five, each carrying 20 marks.(Approx. 500 words)

Unit I

Dustoor,P.E. and Homai P. Dustoor, editors. *The Poet's Pen.* Oxford University Press. 1989.

Alfred Tennyson:	'Ulysses'
Robert Browning:	'My Last Duchess'
Matthew Arnold:	'Dover Beach'

Unit II

W. B. Yeats:	'A Prayer for My Daughter'
	'The Second Coming', 'Sailing to Byzantium'

Unit III

T.S. Eliot:	'The Love Song of J. Alfred Prufrock'

Unit IV

G.M. Hopkins:	'Spring and Fall'
Wilfred Owen:	'An Anthem for Doomed Youth'
Rupert Brooke:	'The Soldier'
Ted Hughes:	'The Thought Fox'

Unit V

Singh. R.P and S. K. Prasad, editors. *An Anthology of Indian English Poetry*. Orient BlackSwan, 1989.

Henry Derozio:	'Song of the Hindustanee Minstrel'
M.M. Dutt:	'King Porus- A Legend of Old'
Toru Dutt:	'Lakshman'
Sarojini Naidu:	'Village Song'
Rabindranath Tagore:	'Songs1-5'from*Gitanjali*

Recommended Reading List

- Abrams, M.H. and Geoffrey Galt Harpham, *A Glossary of Literary Terms,* Laxmi Publications, 2017.
- Compton-Rickett, Arthur. *History of English Literature,* Nabu Press, 2010.
- King, Bruce. *Modern Indian Poetry in English.* OUP, 2005.
- Mehrotra, Arvind K. *An Illustrated History of Indian Literature in English,* Permanent Black, 2003.
- Miles, Rosie. *Victorian Poetry in Context*. Continuum Publishing Corporation, 2001.
- Prasad, Birjadhish. *A Short History of English Poetry.*Laxmi Publications, 2017.
- Untermeyer, Louis. *Modern British Poetry.*BlackWell, 2011.

Outcomes

- Students will be able to critically analyze poetry using various elements, such as diction, tone, form, genre, imagery, figures of speech, symbolism and theme.
- They will develop an enhanced awareness of the aesthetics of poetry, as well as the ability to read, appreciate and independently evaluate poetic works critically.

B.A. (HONS. PT.- II) ENGLISH
Paper III: FictionII

Objectives

- Students will cultivate an understanding of the genres of novel and short story.
- They will be able to enhance their ability to analyze and appreciate fiction in a larger context.

The pattern of question papers will be as follows: **MM 100 Marks**

Section A **(10 Marks)**
Ten very short type questions of one mark each from all sections
Section B **(50 Marks)**
Five short answerswith internal choice covering all sections.(approx. 150-200 words)
Section C **(40 Marks)**
Two full length questions out of five, each carrying 20 marks.(approx. 500 words)

Unit I

Charles Dickens: *Great Expectations*

Unit II

Jane Austen: *Pride and Prejudice*

Unit III

F. Scott Fitzgerald: *The Great Gatsby*

UnitIV

William Golding: *Lord of the Flies*

UnitV

Guy de Maupassant: 'Two Little Soldiers'
Katherine Mansfield: 'The Doll's House'
R.K. Narayan: 'The Axe'

Recommended Reading List

- Bal, Mike. *Narratology: Introduction to the Theory of Narratives*. UTP,1985.
- Eagleton, Terry. *The English Novel: An Introduction*. Blackwell, 2004.
- Gross, John. ed. *The New Oxford Book of English Prose*. OUP, 2000.
- Lubbock, Percy. *The Craft of Fiction*. Jonathan Cape, 1921.

- Read, Herbert. *English Prose Style*. Pantheon Books, 1952

Outcomes

- Students will develop a comprehensive understanding of the socio-cultural forces that define and shape fiction of a particular time and place.
- They will be able to analyze, interpret and express ideas in a comprehensive manner.

B.A. (HONS. PT.- II) ENGLISH
Paper IV:Introduction to the History of Indian Writing in English

Objectives

- Students will be introduced to the history of Indian Writing in English.
- They will be able to generate an understanding of the different stages of growth of Indian English literature.
- To familiarize the students with the relevance and significance of socio-political history and its impact on literature.

The pattern of question paper will be as follows: **MM 100 Marks**
Section A **(10 Marks)**
Ten very short type questions of one mark each from all sections
Section B **(50 Marks)**
Five short answer questions (Approx.150-200 words) with internal choice, covering all sections.
Section C **(40 Marks)**
Two full length questions out of Five, each carrying 20 marks.(Approx. 500 words)

The prescribed texts in the following units are from-

Mehrotra, Arvind K. *A Concise History of Indian Literature in English.* Permanent Black, 2017.

Unit I

Arvind K.Mehrotra: 'Introduction'

Unit II

Meenakshi Mukherji: 'The Beginnings of the Indian Novel'

Unit III

Rajeev S. Patke: 'Poetry Since Independence'

UnitIV

Shanta Gokhale: 'The Dramatist'

Unit V

Arshia Sattar: 'Translations into English'

Recommended Reading List

- Anjaria, U. *A History of Indian Novel in English*, CUP, 2015
- Iyenger, K.R. Srinivasa. *Indian Writing in English.*Sterling Publishers, 2018.
- Kachru, Braj B. *The Indianization of English: The English Language in India.*OUP, 1981.
- Mehrotra, Arvind K. *A Concise History of Indian Literature in English.* Permanent Black, 2017.
- Naik, M.K. and S.A. Narayan, *Indian English Literature, 1980-2000: A Critical Survey*, Pencraft Publisher,2001
- Naik, M.K. *A History of Indian English Literature.* Sahitya Akademi. 1980.

Outcomes

- Students will develop the ability to appreciate the socio-cultural, historical and political backdrop and its impact on literature.
- They will be able to understand the importance of different genres, such as poetry, fiction, drama and prose in Indian Writing in English.

B.A. (Hons. Pt.- III) ENGLISH
Paper I: Literary History

Objectives

- To introduce the students to the history of English literature.
- To acquaint them with the pariodic shifts and progression in the history of English literature.
- To generate an understanding of socio-political forces that impact literature.

The pattern of question papers will be as follows: **M.M. 100**
Section A **(10 Marks)**
Ten very short type questions of one mark each from all units.
Section B **(50 Marks)**
Five short answers (Approx.150-200 words) with internal choice covering all units.
Section C **(40 Marks)**
Two full length questions out of Five, each carrying 20 marks. (Approx.500 words)

Unit I

Renaissance
Reformation
Metaphysical Poetry

Unit II

Restoration
Neo-classical/ Augustan Literature

Unit III

Romanticism

UnitIV

Victorian Literature

Unit V

Modernism

Recommended Reading List:

- Abrams, Meyer. *The Mirror and the Lamp: Romantic Theory and the Critical Tradition*, OUP, 1953.
- Childs, Peter. *Modernism.* New Critical Idiom Series, Routledge, 2003.

- Daiches, David. *A Critical History of English Literature*, Secker and Warburg Ltd., 1961.
- Day, Aidan. *Romanticism.* New Critical Idiom Series, Routledge, 2003.
- Jespersen, Otto, *Language: Its Nature, Development and Origin*, George Allen & Unwin Ltd,2016
- Legouis and Cazamian's *History of English Literature*, Macmillan, 1967
- Rickett, Compton Arthur. *A History of English Literature: From Earliest Times to 1916*, Dodge Publishing Comp., 1960.
- Sanders, Andrew. *The Short Oxford History of English Literature*. OUP, 1996.

Outcomes

- Students will develop an understanding of the salient features of different periods in the history of English Literature.
- They will acquire an understanding of the major movements in literary history.

B.A. (Hons. Pt.- III) ENGLISH

Paper II: Language and Phonetics

Objectives

- To introduce the students to the basic framework of English grammar.
- To enable students to comprehend, and apply the knowledge of grammar, to analyse and synthesize various components of language in a given context.
- To familiarize the students to the phonemic nature and system of English language.
- To develop skills of logical thinking and organizing ideas as a coherent whole.

The pattern of question paper will be as follows: M.M. 100

Section A **(10 Marks)**

Ten questions (do-as-directed type) of one mark each from Units I, II, III.

Section B **(50 Marks)**

a. Two questions from Unit I of ten marks each, with internal choice.
b. Two questions from Unit II of ten marks each, with internal choice.
c. One question from Unit III (1) of ten marks, with internal choice.

Section C **(40 Marks)**

Five questions, one each from the following, consisting of 8 marks each, with internal choice.

a. Précis writing
b. Comprehension
c. Report writing
d. Letter writing
e. Phonetic Transcription, Word Accent

Unit I

Basic Sentence Patterns
Clause Analysis
Phrase: Noun Phrase, Verb Phrase, Prepositional Phrase

Unit II

Usage of Tenses
Auxiliaries
Phrasal Verbs & Prepositional Verbs
Use of Non-finite Verbs, Infinitive, Participle, Gerund
Concord
Word formation: The use of Prefixes and Suffixes, Conversion and Compounding

Unit III

Description & Classification: R.P. Consonants, Vowels
Phonetic Transcription of English Words
Word Accent

Unit IV

Comprehension
Précis Writing

Unit V

Report Writing
Letter Writing

Recommended Reading List

- Allen, S. *Living English Structure*. Pearson India, 2009.
- Bright, J.S. *Improve Your Idioms and Phrases.* Goodwill Publishing House, 2013.
- Hartman, Roach, and Setter, J., editor. *Daniel Jones'English Pronouncing Dictionary*. CUP, 2006.
- Hornby, A.S. *Practical English Grammar – Vols. I & II* (E.L.B.S.) Oxford University Press, 1997.
- Lee, W. R. *English at Home*. Oxford University Press, 1966.
- Quirk,Randolph and Sidney Greenbaum. *University Grammar*. Longman Publication, 1965.
- Sharma, R.C. and Krishna Mohan. *Business Correspondence & Report Writing.* Tata McGraw Hill, 2016.
- Wood,Frederick T. *A Remedial English Grammar for Foreign Students*. OUP, 1969.

Outcomes

- Students will comprehend the conceptual framework of English language, its functional aspects and analysis.
- They will be able to understand the phonemic system and RP sounds.
- Students will be able to express ideas on a given theme in a cohesive manner.

B.A. (Hons. Pt.- III) ENGLISH
Paper III: Indian Writing in English

Objectives

- To introduce Indian Writing in English as a distinct area of literature.
- To familiarise the students with the different genres in Indian English Literature.
- To enable students to discover Indian themes and appreciate nationalist feelings in the writings included in the paper.

The pattern of question paper will be as follows: **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each from all sections.

Section B **(50 Marks)**

Five short answers/explanation (150-200 words) with internal choice covering all sections.

a. Short answers- from Fiction, Prose, Criticism and background.
b. Explanations from Poetry and Drama.

Section C **(40 Marks)**

Two full length questions (approx.500 words) out of five, each carrying 20 marks.

Unit I

Singh. R.P and S. K. Prasad, editors.*An Anthology of Indian English Poetry*. Orient BlackSwan, 1989.

Nissim Ezekiel:	'Enterprise', 'Marriage'
Kamala Das:	'An Introduction','The Dance of the Eunuchs'
A.K. Ramanujan:	'The Striders','Still Another View of Grace'

Unit II

R. K. Narayan: *The Man-Eater of Malgudi*

Unit III

Poile Sengupta: *Mangalam*

Unit IV

Girish Karnad: *Hayavadana*

Unit V

Nehru, Jawaharlal.*An Autobiography*. Oxford University Press, 1980.

Jawaharlal Nehru: **'**Animals in Prison', 'What is Religion?'

Recommended Reading List

- Iyengar, K.R. Srinivasa. *Indian Writing in English*. Sterling Publisher PvtLtd, 2007.
- King, Bruce.*Modern Indian Poetry in English*. Oxford University Press, 1987.
- Mehrotra, Arvind Krishna, editor. *An Illustrated History of Indian Literature in English*. Permanent Black, 2003.
- Naik, M.K. *A History of Indian English Literature*. Sahitya Akademi, 2004.

Outcomes

- Students will be able to comprehend the various phases of evolution of Indian Writing in English; from the colonial phase till the present.
- They will gain familiarity with works of major Indian writers as a distinct field of literature in English.

B.A. (Hons. Pt.- III)
Paper-IV: American Literature

Objectives

- To familiarize the students with the early writers of American literature and the distinct characteristics of their writings
- To generate an understanding of American culture and its reflection in American literature.

The Pattern of question papers will be as follows: **M.M. 100**

Section A **(10 Marks)**

Ten very short type questions of one mark each from all sections

Section B **(50 Marks)**

Five short answers (Approx. 150-200 words) with internal choice covering all sections

a. Short answers- from Fiction, Prose, Criticism and back ground.
b. Explanations from Poetry and Drama.

Section C **(40 Marks)**

Two full length questions out of Five, each carrying 20 marks (Approx.500 words)

Unit I

Walt Whitman:	'The Wound Dresser', 'To a Stranger'
Emily Dickinson:	'Just Lost When I was Saved', 'I Never Lost as Much but Twice', 'I Taste a Liquor Never Brewed', 'I Felt a Funeral in My Brain'
Robert Frost:	'After Apple Picking', 'Two Tramps in Mud Time', 'Choose Something Like a Star'
Sylvia Plath:	'Morning Song', 'Death & Company', 'The Munich Mannequins'

Unit II

Stephan Crane:	*The Red Badge of Courage*

Unit III

J.D Salinger:	*Catcher in the Rye*

Unit IV

Nathaniel Hawthorne:	'Young Goodman Brown'
Herman Melville:	'The Lightning Rod'
Sherwood Anderson:	'Brother Death'
Scott Fitzgerald:	'The Off-Shore Pirate'

Unit V

Tennessee Williams: *The Glass Menagerie*

Suggested Reading List

- Hart, James D. *The Oxford Companion to American Literature*. OUP, 2006.
- Lehman, David. *The Oxford Book of American Poetry*. OUP, 2006.
- Oates, Joyce Carol. *The Oxford Book of American Short Stories*. OUP, 2013
- Walker, Marshall. *History of American Literature*. St. James Press, 1983.

Outcomes

- Students will grasp an understanding of the distinct nature, as well as sameness of literatures of different nations.
- They will become aware of the contribution of American writers in world literature.

Suggested Reading List:

- Hart, James D. *The Oxford Companion to American Literature*. Oxford University Press, 2006.
- Lehman, David. *The Oxford Book of American Poetry*. Oxford University Press, 2006.
- Oates, Joyce Carol. *The Oxford Book of American Short Stories*. Oxford University Press, 2013
- Walker, Marshall. *History of American Literature*. St. James Press, 1983.

Outcomes

- An understanding of the distinct nature as well as sameness of literatures of different nations.
- Awareness about the contribution of American writers in the world literature.

M.A. ENGLISH LITERATURE
SEMESTER– I
PAPER-I
Poetry- I(Chaucer to Milton)
Paper Code:MAE/1/CC/01

Objectives

- To familiarise the students with the socio-cultural dynamics and English poetry from the fourteenth to eighteenth century.
- To develop an understanding of the different kinds of poetry, like Epic, Mock-Epic, Metaphysical, Sonnet, etc.

Unit I

Geoffrey Chaucer: *The Prologue to the Canterbury Tales*

Unit II

Edmund Spenser: *The Faerie Queen* (Stanzas 1-5 of Canto 1 of Book 1)
Edmund Spenser: Sonnets No. 83, 84, 85, 86, 87.

Unit III

John Donne: 'The Canonization', 'A Valediction:Forbidding Mourning'
Andrew Marvell: 'The Garden'

Unit IV

John Milton: *Paradise Lost* (Book I)

Unit V

Alexander Pope: *The Rape of the Lock*

RecommendedReadingList

- Boulton, Marjorie. *The Anatomy of Poetry*. Routledge and Kegan Paul, 1953.
- Daiches, David. *A Critical History of English Literature*. Secker and Warburg Ltd, 1961.
- Eagleton, Terry. *How to Read a Poem*. Blackwell, 2007.
- Gardner, Helen,editor. *Metaphysical Poets*. Penguin, 1957.
- Kreutzer, James. *Elements of Poetry*. Macmillan, 1971.
- Lewis, C.S. *A Preface to Paradise Lost*. OUP, 1942.
- Newman, Brooks Peter, editor. *Reformation Principle and Practice*. Scholar Press, 1980.
- Rickett, Compton Arthur. *A History of English Literature: From Earliest Times to 1916*. Dodge Publishing Comp, 1960.

Outcomes

- The students will be able to understand the growth of English poetry as a genre from the historical and cultural perspectives from the beginning to the eighteenth century.
- The students will acquire an insight into the specific characteristics of different types of poetry.

M.A. ENGLISH LITERATURE
SEMESTER – I
Paper-II
Drama I (Renaissance to Restoration)
Paper Code:MAE/1/CC/02

Objectives

- To acquaint the students with the characteristics of Renaissance and Restoration and their impact on literature.
- To familiarize the students with the British drama as a genre, and its progression within the socio-cultural and historical framework.

Unit I

Christopher Marlowe: *Doctor Faustus*

Unit II

Ben Jonson: *Sejanus: His fall*

Unit III

William Shakespeare: *King Lear*

Unit IV

John Dryden: *All for Love*

Unit V

John Wycherley: *The Country Wife*

Recommended Reading List

- Boulton, Marjorie. *The Anatomy of Drama*. London: Routledge and Kegan Paul, 1960.
- Bradbrook, M.C. *Themes and Conventions of Elizabethan Theatre.* CUP, 1935.
- Bradley, A.C. *Shakespearean Tragedy*. 1904. Penguin, 1991.
- Chaudhuri, Sukanta,editor. *Renaissance Essays*. OUP, 1995.
- Dobree,Bonamy. *Restoration Tragedy*. OUP, 1929
- Dobree,Bonamy. *Restoration Comedy*. OUP, 1929.
- Daiches,David. *A Critical History of English Literature,* Secker and Warburg Ltd, 1961.
- Nagarajan, S and S Viswanathan,editors. *Shakespeare in India*. OUP, 1987.
- Nicoll, Allardyce. *British Drama*. Barnes & Noble, 1963.
- Pollard, AW. *English Miracle Plays, Moralities and Interludes*. Clarendon, 1954.

- Sanders,Andrew. *The Short Oxford History of English Literature*. OUP, 1996.

Outcomes

- The students will be able to comprehend and engage with British Drama through the prescribed texts.
- The paper will generate an interest in Drama, as well as Theatre.

M.A. ENGLISH LITERATURE
SEMESTER – I
Paper-III
Fiction and Prose-I
Paper Code:MAE/1/CC/03

Objectives

- Tointroduce the students to fiction as a genre, and its various forms like picaresque, burlesque, parody, etc.
- Within the socio-cultural framework of the eighteenth and nineteenth century England and America, the students will be introduced to Essay as a genre, and its growth from a historical perspective.

Unit I

Henry Fielding: *Joseph Andrews*

Unit II

Jane Austen: *Emma*

Unit III

Thomas Hardy: *Tess of the D'Urbervilles*

Unit IV

Nathaniel Hawthorne: *The Scarlet Letter*

Unit V

Francis Bacon: 'Of Studies', 'Of Truth'
Charles Lamb: 'My Relations'
Ralph Waldo Emerson: 'The American Scholar'

Recommended Reading List

- Bal, Mike. *Narratology: Introduction to the Theory of Narratives*. UTP,1985.
- Baym, Nina. *The Norton Anthology of American Literature.* W.W. Norton, 1998.
- Booth, Wayne C. *The Rhetoric of Fiction*. University of Chicago Press, 1961.
- Boulton, Marjorie. *The Anatomy of the Novel*. Rutledge and Kegan Paul, 1975.
- Chaudhuri, Sukanta, editor. *Bacon's Essays: A Selection*. OUP, 1977.
- Eagleton, Terry. *The English Novel: An Introduction*. Blackwell, 2004.
- Lodge, David. *The Art of Fiction*. Viking, 1992.
- Scholes, Robert. *Elements of Fiction.* OUP, 1968.
- Watt, Ian. *The Rise of the Novel.* Peregrine, 1970.

Outcomes

- The students acquire an understanding of the growth of Novel and Essay as genres.
- The paper will enable the students to gauge the impact of socio-cultural and historical dynamics of literature.

M.A. ENGLISH LITERATURE
SEMESTER – I
Paper-IV
English Language-I
Paper Code:MAE/1/CC/04

Objectives

- To enhance the understanding of English grammar.
- To train the students in writing skills

Unit I

Basic Sentence Patterns
Clause Analysis: Noun Clause, Adjectival Clause, Adverbial Clause
Structure of Noun Phrase

Unit II

Tenses
Conditionals
Gerund, Participle, Infinitive
Question Tags

Unit III

Modal Auxiliaries
Phrasal Verbs
Word Formation: Prefix, Suffix, Conversion and Compounding

Unit IV

Phonetics: R.P. Sounds – Vowels and Consonants
Accent, Stress and Phonetic Transcription
Intonation and Rhythm
Differences between the Vowel Systems of British R.P. and General Indian English

Unit V

Comprehension of an Unseen Passage
Précis Writing
Letter Writing: Personal, Official and Business Letters

Recommended Reading List:

- Allen, S. *Living English Structure*.Pearson India, 2009.
- Bright, J.S. *Improve Your Idioms and Phrases*. Goodwill Publishing House, 2013.
- Bansal, R.K. and J.B. Harrison. *Spoken English for India: A Manual of Speech and Phonetics*.

Orient Longman Ltd, 1988.
- Hartman, Roachand J. Setter.*Daniel Jones'English Pronouncing Dictionary.* CUP, 2006.
- Hornby, A.S. *Practical English Grammar* – Vols. I & II (E.L.B.S.).OUP, 1997.
- Lee, W. R. *English at Home*.OUP, 1966.
- Quirk,Randolph and Sidney Greenbaum. *University Grammar of English*. Longman, 1965.
- Wood,Frederick T. *A Remedial English Grammar for Foreign Students*.OUP, 1969.

Outcomes

- Gaining better understanding and proficiency in grammar and writing skills.
- Understanding of fundamentals of phonetics.

M.A. ENGLISH LITERATURE
SEMESTER – I
Paper-V
Indian Writing in English-I
PaperCode:MAE/1/CC/05

Objectives

- To introduce the students to the polyphony of Indian Writing in English.
- To familiarize them with the diverse and rich social, cultural and literary heritage of India.
- To acquaint the students with the contribution and significance of the Indian writers writing in English across genres in a historical perspective.

Unit I

Raja Rao: *TheSerpent and the Rope*

Unit II

Anita Desai: *Fire on the Mountain*

Unit III

Nissim Ezekiel: 'Poet, Lover, Bird Watcher', 'Background Casually', 'Enterprise'
Kamala Das: 'My Grandmother's House', 'The Sunshine Cat',' The Invitation'

Unit IV

(Parthasarathy, R., editor. *Ten Twentieth Century Indian Poets.* OUP, 1997.)
A.K. Ramanujan: 'A River', 'Obituary'
Jayant Mahapatra: 'Ten Years Past 9/11'
R. Parthasarathy: 'Exile' from Rough Passage, 'POEM 2', 'POEM 8'

Unit V

Aijaz Ahmed: 'Indian Literature: Notes towards the Definition of a Category' (from *In Theory*)

Recommended Reading List

- Iyengar, K.R. Srinivasa. *Indian Writing in English*. Sterling Publisher Pvt.Ltd, 2007. King, Bruce. *Modern Indian Poetry in English*.OUP, 1987.
- Mehrotra, Arvind Krishna, editor. *An Illustrated History of Indian Literature in English*. Permanent Black, 2003.

- Naik, M.K. *A History of Indian English Literature*. Sahitya Akademi, 2004.
- ---. *Aspects of Indian Writing in English*. Macmillan, 1979.
- Narasimhaiah C.D, editor.*Makers of Indian English Literature*. Pen-craft International, 2003.
- Parthasarthy, R.*Ten Twentieth Century Indian Poets*. OUP, 1997.

Outcomes

- A foundational understanding of the several aspects of Indian Writing in English.
- Acquisition of critical understanding to examine the socially constructed nature of literary texts.

M.A. ENGLISH LITERATUTRE
SEMESTER – I
Paper-VI
Postcolonial Literature-I
Paper Code:MAE/1/CC/06

Objectives

- To introduce Postcolonial Literaturefrom a historical perspective and develop an understanding of its impact on colonial societies across the world.
- To acquaint students with thebasics of Postcolonial/Neo-Colonial Theory.
- To make students familiar with the various genres of Postcolonial literature through some of the major writers who have engaged themselves with the Postcolonial worldview.

UnitI

Chinua Achebe: *Things Fall Apart*

Unit II

Rudyard Kipling: *Kim*

Unit III

V. S. Naipaul: *AHouse for Mr. Biswas*

Unit IV

Girish Karnad: *The Dreams of Tipu Sultan*

Unit V

Gayatri ChakravartySpivak: 'Can the Subaltern Speak?'

Recommended Reading List:

- Ashcroft, Bill, Gareth Griffths and Helen Tiffin, editors. *The Postcolonial Studies Reader*.Routledge,1995
- ---.*The Empire Writes Back*. Routledge, 1989.
- Bhabha, Homi K. *Nation and Narration*. Routledge, 1990.
- ---. *The Location of Culture*. Routledge, 1994.
- Fanon, Frantz .*The Wretched of the Earth*. Grove Press, 2004.
- ---.*Black Skins and White Masks*. Pluto Press, 1986.
- Gandhi,Leela. *Postcolonial Theory: A Critical Introduction.* Columbia University Press, 1998.
- Landry,Donna, editor.*The Spivak Reader: Selected Works of Gayatri Chakravarty Spivak.*Routledge, 1996.
- Loomba, AniaG.M.*Colonialism/Post colonialism*. Routledge, 2015.

- Nayar, Pramod K. *Frantz Fanon*. Routledge, 2013.
- Said,EdwardW.*Orientalism*. Penguin Books, 1991.
- Spivak, G.C. *In Other Worlds*. Routledge, 1998.

Outcomes

- Understanding of the historical phenomena of colonisation, post-coloniality, and neo-colonisation through literature and theory.
- Understanding of the various socio-political, economic, cultural dimensions that contribute in the construction of reality at a given time and place.

M.A. ENGLISH LITERATURE
SEMESTER – II
Paper-I
Poetry II (Romantics to Moderns)
Paper Code:MAE/2/CC/01

Objectives

- To introduce the students to Romantic poetry, and salient features of Romantic Movement.
- To introduce modern poetry within the socio-historical perspective.

Unit I

Thomas Gray:	'Elegy Written in a Country Churchyard'
William Wordsworth:	'Ode: Intimations of Immortality'

Unit II

Samuel Taylor Coleridge:	'The Rime of the Ancient Mariner'
John Keats:	'Ode to the Nightingale', 'Ode on a Grecian Urn'
Lord Byron:	'She Walks in Beauty'

Unit III

Alfred Lord Tennyson:	'Lady of Shallot'
Robert Browning:	'Andrea Del Sarto'

Unit IV

T.S. Eliot:	*The Wasteland*

Unit V

William Butler Yeats:	'Sailing to Byzantium', 'The Second Coming'
Philip Larkin:	'Ambulances', 'High Windows'

Recommended Reading List

- Abrams, Meyer. *The Mirror and the Lamp: Romantic Theory and the Critical Tradition*. OUP, 1953.
- Barth,J. Robert. *The Symbolic Imagination: Coleridge and the Romantic Tradition*. FordhamUniversity Press,2001.
- Butler, Marilyn. *Romantics, Rebels and Reactionaries: English Literature and Its Background 1760-1830*.OUP, 1981.
- Curran, Stuart. *Poetic Form and British Romanticism*. OUP, 1986.
- Daiches, David. *A Critical History of English Literature* (Vol. II). Secker and Warburg Ltd., 1961.

- Damrosch, Leopold. *Symbol and Truth in Blake's Myth*. Princeton University Press1981.
- Fruman, Norman. *Coleridge, the Damaged Archangel*. George Braziller, 1971.
- Gaull, Marilyn. *English Romanticism: The Human Context.*W.W Norton,1988.
- Magnuson, Paul. *Coleridge and Wordsworth: A Lyrical Dialogue*. Princeton University Press, 1988.
- Mellor, Anne, editor. *Romanticism and Feminism*. Indiana University Press, 1988.
- ---. *English Romantic Irony.*Harvard University Press,1980.

Outcomes

- The students will develop an understanding of the Romantic movement within a theoretical framework.
- They will be able to understand and appreciate the complexity and density of modern poetry in the context of modernism.

M.A. ENGLISH LITERATURE
SEMESTER – II
Paper-II
Modern English Drama II
Paper Code:MAE/2/CC/02

Objectives

- To develop an understanding of the progression of Drama as a genre.
- To make students familiar with the trajectory of the genre of Drama in the Modern age.
- To familiarize them with significant European, American and Indian plays.

Unit I

BertoltBrecht: *Mother Courage and Her Children*

Unit II

John Osborne: *Look Back in Anger*

Unit III

T.S. Eliot: *The Cocktail Party*

Unit IV

Samuel Beckett: *Waiting for Godot*

Unit V

Harold Pinter: *The Birthday Party*

Recommended Reading List

- Boulton, Marjorie. *The Anatomy of Drama*. Routledge and Kegan Paul, 1960.
- Camus , Albert.*Myth of Sisyphus*. Penguin Publications,1975
- Daiches David .*A Critical History of English Literature*. Secker and Warburg Ltd., 1961.
- Esslin, Martin. *The Theatre of the Absurd*. Penguin, 1969.
- Malik Javed, editor. *Samuel Beckett: Waiting for Godot*.OUP,1989.
- Nicoll, Allardyce. *British Drama*. Barnes & Noble, 1963.
- Rickett, Arthur Compton. *A History of English Literature: From Earliest Times to 1916.* Dodge Publishing Comp., 1960.
- Sanders, Andrew. *The Short Oxford History of English Literature*. OUP, 1996.
- Steiner, George. *The Death of Tragedy*. Faber and Faber, 1961.
- Williams, Raymond. *Drama: From Ibsen to Brecht*. Chatto&Windus, 1965.

Outcomes

- The students will acquire an understanding of features of modern drama and its varieties.
- They will develop a comparative perspective of English drama across nations and continents.

M.A. ENGLISH LITERATURE
SEMESTER – II
Paper –III
Fiction & Prose–II
Paper Code:MAE/2/CC/03

Objectives

- To introduce students to modern fiction, its innovative techniques, new themes and narrative strategies.
- To introduce Indian English Fiction, its context and specific features.
- To offer some major prose writingsfor interpretation and critical reflection.

Unit I

James Joyce: *A Portrait of an Artist as a Young Man*

Unit II

D.H. Lawrence: *Sons and Lovers*

Unit III

Saul Bellow: *Herzog*

Unit IV

Raja Rao: *Kanthapura*

Unit V

George Orwell: 'Shooting an Elephant'
Virginia Woolf: 'Modern Fiction'
D. H. Lawrence: 'Why the Novel Matters?'

Recommended Reading List

- Auerbach, Eric. *Mimesis: The Representations of Reality in Western Literature*. Princeton UP, 2003.
- Bal, Mike. *Narratology: Introduction to the Theory of Narratives.*UTP, 1985.
- Boulton, Marjorie. *The Anatomy of the Novel*. Rutledge and Kegan Paul, 1975.
- Eagleton, Terry. *The English Novel: An Introduction*. Blackwell, 2004.
- Fowler, Alastair. *Kinds of Literature: An Introduction to the Theory of Genres and Modes.* OUP, 1987.
- Forster, E.M. *Aspects of the Novel*. Edward Arnold, 1927.
- Lodge, David. *The Art of Fiction*. Viking, 1992.
- ---. *Consciousness and the Novel*. Penguin, 2003.

- Mullan, John. *H*ow *Novels Work*. OUP, 2006.
- Watt, Ian. *The Rise of the Novel*. Peregrine, 1970.

Outcomes

- The students will develop an understanding of modern English fiction, its techniques and impact of the world wars on literature.
- The prescribed prose texts will enhance their understanding of prose as a discursive form.

M.A. ENGLISH LITERATURE
SEMESTER – II
Paper –IV
English Language-II
Paper Code: MAE/2/CC/04

Objectives

- To familiarize the students with the basics of literary appreciation of prose and poetry.
- To train in skills of report writing.
- To develop qualities of delivering speech.

Unit I

Literary Appreciation of a poem

Unit II

Literary Appreciation of a prose piece

Unit III

Literary Appreciation of a film

Unit IV

Report Writing: Factual and Analytical
Essay Writing & Expansion of Passages

Unit V

Resume Writing
Oral and Power point presentations of literary pieces/ Writings/ literary works
Speech Writing and Delivery

Recommended Reading List

- Alexander, L.G. *Appreciation of Poetry & Prose*. Longman,1963.
- Allen,S. *Living English Structure*. Pearson India; 2009.
- Bansal,R.K.andJ.B.Harrison,*Spoken English for India: A Manual of Speech and Phonetics.* Orient Longman Ltd, 1988.
- Hornby, A. S. *Practical English Grammar* Vols. I & II (E.L.B.S.). Oxford University Press, 1997.
- Lee,W.R.*English at Home*. Oxford University Press, 1966.
- Wren and Martin.*High School English Grammar*. Blackie ELT Books, 1973.
  Quirk,Randolph, and Sidney Greenbaum. *University Grammar of English.* LongmanPublication, 1965.
- Roach, P, and Hartman, Setter. *Daniel Jones' English Pronouncing Dictionary*. CUP, 2006.

- Stobaugh, James P. *Handbook for Literary Analysis Book I: How to Evaluate Prose Fiction, Drama, and Poetry.*Harvard Square Editions, 2013.

Outcomes

- Ability to critically analyse literary writings.
- The students will improve their writing skills and gain confidence in expression.

M.A. ENGLISH LITERATURE
SEMESTER – II
Paper –V
Indian Writing in English-II
Paper Code:MAE/2/CC/05

Objectives

- To enable the students to understand the varied forms and contexts of Indian Writing in English.
- To inculcate in students an interest towards Indian culture, tradition, as well as the specificities of Indian writers writing in English.
- To familiarize them with Indian critical thinking.

Unit I

Amitav Ghosh : *In an Antique Land*

Unit II

Mahesh Dattani: *Final Solutions*

Manjula Padmanabhan: *Harvest*

Unit III

C. D.Narsimhaiah: *N for Nobody: Autobiography of an English Teacher*

Unit IV

Rabindranath Tagore: 'Kabuliwala'
Sadaat Hasan Manto: 'Toba Tek Singh'
Geetha Hariharan: 'Gajar Halwa'
Ruskin Bond: 'Masterji'

Unit V

Partha Chatterjee: "Whose Imagined Community?" (From *The Nation and its Fragments*)

Recommended Reading List:

- Iyengar, K.R. Srinivasa. *Indian Writing in English*. Sterling Publisher Pvt. Ltd, 2007.

- Mehrotra, Arvind Krishna, editor. *An Illustrated History of Indian Literature in English.* Permanent Black, 2003.
- Naik, M.K. *Aspects of Indian Writing in English*. Macmillan, 1979.
- ---. *A History of Indian English Literature.* Sahitya Akademi, 2004.

Outcomes

- An understanding of the Indian critical perspectives enabling the students to evaluate Indian Writing in English in that light.
- An insight into the genres, conventions and experimentation associated with fiction, shorter fiction, drama, poetry and autobiography across time.
- An understanding of the cultural, social and political issues as represented in the texts.
- An understanding of the use of language as a creative resource to explore the wide range of human experience.

M.A. ENGLISH LITERATURE
SEMESTER-II
Paper VI
Postcolonial Literature-II
Paper Code: MAE/2/CC/06

Objectives

- To trace the impact of colonialism on colonial societies across the world.
- To develop an understanding of postcolonial/cultural theory.
- To introduce the basics of Postcolonial/Neo-Colonial Theory

Unit I

M.K. Gandhi: *Hind Swaraj*

Unit II

Jean Rhys: *Wild Sargasso Sea*

Unit III

Shashi Tharoor: 'The Myth of Enlightened Despotism'
(Tharoor, Shashi.*An Era of Darkness: The British Empire in India.* Aleph Book Company, 2016.)

Unit IV

JM Coetzee: *Foe*

Unit V

Jhumpa Lahiri**:** 'A Temporary Matter', 'Interpreter of Maladies', 'When Mr.PirzadaCame to Dine', 'The Treatment of Bibi Haldar'
(Lahiri, Jhumpa. *Interpreter of Maladies*: *Stories.* Houghton Mifflin, 1999.)

Recommended Reading List

- Ahmad, Aijaz. *In Theory: Classes, Nations, Literatures*. Verso, 1995.
- Ashcroft, Bill, et al., editors.The Empire Writes Back: Theory and Practice in Post-Colonial Literatures.Routledge, 1989.
- Bahri, Deepika, and Mary Vasudeva, eds. *Between the Lines: South Asians and Post-coloniality*. Temple University Press, 1996.
- Bhabha, Homi K. *The Location of Culture, Nation and Narration*. London, Routledge, 1994.
- Hardt, Michael, and Antonio Negri. *Empire*. Harvard University Press, 2000.
- Parry, Benita. "Problems in Current Theories of Colonial Discourse." *Oxford Literary Review*, vol.9, no. 1-2, 1987,pp. 27-58.

- Rao, Nagesh. "'Neo-colonialism' or Globalization' Postcolonial Theory and the Demands of Political Economy." *Interdisciplinary Literary Studies*, vol 1, no 2, Spring 2000, pp.165-84.

Outcomes

- Acquisition of an awareness of various implications of coloniality and knowledge of postcolonial theory.
- Understanding of the historical phenomena of colonisation and its reflection in literary and critical practices.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-I
Literary Theory and Criticism (Aristotle to I.A. Richards)
Paper Code: MAE/3/CC/01

Objectives

- To introduce postgraduate students to literary criticism and theory through the canonical essays that have set critical / theoretical trends in the field of English Studies.
- To encourage students for further debates and discussions that contribute towards a better understanding of literature through the concepts of theory.

Unit I

Aristotle: *Poetics*

Unit II

S. N. Dasgupta: 'The Theory of Rasa'
S. K. De: 'Kuntaka's Theory of Poetry: Vakrokti'

Unit III

WilliamWordsworth: 'The Preface to the Lyrical Ballads'
S.T. Coleridge: *Biographia Literaria*: Chapters 4, 13, 14

Unit IV

Mathew Arnold: 'The Function of Criticism at the Present Time'

Unit V

. T.S. Eliot: 'Tradition and the Individual Talent'
I.A. Richards: **'**Pseudo-Statements'

Recommended Reading List

- Guerin, Wilfred L. *A Handbook of Critical Approaches to Literature*. OUP, 2005.
- Lodge, David, editor. *Modern Criticism and Theory- A Reader*. Pearson, 2005.
- Chickera and Enright, editors. *English Critical Texts.* OUP, 1962.
- Reeves, James. *The Critical Sense: Practical Criticism of Prose and Poetry.* Heinemann, 1956.

- Davis, Robert Con et.al. *Contemporary Literary Criticism: Literary and Cultural Studies*. Longman, 1989.
- Leitch, Vincent B. *The Norton Anthology of Theory and Criticism*. W.W Norton, 2010.
- Seturaman V.S., editor. *Contemporary Criticism: An Anthology*, Macmillan, 1991.
- Wimsatt, W and C. Brooks. *Literary Criticism: A Short History*. OUP, 1957.

Outcomes

- Students are equipped with knowledge of the political, economic, social and intellectual background that enables them to study works of literature in a specific context.
- Acquaintance with the literary movements, age specific genres and the evolution and development of literary forms.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper- II
Indian Diasporic Literature
Paper Code: MAE/3/CC/02

Objectives

- To introduce the students to the concept of Diaspora, its etymology, types of Diaspora, old and new Diaspora.
- To familiarize the students with Indian Diaspora in a historical perspective
- To acquaint students with different genres of Diaspora Literature across nations.

Unit I

Theorizing Diaspora

Unit II

Indian Diaspora: Historical Perspective

Unit III

Chitra B. Divakaruni: *ThePalace of Illusions*
Bharati Mukherjee: 'The Wife's Story' (Short Story from *The Middleman and Other Stories*,1988)

Unit IV

Satendra Nandan: *The Wounded Sea*
Subramani: 'No Man's Land', 'Marigolds' (Short Stories from *The Fantasy Eaters*)
Sudesh Mishra: 'Grain', 'Confessions of a would-be Brahmin'

Unit V

RohintonMistry: *Family Matters*

Recommended Reading List

- Bhabha, Homi K. *Location of Culture*. Routledge, 1993.
- Bromley,Roger. *Narratives for a New Belonging: Diasporic Cultural Fictions.* Edinburgh University Press, 2000.

- Brah, Avtar."Thinking through the Concept of Diaspora". *The Post-Colonial Studies Reader*. Edited by Ashcroft, Bill, Griffiths Gareth and Tiffin Helen. Routledge, 2006. pp. 443-446.
- Clifford, James. "Diasporas" *The Post-Colonial Studies Reader*. Edited by Bill Ashcroft, Griffiths Gareth and Helen Tiffin. Routledge, 2006. pp 451-454.
- Docker, John. *The Poetics of Diaspora*. Continuum, 2001.
- Jain, Jasbir. *Literature of the Indian Diaspora*. Jaipur: Rawat Books,1998.
- Lal, Brij.V. *Encyclopaedia of Indian Diaspora.* OUP, 2006.
- Paranjape, Makarand, editor. *InDiaspora: Theories, Histories, Texts*. Indialog Publication PvtLtd, 2001.
- Mishra Vijay*: The Literature of the Indian Diaspora: Theorizing the Diasporic Imaginary*. Routledge, 2007.

Outcomes

- An understanding of the theoretical perspectives on Diaspora and their application as critical/analytical perspectives.
- Comprehension of the key terms/ specific vocabulary of Diasporic Literature /experiences.
- Ability to appreciate Diasporic texts within the socio-cultural, historical and political backdrop.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper- III A
Nineteenth Century American Literature -I
Paper Code: MAE/3/EC/03A

Note: The candidates are required to choose one paper between III (A) & III (B)

Objectives

- To acquaint the students with American Literature of the nineteenth century.
- To develop the comprehensive understanding of the different genres of American literature, along with the ideas, issues that impacted the nineteenth century American society.

Unit I

Ralph Waldo Emerson: 'The American Scholar'

Unit II

Henry David Thoreau: 'Where I Lived and What I Lived for' (Walden)

Unit III

Walt Whitman : 'Crossing Brooklyn Ferry'
'When Lilacs Last in the Dooryard Bloomed'

Unit IV

Herman Melville: 'Bartleby the Scrivener'
Edgar Allan Poe: 'The Fall of the House of Usher'

Unit V

John Steinbeck: *Of Mice and Men*

Recommended Reading List

- Douglas, Ann. *The Feminization of American Culture*. Noon Day Press, 1977.
- Fiedler, Leslie. *Love and Death in the American Novel*. Dalkey Archive Press, 1966.
- Lott, Eric, editor. *Simon During*.1995.
- Morrison, Toni. *Playing in the Dark*. Harvard University Press, 1992.
- Sundquist, Eric. *To Wake the Nations*. Harvard University Press, 1993.

- Tompkins, Jane. *Sensational Designs: The Cultural Work of American Fiction* (*1790-1860*). OUP, 1986.

Outcomes

- Students will develop an interest in American literature through a first-hand reading of the prescribed texts.
- An understanding of the link between literary-cultural and socio-historical aspects of a nation.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper- III B
Gender Studies – 1
Paper Code: MAE/3/EC/03B

Objectives

- To introduce the students to the concept of Gender with special reference to women; education, socialization, social construct, essentialism, gender roles.
- To orient them towards Feminist Criticism in a global historical perspective.

UnitI

Theorising Gender

Unit II

Mary Wollstonecraft : *A Vindication of the Rights of Women*

UnitIII

Simone de Beauvoir: 'Myths' – Book I, Part III(From *The Second Sex*)

Unit IV

Virginia Woolf: *A Room of One's Own*

UnitV

Elizabeth Browning: 'Arora Leigh' – Book II
Sylvia Plath: 'Lady Lazarus', 'Daddy'
Uma Parmeswaran: 'I wish I knew what to tell you my Daughter'
Imtiaz Dharkar: 'Purdah I'

Recommended Reading List:

- Beauvoir, Simone de. *The Second Sex*. Vintage Books, 2011.
- Eagleton,Mary, editor. *Feminist Literary Criticism*. Longman, 1991.
- Felsky, Rita. *Beyond Feminist Aesthetics*.Harvard University Press, 1989.
- Glover, David and Cora Kaplan editors. *Genders*. Routledge, 2000.
- Morris, Pam. *Literature and Feminism*. Wiley-Blackwell, 1993.
- Showalter, Elaine, editor. *New Feminist Criticism.* Pantheon, 1985.
- Spacks, Patricia Meyer. *The Female Imagination: Literary and Psychological Imagination of Women Writing*. Allen & Unwin, 1976
- Wollstonecraft, Mary. *A Vindication of the Rights of Woman (1792)*. Everyman Classics, 1992.

- Zide, Arlene E. *In Their Own Voice: Penguin Anthology of Contemporary Indian Women Poets*, Penguin, 1993.

Outcomes

- Comprehensive understanding of Gender.
- An understanding of the plurality of Feminism.
- An insight into the common issues represented in the texts of the pioneer feminist writers across the globe.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-IVA
Literature and Films
Paper Code:MAE/3/EC/04A

Note: The candidates are required to choose one paper between IV (A) & IV (B)

Objectives

- To introduce the students to Film Studies and the interface between literature and film.
- To familiarize the students with the concept of adaptation and its theories.
- To inculcate an interest in popular culture and its roots in literature.

Unit I

'The Language of Films', Chapter II from Amy Villarejo's*Film Studies the Basics*

Unit II

'The Limits of the Novels and the Limits of the Films' Chapter I from George Bluestone's *Novels into Film*

UnitIII

Film Appreciation and Criticism of the following:

- *Shatranj KeKhilari*(Director: Satyajit Ray)
- *Sahib, Bibi aur Ghulam* (Director: Bimal Roy)
- *Guide* (Director: Chetan Anand)

Unit IV

- *Earth- 1947*(Director: Deepa Mehta)
- *Schindler's List* (Director: Steven Spielberg)

Unit V

- *Pinjar*(Director: Chandraprakash Dwivedi)
- *Monsoon Wedding* (Director: Mira Nair)

Recommended Reading List

- Baldwin, Elaine et al, editor. *Introducing Cultural Studies*. Prentice Hall, 1999.
- Brandy, Leo, editor. *Film Theory and Criticism. Introductory Readings*. OUP, 1974.
- Corrigan, Timothy. *Film & Literature: An Introduction and Reader*. Routledge, 2012.
- Eagleton, Terry. *Idea of Culture*. Bassil Blackwell, 2000.
- Mishra, Shubha and Urmila Dabir, editors.*Word and Image: Articulation on Literature and Films*. Datta Sons, 2013.

- Rajyadhyaksha, Ashish and Paul Williamson. *Encyclopaedia of Indian Cinema.*OUP, 1998.
- Ray, Satyajit. *Our Films their Films.* Orient Blackswan, 1974.
- Stam, Robert and Alessandra Raengo. *Literature and Films: A Guide to the Theory and Practice of Film Adaptation.* Blackwell Publishing Ltd., 2005.
- Vasudevan, R. *Making Meaning in Indian Cinema.* OUP, 2000.
- Villerajo, Amy. *Film Studies: The Basics.* Routledge, 2007.

Outcomes

- The students will develop an interest in films and the process of adaptation from texts to films.
- Ability to analyse and critique Indian Cinema vis-à-vis Indian Society.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-IVB
Dalit Literature
Paper Code: MAE/3/EC/04B

Objectives

- To introduce the students to Dalit aesthetics.
- Todevelop an understanding of the experiential Dalit narratives.
- To familiarize them with the nuanced gendered experiences of Dalit women.

Unit I

Datta Bhagat: *Routes and Escape-Routes*(From *Yatra* Vol. III)

Unit II

Om Prakash Valmiki: *Jhoothan*
Bama: *Sangati*

Unit III

L. S. Rokade: 'To be or Not to be Born'
Prakash Kharat: 'The Sky with its Eyes Closed'
Yashvant Manohar: 'An Ultimatum'
Arjun Dangle: 'I will Belong to It'
DayaPawar: 'Blood Wave'

Unit IV

Waman Hoval: 'The Storeyed House'
P.E.Sonkambale: 'A Corpse in the Well'

Unit V

Baburao Bagul: 'Dalit Literature is but Human Literature'

Recommended Reading List

- Dangle,Arjun. *Poisoned Bread.*Orient Longman, 2009.
- Kumar, R. *Dalit Personal Narratives*. Orient Blackswan, 2011.
- Bhongle, RJ. *Perspectives on Ambedkarism.*People's Publication.2004.
- Limbale,Sharan Kumar. *Towards Aesthetics of Dalit Literature.* Orient Longman, 2004.
- S, Rege. *Writing Caste / Writing Gender: Reading Dalit Women's Testimonials*. Zubaan Pub., 2006.

- Thorat,S. *Dalits in India: Search for a Common Destiny.* Sage Publication, 2009.

Outcomes

- Acquisition of knowledge about Dalit experiences and Dalit Aesthetics.
- Understanding the theoretical and experiential underpinnings of Dalit Writings.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-VA
Communicative English and Introduction to Linguistics- 1
Paper Code:MAE/3/EC/05A

Note: The candidates are required to choose one paper between V (A) & V (B)

Objectives

- To introduce the theory of communication, and features of figurative expressions.
- To train students in writing business letters, emails.
- To develop presentation skills- oral, PowerPoint, etc.

Unit I Understanding Communication Skills

What is communication, types of communication,
Media of communication, channels of communication
Barriers to effective communication.
Role of communication skills in society

Unit II Understanding figurative language

Idioms and phrases, making sentences with at least 50 contemporary idioms and phrases should be taught
Agreement of subject and verb, correct usage of prepositions
Conditional sentences. iv. New terms from Management, Information Technology and social media should be taught

Unit III Letter writing

Business letters (Orders, Inquiries, Sales letters, Complaints)
Memos and replies to memos.
Writing Emails

Unit IV Presentation Skills

How to effectively organize thoughts, research and data collection for speech/presentation, the use of logic and sequence, central idea.
Oral presentation: diction, tone, clarity and body language
Power Point presentation

Unit V Introduction to Language

Definition and Characteristics of Language
Different Varieties of Language: Dialect, Register, Pidgin, Creole, etc.

Recommended Reading List

- Alexander, L.G. *Appreciation of Poetry & Prose*. Longman,1963.
- Allen, S. *Living English Structure.* Pearson India,2009.
- Bright, J.S. *Improve Your English.* Goodwill Publishing House, 2013.
- Bansal, R.K. *and Harrison, J.B. Spoken English for India: A Manual of Speech and Phonetics.* OrientBlackSwan, 1983.
- Hornby, A.S. *Practical English Grammar.* Vols. I & II (E.L.B.S.) Oxford University Press,1997.
- Lee, W.R. *English at Home*. Oxford University Press,1966.
- Quirk, Randolphand Sidney Greenbaum. *University Grammar of English*. Longmans,1965.
- Roach, P, Hartman and Setter. J *Daniel Jones' English PronouncingDictionary.* Cambridge: CUP, 2006.
- Verma, S. K., and N Krishnaswamy. Modern Linguistics: An Introduction. Oxford University Press, 1989.
- Wood, T Frederick. *A Remedial English Grammar for Foreign Students.*Oxford: OUP, 1969.

Outcomes

- Acquiring writing and presentation skills that help in getting appropriate jobs.
- Empowerment and personality development**.**
- Acquaintance with some concepts of language in use.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-VB
Comparative Literature
Paper Code:MAE/3/EC/05B

Objectives

- To introduce the students to the concept of comparative literature.
- To enable them to understand specificities and commonalities of literature across nations.

Unit I

Amiya Dev and Sisir Kumar Ghose: 'Introduction' from *Comparative Literature: Theory and Practice.*

Unit II

Leo Tolstoy: 'On Refraining', 'Truthfulness' from *The Pathway of Life*

Rabindranath Tagore: 'Nationalism in India.' from *Nationalism*

Unit III

Pirandello: *Six Characters in Search of an Author*

Badal Sircar: *Evam Indrajit*

Unit IV

Claude Brown: *Manchild in the Promised Land*

Sally Morgan: *My Place*

Unit V

Faiz Ahmed Faiz: 'We who were executed'
'A Prison Evening'

Pablo Neruda: 'Ode to Hope'
'The Portrait in the Rock'

Recommended Reading List

- Bassnett,Susan. *Comparative Literature: A Critical Introduction*. Blackwell, 1993.
- Bernheimer,Charles. *Comparative Literature in the Age of Multiculturalism*. Johns Hopkins University Press, 1995.
- Dev, Amiya and Sisir Kumar Das, editors.*Comparative Literature: Theory and Practice*. IIAS, 1989.
- Dev, Amiya. *The Idea of Comparative Literature in India*. Papyrus, 1984.

- Guillen,Claudio. *The Challenge of Comparative Literature*. Harvard University Press, 1993.
- Mohan, Chandra, editor. *Aspects of Comparative Literature.* Creative Books, 1989.
- Pawar,S.S.*Comparative Literary Studies: An Introduction.*Duckworth, 1973.
- Warren, Austin and Rene Wellek. *Theory of Literature*. Harvest, 1968.

Outcomes

- Acquisition of an ability to discern the convergences and divergences that underlie literary works across the nations.
- An understanding of diverse cultures through comparative literature.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-VIA
Cultural Studies
Paper Code:MAE/3/OE/06A

Objectives

- To introduce the area of Cultural Studies as a comparatively new branch of theory.
- To acquaint the students with major texts relevant from the viewpoint of cultural studies.
- To provide an insight into the emerging forms of mass culture, Television, Films and Media.

Unit I

A.K. Ramanujan: 'Three Hundred *Ramayanas*: Five Examples and Three Thoughts on Translation'

Unit II

Salman Rushdie: *The Moor's Last Sigh*

Unit III

HabibTanvir: *The Little Clay Cart*(Adaptation of Shudraka's*Mricchakatikam*)
Vijay Tendulkar: *Ghasiram Kotwal*

Unit IV

Television, Film and Media
(i) Theme of Partition in *Hum Log*
(ii) The significance of the family in *Buniyyad*
(iii) Using mythic Indian tropes like *Swaymavar* in *Rakhi ka Swayamvar*
(iv) Text for detailed study: SoorajBarjatiya's*Hum Aapke HainKaun?*(1994)

Unit V

Sunil Khilnani: *The Idea of India*'Chapter 1'

Recommended Reading List

- Christopher,K W. *Rethinking Cultural Studies: A Study of Raymond Williams and Edward Said.* Rawat Publications, 2005.
- Clifford, Greetz. *The Interpretation of Cultures.* Basic Books, 1973.
- During, Simon. *The Cultural Studies Reader*.Routledge, 1993.
- Jeffrey, AC and Seidman, editors. *Cultural and Society: Contemporary Debates.* Cambridge University Press, 1990.

- Nayar, Pramod. *Contemporary Literary and Cultural Theory: From Structuralism to Eco-criticism.* Pearson, 2010.

Outcomes

- The students will develop an interest in cultural studies and acquire an understanding to analyse critically, the new forms of cultural production.
- They will understand the interconnectedness of literature, culture and mass media.

M.A. ENGLISH LITERATURE
SEMESTER - III
Paper-VIB
Travel Writings and Memoirs
Paper Code:MAE/3/OE/06B

Objectives

- To familiarize the postgraduate studentswith the genesis travel writing and memoirs.
- To expand the reading horizons of the students and to make them aware how these genres contribute to our understanding of life in general and societies / cultures in particular.

Unit I

K. Satchidanandan: 'Introduction' from*Travel Writing and the Empire*
Harish Trivedi: 'The First Indian in Britain from*The Wonders of Vilayet*'

Unit II

Vikram Seth: Chapter I *From Heaven Lake: Travels through Sinkiang and Tibet*
Count Hermann Keyserling: 'Introduction', 'Lahore', 'Chittor' from*The Travel Diary of a Philosopher*

Unit III

Suresh Kohli: 'Travelpoems'
Preety Sengupta: 'Sagarmath'

Unit IV

Maya Angelou: *I Know Why the Caged Bird Sings*

Unit V

Allan Seally: 'The Deep North'
Sunil Gangopadhyay: 'In the Land of Poetry and Painting'

Recommended Reading List

- *Indian Literature*. Nov.-Dec., 2003 Vol. XLVII. Sahitya Akademi.
- Karlin, Wayne. *Wandering Souls: Journeys with the Dead and Living in Vietnam.* Nation Books, 2009.
- Klindienst, Patricia. *The Earth Knows My Name*.Beacon Press, 2007.
- Morris, Jan. *Trieste and the Meaning of Nowhere*.Da Capo Press, 2001.
- Morris, Mary. *The River Queen*. Henry Holt and Company, 2007.
- Mowat, Farley. *Walking on the Land*.Victor, MT: Key Porter Books Ltd., 2000.
- Nickerson, Sheila. *Disappearance: A Map*. Doubleday, 1996.

- Peasley, W.J., *The Last of the Nomads*.Fremantle Press, 1983.
- Zinsser, William *They Went: The Art and Craft of Travel Writing.*Houghton Mifflin, 1991.

Outcomes

- Ability to approach the texts for their literary value and cultural significance.
- Understanding literary texts from a cross-cultural perspective/background / context.
- Ability to pursue research in the field of Travel Writing and Memoirs.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper- I
Literary Theory and Contemporary Criticism
Paper Code:MAE/4/CC/01

Objectives

- To provide adequate exposure to all the significant critical / theoretical landmarks of postmodern deliberations
- To encourage students to apply theory in explicating the narrative, often deconstructing a text.

Unit I

Roland Barthes: 'The Death of the Author'

UnitII

Jacques Derrida: 'Structure, Sign and Play in the Discourse of Human Sciences'

UnitIII

Lionel Trilling: 'Freud and Literature'

Unit IV

Amartya Sen: *Identity & Violence: Illusion of Destiny*(Chapter 1)

Unit V

Jean Baudrillard: 'Simulacra and Simulation'

Recommended Reading List

- Barry,Peter. *Beginning Theory*. Manchester University Press, 1995.
- Connor, Steven. *Postmodernism*. Cambridge Companion Series, 2004.
- Day,Gary. *Literary Criticism: A New History*. Orient Blackswan, 2010.
- Enright, D.J. and Ernst de Chickera, editors. *English Critical Texts*. Oxford University Press, 1962.
- Leitch, Vincent B. *The Norton Anthology of Theory and Criticism.* Norton & Co., 2001.
- Lodge, David and Nigel Wood ed. *Modern Criticism and Theory: A Reader.* Pearson, 1988.

- Lodge, David. *20th Century Literary Criticism*. Longman, 1972.
- Rivkin, Julie and Michael Ryan. *Literary Theory: An Anthology*. Blackwell, 1998.
- Ryan, Michael. *Literary Theory: A Practical Introduction*. Blackwell, 1999.
- Walder, Dennis. *Literature in the Modern World*. OUP, 1990.

Outcomes

- An in-depth understanding of numerous theoretical perspectives that is essential for undertaking research in the field of literature.
- Understanding, analysing, critiquing literary works through the insights provided by the framework of theory.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper- II
Research Methodology
Paper Code: MAE/4/CC/02

Objectives

- To prepare the students for writing a Research Proposal, Dissertation/Thesis as per the mechanics of thesis writing.
- To develop a research aptitude in the students through an understanding of research problem, research question and research gap.
- To develop an understanding in the students of various towards various frameworks for analysis and discussion.

Unit I

Formulation of Research Problem, Plan of Research

Unit II

Requirement of Research Paper; Format and components of Research Proposal (Synopsis); Format and components of Dissertation/ Thesis

Unit III

Major Theoretical Approaches (Postcolonial, Psychoanalytical, Feminism, Marxist Criticism, Neo- historicism, Ecocriticism); Tools of Research

Unit IV

MLA Handbook- Eight edition

Unit V

How to write a Book Review

Recommended Reading List:

- Chamaz, K. and Bryant, A. *Grounded Theory and Credibility*. 2001
- Sanden, Chauncy. *An Introduction to Research in English.* Macmillan.2001
- Chouliaraki, L. and Fairclough. *Discourse in Late Modernity: Rethinking Critical Discourse Analysis*. Edinburgh University Press, 2001.
- Paranjape, JB. *The Scholar-Apprentice: An Introduction to Literature Studies and Research.* Nagpur: 1991.
- Gibaldi, Joseph. *MLA Handbook for Writers of Research Papers* (Eighth Edition). PMLA, 2016.

- Adhikari, Madhumalti. *A Students' Handbook for Writing Research, Term Papers*. AA Publishers, 2004.
- Altick, Richard. *The Art of Literary Research*. Macmillan.2001
- Correa, Delia, Da Sousa and W R Owens. *The Handbook to Literary Research*. Routledge. 2010.
- Watson, George. *The Literary Critics*. OUP.1987.
- Bateson, F. W. *The Second Critic: An Introduction to Literary Research*. Routledge 1972.

Outcomes

- The students will develop an understanding of the technical aspects of academic writing and documentation.
- Development of critical thinking /skills and the ability to apply specific theoretical perspective while engaging in literary research within the matrix of interdisciplinarity and intersectionality.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper- III C
Twentieth Century American Literature- II
Paper Code:MAE/4/EC/3C

Note: The candidates are required to choose one paper between III (C) & III (D)

Objectives

- To acquaint the students with American Literature of the twentieth century.
- To make them understand the specific ideas, issues of thetwentiethcentury American society

Unit I

Emily Dickinson:	'Success is Counted Sweetest', 'There is a certain slant of light', 'I heard a fly buzz when I died', 'Because I could not stop for Death'
Robert Frost:	'Mending Wall', 'Birches', 'The Road Not Taken', 'Stopping by Woods on a Snowy Evening'

UnitII

Eugene O'Neill:	*Emperor Jones*

Unit III

Mark Twain:	*Adventures of Huckleberry Finn*

Unit IV

Toni Morrison:	*The Bluest Eye*

Unit V

Earnest Hemingway:	'Snow of Kilimanjaro'
William Faulkner:	'A Rose for Emily'

Recommended Reading List

- Douglas,Ann. *The Feminization of American Culture*. Noon Day Press, 1977.
- Fiedler, Leslie. *Love and Death in the American Novel*. Dalkey Archive Press, 1966.
- Morrison, Toni. *Playing in the Dark*. Harvard University Press, 1992.
- Sundquist, Eric. *To Wake the Nations*. Harvard University Press, 1993.

- Tompkins, Jane.*Sensational Designs: The Cultural Work of American Fiction.* (*1790-1860*) OUP, 1986.

Outcomes

- Students will develop a thorough understanding of the major texts of the period.
- They will acquire a keen interest in American Literature and understand the link between the literary-cultural and the socio-historical aspects of American society.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper-IIID
Gender Studies – II
Paper Code:MAE/4/EC/03D

Objectives

- To familiarize the students with the Feminist theory and its plurality.
- To introduce the students to the Indian feminist texts and enable them to understand the literary history of women's studies and feminist criticism.

Unit I

Elaine Showalter: 'Feminist Criticism in the Wilderness'

Unit II

Barbara Smith : 'Toward a Black Feminist Criticism'

Unit III

Rassundari Devi: *Amar Jiban* (My Life) III, IV & V Composition
TarabaiShinde: *StriPurushTulna*

Unit IV

Alice Walker : *TheColour Purple*

Unit V

BapsiSidhwa: *Ice-Candy Man*

Recommended Reading List

- Beauvoir, Simone de. *The Second Sex*. Vintage Books, 2011.
- Eagleton,Mary,editor. *Feminist Literary Criticism*. Longman, 1991.
- Felsky, Rita. *Beyond Feminist Aesthetics*. Harvard University Press, 1989.
- Glover, David and Cora Kaplan, editors. *Genders.*Routledge, 2000.
- Morris, Pam. *Literature and Feminism*. Oxford University Press. 1993.
- Showalter, Elaine, editor. *New Feminist Criticism.* Pantheon, 1985.
- Spacks, Patricia Meyer. *The Female Imagination: A Literary and Psychological Imagination of Women Writing*. Allen & Unwin, 1976.
- Wollstonecraft, Mary. *A Vindication of the Rights of Woman*. Penguin, 2004.

- Zide, Arlene E. *In Their Own Voice*. Penguin, 1993.

Outcomes

- Students will acquire analytical and critical skills in order to read literature from a gendered perspective.
- They will develop an understanding of the issues of identity, representation and intersectionality.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper IVC
Translation Studies
Paper Code:MAE/4/EC/04C

Note: The candidates are required to choose one paper between IV (C) & IV (D)

Objectives

- To introduce the concepts and theories of translation in the field of Literature.
- To acquaint with the multilingual plurality of literary works in India.
- To introduce the students to major works originally written in the native/regional languages of India

UnitI

U. R. Ananthamurthy: *Samskara*

UnitII

Munshi Premchand: *Godaan*

UnitIII

Rabindranath Tagore: *Poems of Kabir*(1-12)
Faiz Ahmed Faiz: *The Rebel's Silhouette* (1-11)
Anamika: 'Dalai Lama', 'Woman', 'Knowing'

UnitIV

Mohan Rakesh: 'Malabe Ka Malik*'*
Mahashweta Devi: 'Draupadi', 'Shishu' (Little Ones)
Phaneshwar Nath Renu: *TeesriKasam*

Unit V

Raji Narasimhan: 'Introduction' from *Translation as a Touchstone*

Recommended Reading List:

- Bassnett, Susan and Harish Trivedi, editors. *Postcolonial Translation: Theory and Practice*. Routledge, 1999.
- Gupta, R.S. *Literary Translation,* Creative Books, 1999.
- Kothari, Rita. *Translating India: The Cultural Politics of English*, St Jerome Publishing, 2003.
- Mukherjee,Sujit. *Translation as Discovery and Other Essays on Indian Literature in English Translation*. Orient Longman, 1994.

- ---.*Translation as Recovery*. Pencraft International, 2005.
- Narsimhan, Raji.*Translation as a Touchstone*. Sage Publications, 2013.
- Niranjana, Tejaswani. *Citing Translation: History, Post colonialism and the Colonial Context*. Univ. of California Press, 1992.
- Rehman,Anisur, editor.*Translation: Poetics and Practice*. Delhi: Creative Books, 2002.
- Weissbort, Daniel and Girdhar Rathi, editors.*Survival:An Experience and an Experiment in Translating Modern Hindi Poetry*. Sahitya Akademi, 1994.

Outcomes

- Students will appreciate the beauty and relevance of literary masterpieces in different languages.
- They will generate an understanding of the underlying literary features and ethical issues in translation.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper-IVD
War Literature
Paper Code: MAE/4/EC/04D

Objectives

- The course introduces students to the nuances of war literature, mainly the world wars and the literature born out of the actual experience of soldiers, and other war writers.
- To familiarise the students with different responses and consequences of war.

Unit I

Rupert Brooke: 'The Soldier'

Alfred Tennyson: 'Charge of the Light Brigade'

Siegfried Sassoon: 'Everybody Sang'
Randall Jarrell: 'The Death of the Ball Turret Gunner'
W.B. Yeats: 'An Irish Airman Foresees His Death'

Unit II

Doris Lessing: *Alfred and Emily*

Unit III

Pierre Boulle: *The Bridge on the River Kwai*

Unit IV

John Arden: *Sergeant Musgrave's Dance*

Unit V

Ida Fink: 'A Scrap of Time', 'The Garden that floated away', 'Splinter'

Recommended Reading List

- Bauer, Yehuda. *Rethinking the Holocaust*. Yale University Press, 2002.

- Capra, Womnicle La. *Representing the Holocaust: History, Theory and Trauma.* Cornell University Press, 1994.
- Cardinal, Agnès,Dorothy Goldman and Judith Hathaway. *Women's Writings on the First World War*. OUP, 1999.
- Malone,Celia. *The Peculiar Sanity of War: Hysteria in the Literature of World War I*. Texas Tech University Press, 2002.
- Meredith,James H. *Understanding the Literature of World War II: A Student Casebook to Issues, Sources, and Historical Documents.* Greenwood Press, 1999.
- Stewart, Victoria. *The Second World War in Contemporary British Fiction: Secret Histories.* Edinburgh University Press, 2011.

Outcomes

- Students will develop an understanding of the various aspects of war, including the experiences and the impact on society and culture.
- Literature on Holocaust will sensitise the students on the aftermath of mass destruction.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper-VC
Communicative English and Introduction to Linguistics- II
Paper Code:MAE/4/EC/05C

Note: The candidates are required to choose one paper between V (C) & V (D)

Objectives

- To inculcate the skills of business writing among students.
- To train the students in effective ways of group discussion and to prepare them to face a personal interview.
- To introduce them to the basics of Linguistics and Applied Linguistics

UnitI Reading and Comprehension:

How to improve reading skills; pronunciation; intonation; punctuation.
Syllables and Phonetic Transcription
Reading and comprehending: skimming the text, identifying unknown words and phrases; vocabulary.
Note making and identifying the key concepts in a passage.

UnitII Technical/Business Writing:

Minutes writing
Report writing
Resume writing

Unit III Group Discussion and Personal Interview:

Purpose and Types of Group Discussion
Brainstorming and preparation
Time Management, participation and moderation.
Preparation for Interview, knowledge of Job Profile
Emotional Attitudes, Positive Approach
Body Language
Expectations and Negotiations

Unit IV Introduction to linguistics:

Definition of Linguistics
Different Branches of Linguistics
Scope of Linguistics

Unit V Applied Linguistics:

Different Branches of Applied Linguistics

Scope of Applied Linguistics

Recommended Reading List

- Alexander, L.G. *Appreciation of Poetry & Prose*. Longman,1963.
- Allen, S. *Living English Structure.* Pearson India,2009.
- Bright, J.S. *Improve Your English.* Goodwill Publishing House, 2013.
- Bansal, R.K. *and Harrison, J.B. Spoken English for India: A Manual of Speech and Phonetics.* OrientBlackSwan, 1983.
- Hornby, A.S. *Practical English Grammar.* Vols. I & II (E.L.B.S.) Oxford University Press,1997.
- Lee, W.R. *English at Home*. Oxford University Press,1966.
- Quirk, Randolphand Sidney Greenbaum. *University Grammar of English*. Longmans,1965.
- Roach, P, Hartman and J. Setter.*Daniel Jones' English PronouncingDictionary.* Cambridge: CUP, 2006.
- Verma, S. K., and N Krishnaswamy. Modern Linguistics: An Introduction. Oxford University Press, 1989.
- Wood, T Frederick. *A Remedial English Grammar for Foreign Students.*Oxford: OUP, 1969.

Outcomes

- The students acquire confidence to prepare resumes, job applications and business letters.
- They are fully equipped to undertake discussions, interviews and negotiate terms and conditions pertaining to the job.
- Ability to undertake research in Linguistics.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper-VD
Paper Code:MAE/4/EC/05D
Indian Literary Theory

Objectives

- To introduce the students to the major concepts of Indian Aesthetics.
- To familiarise them with the theories in order to enhance an understanding of the tradition of Indian Literary Theory

Unit I

Bharat Muni: *Natyashastra*
Kuntak: 'Vakrokti: Aesthetics of Dramatic Experience'

Unit II

Bharathari: 'On Syntax and Meaning'

Unit III

Dandin: 'Sarga-Bandha: Epic Poetry'

Unit IV

Anandavardhana: 'Dhvani: Structure of Poetic Meaning'

Unit V

Abhinavgupta: 'On Santa Rasa: Aesthetic Equipoise'

Recommended Reading List

- Devy, G. N. *Indian Literary Criticism* .Orient Longman, 2002.
- Kane, P. V. *History of Sanskrit Poetics*. M & B Publisher Pvt. Ltd., 1971.
- Pollock, Sheldon *A Rasa Reader : Classical Indian Aesthetics* Columbia University Press, 2016
- Ramakrishnan, E.V.*Locating Indian Literature*. Orient Blackswan, 2011.
- Seturaman, V.S. *Indian Aesthetics: An Introduction.*Macmillan,2005.

Outcomes

- Students will acquire knowledge of Indian Aesthetics and its relevance.
- They will be able to comprehend the foundational texts of Indian literary theory.

M.A. ENGLISH LITERATURE
SEMESTER - IV
Paper-VIC
Indian Writing in Translation (Classics to Moderns)
Paper Code:MAE/4/OE/06C

Objectives

- To introduce the concept and theories of translation in the field of Indian Literatures.
- To acquaint the students with the multilingual plurality of literary works in India.
- To introduce the major works originally written in the native/regional languages of India.

UnitI

Kalidas:	*Shakuntala*
Sudraka:	*Mrichikatika*

Unit II

Kabir:	*One Hundred Poems* (Translated by R N Tagore) [1-12]
Basavanna:	'Poems 52, 70, 84'from A. K. Ramanujan (trans.) *Speaking of Siva*
Mahadeviakka:	'Poems 87, 68 and 273' fromA. K. Ramanujan (trans.)*Speaking of Siva*

Unit III

Bankim Chandra Chatterjee: *Anandmath*

Unit IV

Munshi Premchand:	'The Shroud'
Saadat Hasan Manto:	'The Woman in the Red Raincoat'
Ambai:	'A Forest, a Deer' (From *A Clutch of Indian Masterpieces* edited by David Davidar)

Unit V

BhishamSahni:	*Madhavi*

Recommended ReadingList

- Dasgupta, S.N. “Theory of Rasa” V. S. Seturam, editor. *Indian Aesthetics: An Introduction.* Macmillan, 2011.
- Jalil, Rakshanda. *Liking Progress, Loving Change.* OUP, 2014.
- Kar, P. C, editor.*Rethinking Indian English Literature: Theory and Praxis.* Pencraft, 2001.
- Mehrotra, A. K, editor.*A History of Indian Literature in English.* Permanent Black, 2003.
- Mohanty, Satya K, editor.*Colonialism,Modernity and Literature.* Palgrave, 2011.
- Ramanujan, A K. *The Collected Essays.* {Section III - Essays on Bhakti and Modern Poetry}.OUP, 1999.

Outcomes

- Discovery of the beauty and relevance of literary masterpieces in different languages.
- An understanding of the underlying literary features and ethical issuesin the prescribed works.
- To generate an interest among the students to research and practice translation of literary works of one’s choice.

M.A. ENGLISH LITERATUTRE
SEMESTER - IV
Paper-VI D
Contemporary Literatures of South Asia
Paper Code: MAE/4/OE/06D

Objectives

- To provide wider literary exposureto the students beyond British and American literature.
- To create interest in the South Asian literature for advanced studies in research.

Unit I

Amartya Sen:	'Indian Tradition and the Western Imagination' (from *The Argumentative Indian*)
Gurcharan Das:	'Draupadi's Courage: "Whom did you lose first, yourself or me?"' (from *The Difficulty of Being Good- On the Subtle Art of Dharma*)

Unit II

Khalid Hosseini:	*And the Mountains Echoed*

UnitIII

Roanna Gonsalves:	'The Skit', 'Christmas 2012', 'The Permanent Resident', 'First Person' (Short Stories from the collection *The Permanent Resident,* UWA Publishing, 2016.)

Unit IV

Nabaneeta Deb Sen:	*Medea*

Unit V

Intizar Hussain:	'Cloud'
Vijaydan Detha:	'The Dilemma' ('Duvidha')

Recommended Reading List

- Bose, Sugata, and Ayesha Jalal. *Modern South Asia: History, Culture, Political Economy*. Routledge, 2011.
- Brass, Paul R. *The Politics of India since Independence*. Cambridge University Press, 1994.

- Chandra, Bipan and Aditya Mukherjee. *India after Independence: 1947-2000*. South Asia Books, 2000.
- Guha, Ramachandra. *India after Gandhi: The History of the World's Largest Democracy*. Harper Perennial, 2008.
- Khilnani, Sunil. *The Idea of India*. Macmillan Press, 1998.

Outcomes

- The students will be able to appreciate the texts vis-a-vis their cultural significance.
- The students will develop a cross-cultural perspective.
- They will be acquainted with the historical background, cultural nuances, and the postcolonial consciousness inherent to South Asian literature.

Folk Literature of Vagad

Credits: 2

Objectives:

- To foreground indigenous studies and to familiarize the students with the theory of oral literature.
- To develop an understanding of the historical-geographical and socio-cultural-political scenario of Vagad with special reference to Mangarh and Galaleng.
- To sensitize the students about the cultural heritage of Vagad through comprehension and interpretation through Vagadi songs, tales and performatives.

Syllabus

Unit 1

Theorizing Folk Literature

- Components of Folklore: Songs, Tales, Performatives

Unit 2

Vagad Region

- History, Geography and socio-cultural background of Vagad region
- Major Festivals and customs

Unit 3

Literature of society and culture

- Songs
  - 'Endariyo Jug'
  - 'Nonu Hong Teru'
  - 'Gavri Devi'- 3 Padas
- Tales
  - 'Baraini Beej'
  - 'Andho Jogi Dakal Koote'

Unit 4

Literature of Socio-Political and Historical significance

- Song of Mangarh (Excerpts)
- Galaleng Epic (Excerpts)

Unit 5

Tribal Literature of Vagad

- Gavri: Performative

Outcomes

- This will enable the students to understand folk literature, its scope and significance.

- The students will develop an interest in folk studies and will be able to connect with the local culture of the region.
- The students will get familiarized with narratives/performatives of the Vagad region and will connect them to the cultural roots.

Suggested Books:

Dabi, Premchand. *Jan Jaati Lok Sahitya*. Ankur Prakashan. 2004.

Bhanawat, Mahendra. *Adivasi Jeevandhara*. Himanshu Prakashan.

Dabi, Premchand. *Jan Jaati Lok Sahitya*. Ankur Prakashan. 2004.

Devy, G.N. *A Nomad Called Thief: Reflections on Adivasi Silence*. Orient BlackSwan, 2011.

---. *The G N Devy Reader*. Orient BlackSwan, 2014.

Georges, Robert A. and Michael Owen Jones. *Folkloristics: An Introduction*. Indiana University Press, 1995.

Satyendra. *Lok Sahitya Vigyan*. Rajasthani Granthagar, 2006.

Samar, Devilal. *Rajasthani Lok Natya*. Upnishad Bharti, Lok Kala Mandal. 1957.

Hammersley, Martin and Paul Atkinson. *Ethnography: Principles in Practice.* Routledge, 2007.

Joshi, L. D. *Wagdi Boli ka Swaroop aurUskaTulnatmak Adhyayan*. Panchsheel Prakashan, 1972.

M.A. ENGLISH LITERATURE
SEMESTER – IV
ADD ON PAPER III
LANGUAGE AND COMMUNICATION SKILLS IN ENGLISH

Objectives

- To upgrade the knowledge of English grammar
- To train students in writing skills
- To introduce the basics of spoken English and Phonetics

Unit I

Basic Sentence Patterns
Clause Analysis: Noun Clause, Adjectival Clause, Adverbial Clause
Structure of Noun Phrase

Unit II

Tenses
Conditionals
Gerund, Participle, Infinitive
Question Tags

Unit III

Modal Auxiliaries
Phrasal Verbs
Word Formation: Prefix, Suffix, Conversion and Compounding

Unit IV

Phonetics: R.P. Sounds – Vowels and Consonants
Accent, Stress and Phonetic Transcription
Intonation and Rhythm
Differences between the Vowel Systems of British R.P. and General Indian English

Unit V

Comprehension of an Unseen Passage
Précis Writing
Letter Writing: Personal, Official and Business Letters

Recommended Reading List

- Allen, S. *Living English Structure*. Pearson India, 2009.
- Bright, J.S. *Improve Your Idioms and Phrases*. Goodwill Publishing House, 2013.
- Bansal, R.K. and J.B. Harrison. *Spoken English for India: A Manual of Speech and Phonetics*.

Orient Longman Ltd, 1988.
- Hartman, Roachand J. Setter. *Daniel Jones'English Pronouncing Dictionary*. CUP, 2006.
- Hornby, A.S. *Practical English Grammar* – Vols. I & II (E.L.B.S.). OUP, 1997.
- Lee, W. R. *English at Home*. OUP, 1966.
- Quirk, Randolph and Sidney Greenbaum. *University Grammar of English*. Longman, 1965.
- Wood, Frederick T. *A Remedial English Grammar for Foreign Students*. OUP, 1969.

Outcomes

- Gaining efficiency in writing skills.
- Proficiency in grammar.
- Understanding of fundamentals of Phonetics.

Faculty of Social Science

Department of Fashion Technology & Desining

Courses offered-

- M. Voc.

SYLLABUS

M.Voc- Fashion Technology & Designing

Semester System

DEPARTMENT OF FASHION TECHNOLOGY AND DESIGNING

UNIVERSITY COLLEGE OF SOCIAL SCIENCES AND HUMANITIES
MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

M.Voc- Fashion Technology &Designing

Semester System

Master of Vocation (M.Voc.) is launched under the scheme of University Grants Commission on skill development based higher education leading to Master of Vocation (M.Voc.) Degree.

M.Voc. Programme: The M.Voc. programme has been designed as per CBCS framework emphasizing on skill-based education.

1. **Duration of Course:** The duration of course is 2 years integrated course with one early exit point and one lateral entry.

Award	Duration	Specification
Post Graduate Certificate	First Semester	If exit after six months
Post Graduate Diploma	1 Year (First and Second Semester)	If exit after one year

Note:

For Early Exit:

- After successful completion of First semester (first year) a Post Graduate Certificate will be awarded to the candidate.
- After successful completion of Second semester (first year) a Post Graduate Diploma will be awarded to the candidate.
- After successful completion of Fourth semester (2nd year) M.Voc. –Fashion Technology & Designing Degree will be awarded to the candidate.

2. **Eligibility criteria for admission:**

- Undergraduate Degree from any institute/ University recognized by law in India (B.Tec./ B.Sc./ B.A./ B.Com) degree with specialization in relevant subjects (Apparel Designing/ Costume Designing/ Apparel Construction/ Fashion Designing/ Home science/ Community & Applied Science etc.).
- Undergraduate Degree in any other subject with basic foundation certificate or diploma course in fashion/ costume / apparel / textile and likewise subjects.
- Undergraduate Diploma of minimum three years duration from NIFT/ NID/ Polytechnic College/ Degree College in related subjects like Costume Designing, Apparel Construction, Fashion Designing, Fashion Technology, Textile Designing and likewise subjects.
- Candidates appearing in the qualifying examination are also eligible to apply if the candidate produces a proof of having acquired the minimum prescribed qualification at the time of

admission. Or if the Final Year/ Final Semester (as the case may be) result of qualifying degree is not declared by the concerned board/ University till the date of admission/ counseling, his/ her admission in such case will be strictly provisional subject to the following conditions: (i) Affidavit on non-judicial stamp paper of Rs. 10/ - is submitted by candidate. (ii) The candidate will submit the final result of qualifying Degree providing his/ her eligibility on or before academic session ends (iii) Candidates having compartment in previous qualifying exams will be considered only for provisional admission.

- It is further clarified that provisional admission will be considered only in such cases where the result of Final year/ Semester of the qualifying degree have not been declared by the concerned university/ board in its totality.
- As the course is vocational and skill based, hence the admission eligibility will be Minimum Passing marks obtained. The Merit list will be prepared based on the following criteria -

Sr. No.	I	A	B	C	D	Total
Category	% obtained in UG level programs	UG in relevant subjects	Diploma courses (More than 1 Yr duration)	Diploma courses (1Yr duration)	Certificate courses	
Marks	X %	10	8	7	5	I(X %) + (A/B/C/D)

3. Total number of Seats:

(i) M.Voc.-Fashion Technology & Designing: 30 seats
(ii) **Reservation of Seats:** As per rules of University

4. Course Fee: Course fee will be decided as per the prevalent mechanism for fee fixation in the University.
5. Admission Process: Based on Merit (As per University rule)
6. Faculty: The University should use its regular faculty if existing, additionally; they may recruit or hire faculty on contractual basis and guest faculty as per UGC norms.
7. Marks Distribution:

The Distribution of marks for University examination and continuous internal assessment is as follows -

	Total Allotted Marks	**Minimum Passing Marks**	**University Exam Marks**	**Minimum Passing marks**	**Continuous Internal Assessment**	**Minimum Passing Marks**
Theory	100	40	80	32	20	08

Practical	100	40	60	24	40 (20 Internal Assessment + 20 Project work)	16

Marks distribution of the Continuous Internal Assessment

1.	Attendance	20%	% of the total Marks of the Internal Assessment
2.	Written Assignment/ Project	40%	
3.	Mid- semester tests/ Internal Examination	40%	

8. Classification of Successful Candidates:

The successful candidate shall be classified on the basis of aggregate marks secured

a) 75% or more with Distinction
b) 60% or more in First division
c) 50% or more but less than 60% in the Second division
d) 40% to below 50% in the Third division

9. Attendance: Every candidate will be required to attend a minimum theory and practical classes, laboratory work, project work as per university norms**.**

10. Conferment of Degree: A candidate who has passed all the examinations as prescribed, shall be eligible to receive the degree of "M.Voc.-Fashion Technology and Designing" from the University.

11. Award of Medal/ Prize: The general rules and conditions of the University for the Award of Medal/ Prizes etc.

12. Qualification requirement (for teaching staff)

- M. Design / M.Sc./ M.Voc. with specializationin Fashion Design/ Fashion and Textile Design/ Fashion Technology/ Costume Designing/ Textiles and Apparel Designing and likewise subjects with minimum 55% marks. All subjects of Post-Graduation should be related to Textiles and Clothing + NET / SET/ As per UGC norms
- Since NET is not available in Fashion Design/Fashion Technology and likewise subjects at present, hence Industry Experts/ Artisans/ Masters in fine Art & Craft will be considered.

13. Qualification for Lab Assistant: Diploma/ Degree in Fashion Designing/Technology and likewise subjects with good technical knowledge of sewing machines maintenance, sewing garments and Pattern making etc.

14. Programme Objectives: The Program Educational Objectives of M.Voc in Fashion Technology & Designing PG Program are to prepare the students:

- Excel in their professional career related to fashion, textile, quality, design, manufacturing, management and research

- Identify problems in the textile & apparel domain and provide suitable solutions focusing on the need of the industry and society
- Provides training, support and guidance for encouraging use of our traditional textile crafts in the garment export sector
- Imbibe awareness on the significance of professional and social ethics in their professional career
- Educator or Trainer in fashion schools or organizations imparting and sharing the knowledge acquired by them
- Dynamic and confident individuals who excel in any profession they have undertaken due to their strong foundation

15. Programme Outcomes : Program Outcomes (POs), are attributes acquired by the student

- Fashion and Fabric Theory Knowledge: Understanding Theories & Principles of Design & Construction; Traditional Textiles & Costumes, Fashion theories, Marketing, Merchandising & Quality Control.
- Design Process Knowledge: To use the understanding of elements and principles of design to create new designs on paper, graphics, textile and garments.
- Design / Develop product prototypes: Design & Construct a garment by draping/ flat pattern making/drafting to meet desired specification, performance: well-suited with client need, trend, market analysis, social and environmental considerations.
- Modern Tool Usage: Computer Knowledge and expertise to apply appropriate CAD and Computer Graphics knowledge to design and create new and industry acceptable Textures, prints, designs, silhouettes along with 2D & 3D Designs.
- Sustainability: Understanding & Applying traditional craft practices and methods to add value to a product or garment & uplift, revive the craft in line with the modern trend.
- Communication: Communicating ideas in the form of artistic fashion illustrations, graphic illustration, styling, exhibitions and visual display of merchandise, conduct a fashion event or run an organization.
- Designer and Society: Understanding the basic clothing needs of the customer based on the various criteria such as age, occupation, gender, status, etc. & apply this knowledge on a professional & human Level.
- Individual and team Work: Articulate teamwork principles, work with a multidisciplinary team, and appreciate the role of a leader, leadership principles and attitudes conducive to effective professional practices.
- Lifelong Learning: Engage in life –understand & Utilize information and communication technologies to research, evaluate, create, and communicate information as it relates to fashion design concepts at an advanced level.

Detailed Syllabus

M.Voc. (Fashion Technology & Designing) Scheme of Papers under CBCS Guidelines

Course Code	Name of Course	Type of Course	Credit Distribution				Marks (Scaled)		
			L	T	P	TOTAL	IA	UE	T
First Semester (Total Credits: 26) Core Course: 26 Credits									
MFD/1/CC/011	Fashion: Design & Development (Theory)	CC	5	1	0	6	20	80	100
MFD/1/CC/012	Indian And Global Fashion (Theory)	CC	4	0	0	4	20	80	100
MFD/1/CC/013	Quality Control in Garment Industry (Theory)	CC	4	0	0	4	20	80	100
MFD/1/CC/014	Basics of Apparel Construction (Practical)	CC	0	0	4	4	30	70	100
MFD/1/CC/015	Surface Ornamentation (Practical)	CC	0	0	8	4	30	70	100
MFD/1/CC/016	Draping (Practical)	CC	0	0	8	4	30	70	100
Second Semester (Total Credit: 24) Core Course: 12 Credits, Open Electives: 8, Soft Skill: 4									
MFD/2/CC/021	Fashion Merchandising (Theory)	CC	5	1	0	6	20	80	100
MFD/2/OE/022	Fashion Accessories (Theory)	OE	4	0	0	4	20	80	100
MFD/2/OE/023	Effective Dressing Skills (Theory)	OE	4	0	0	4	20	80	100
MFD/2/CC/024	Flat Pattern Design (Practical)	CC	0	0	12	6	30	70	100
MFD/2/SC/025	Fabric Study and Its Applications (Practical)	SC	0	0	4	2	30	70	100
MFD/2/SC/026	Computer Application (Practical)	SC	0	0	4	2	30	70	100
Third Semester (Total Credit: 24) Core Course: 14 Credits, Open Electives: 8, Soft Skill: 2									
MFD/3/OE/031	Indian Costumes (Theory)	OE	4	0	0	4	20	80	100
MFD/3/CC/032	Garment Industry Departments (Theory)	CC	6	0	0	6	20	80	100
MFD/3/CC/033	Application of Textiles in Fashion (Theory)	CC	3	1		4	20	80	100
MFD/3/CC/034	Computer Aided Designing (Practical)	CC	0		8	4	30	70	100
MFD/3/OE/035	Apparel Construction (Practical)	OE	0	0	8	4	30	70	100

MFD/3/SC/036	Craft Project (Practical)	SC	0	0	4	2	50	50	100
Fourth Semester (Total Credit: 26) Core Course: 24 Credits, Soft Skill: 2									
MFD/4/CC/041	Research Methodology (Theory)	CC	4	2	0	6	20	80	100
MFD/4/CC/042	Fashion Retail (Theory)	CC	4	0	0	4	20	80	100
MFD/4/SC/043	Fashion Communication (Practical)	SC	0	0	4	2	30	70	100
MFD/4/CC/044	Advanced Fashion Illustration (Practical)	CC	0	0	8	4	30	70	100
MFD/4/CC/045	Fashion Styling and Promotion (Practical)	CC		0	8	4	20	80	100
MFD/4/CC/046	Internship/ Special Project (one month)	CC	0	0	0	6	0	100	100

Note: Core Courses (CC), Open Elective (OE), Soft Skill Course (SC)

SEMESTER I

FASHION DESIGN & DEVELOPMENT (THEORY)
Course Code: MFD/1/CC/011
Objectives:
● Educate the concept related to elements and principles of design, terminology related to fashion. ● Explain theories of origin & its use. ● To acquaint the students with the basic factors influencing fashion. ● To foster an understanding of international designers and their work. ● To familiarize the students with the role of a designer.
Outcomes:
● Adapt elements & principles of design in context to apparel. ● Reflect the application of theories of clothing origin & its use in day to day life. ● Apply knowledge of styles, silhouettes, different types of clothing, prints, etc. ● Relate the understanding of functions of clothing in apparel selection. ● Utilize skills gained for apparel design & development process**.**
CONTENTS:
Unit I: Fashion Terms and Concepts
● **Terms for Different Types of Clothing-** Casual wear, Sportswear, Ethnic wear, Active wear, Formalwear, Loungewear, Swimwear, Bespoke, Capsule, Wardrobe, Corporate, Designer, Eveningwear, Haute Couture, juniors, Misses, Oversize, Petites, Reversible, Sportswear, Vintage ● **Terms for Different Types of Styles-** Androgynous (Unisex), Boho/ Bohemian, Classic, Cruise Wear, Eclectic, Edgy, Elegant, Glam, In Vogue, On Trend, Preppy, Punk, Sporty Tailored, Relaxed, Sophisticated ● **Terms for Different Types of Prints-** Floral, Stripes, Check, Dots, Geometric, Directional, Computerized, Animal, Abstract, Numerical, Alphabetical, Nursery ● **Fashion Cycle –** Fashion Leaders/ Followers/ Innovators/ Motivators/ Victims ● **Theories of Fashion Adoption –** Trickle Down, Trickle Up, Trickle Across
Unit II: Theories of Clothing Origin
● Modesty Theory ● Immodesty Theory ● Adornment Theory ● Protection Theory
Unit III: Clothing Functions

• Maslow's Hierarchy of Human Needs- Self-Actualization, Esteem, Love and Belonging, Safety, Physiological needs • Protection • Comfort • Identity • Status and Prestige • Ornamental and Aesthetic • Sociability and Conformity • Insignia (Symbols & Badges) • Hygiene & Sanitations • Camouflaging • Rebellion
Unit IV: Understand Basic Design Concepts
• Types of Garment Silhouettes - A-line, Hourglass, Sheath, Dropped Waist, Bell • Types of Necklines - U, V, Boat, Asymmetric, Halter, Scallop, Scoop, Square, Sweetheart, Turtle, Plunge, Keyhole • Types of Sleeves - Cap, Bell, Bishop, Leg-o-Mutton, Raglan, Kimono, Petal, Puff, Flounce, Shirt • Types of Tops - Tube, Tank, Sleeveless, Blouson, Shirt, Peplum, Tunic, Polo, Peasant, Wrap • Types of Skirts - A-line, Wrap, Mini, Midi, Maxi, Straight, Godet, Handkerchief, Yoke, Pleated, Tiered, Sarong, Pencil • Types of Pants- Straight, Bell-bottoms, Harem, Shorts, Capri, Palazzo, Cargo, Breeches, Culottes, Bermuda
Unit V: Skills required for Apparel Design & Development Process:
• Fashion Forecasting • Design Development • Sourcing of Resources • Development of a Sample Garment • Preparation of Specification Sheet • Preparation of Cost Sheet • Quality Control

Text Books:

- Gini Stephens Frings (2007), Fashion Concept to Consumer 1. ` , Pearson
- Elaine Stone (2013), 2. Dynamics of Fashion, Fair Child Books
- Fred Davis (2002), Fashion, Culture and Identity, University of Chicago Press 3.

Recommended Readings:

- The Dynamics of Fashion, Elaine Stone, Fairchild Publication, 2008
- Frings Gini, Fashion-From Concept To Consumer, (5th Edition), Prentice Hall Publications, 1996
- Marshall S G, Jackson H O, Stanley Ms, Kefgen M & Specht T, (2009), Individuality In Clothing & Personal Appearance, 6th Edition, Pearson Education, USA.

- Shorie,G.P.,Vastra Vigyan KeMoolSidhant,VinodPustak Mandir, Hospital Road, Agra, 2007. (Hindi Book)
- Verma, Promila.,Vastra Vigyan Evam Paridhan,Madhya Pradesh Hindi Granth Academy, Bhopal, 2003 (Hindi Book)
- Jarnow, Jand Judelle, B.,Inside Fashion Business, Merrill Prentice Hall, New Jersey, 1987

Journals/E – Journals:

- International Journal of Clothing Science and Technology https://www.emeraldinsight.com/loi/ijcst
- Asian Textile Journal (ATJ) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/
- Asian Technical Textile (ATT) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/journal.html
- ATA Journal for Asia on Textile and Apparel (Open access) ADSALE publishing, Hongkong. https://www.ourglocal.com/journal/?issn=10158138

INDIAN AND GLOBAL FASHION (THEORY)
Course Code: MFD/1/CC/012
Objectives:
● To make students aware about Indian fashion industry. ● To inform the students about the importance & role of social media. ● To prepare students for the global competition. ● To imbibe awareness on the significance of textile & apparel associations & institutions. ● To acquaint the students about Indian & international designers & their collection.
Outcomes:
● Excel in their professional career related to manufacturing, management and research in the Indian fashion industry. ● Effective participation in fashion promotion activities. ● Understand the impact of social media & its role in promotion of Indian and global fashion industry. ● Remembering and understanding the need of various textile associations & institutions required for the growth of the industry. ● Recognize & take inspiration from indian & international designers & their collection.
CONTENTS:
Unit I: Indian Fashion Industry: Meaning, Role, Importance at National and Global Level
● Power loom Industry ● Handloom Industry ● Apparel Industry ● Fashion Industry
Unit II: Fashion Promotion Activities

● Fashion Fairs & Trade Fairs ● Fashion Shows, Fashion Week and Fashion Exhibitions ● Garment Technology Trade Fair ● Buyer-Seller Meets
Unit III: Social Media: Role in Promotion of Indian and Global Fashion Industry
● Social Media: Meaning and SWOT analysis ● Role of social media in promotion of Indian fashion industry ● Role of social media in Brand value development ● Social Media Platforms available for promotional activities related to Fashion world
Unit IV: Associations & Institutions
● Ministry of Textiles – Role & Importance ● Apparel Export Promotion Council ● Textile Craft Council ● Apparel/ Textile Parks ● Weaver's Craft Council, Jaipur ● Case study of local NGO's – Sadhna, Aavaran and Kamli Vanvaasikalyan Parishad
Unit V: Design Study
● Indian Designers – Sabyasachi, Manish Malhotra, Manish Arora, Ritu Kumar and Anita Dongre ● International Designers – Alexander McQueen, Coco Chanel, Donatella Versace, Giorgio Armani

Text Books:

- The Chronicle of western Costume, John Peacock, Thamed & Hudson, 2010.
- Stuart Robinson, 1969"A History of Printed Textiles", Studio Vista Ltd., London.
- Gini Stephens Frings: Fashion From Concept To Consumer, Prentice Hall, N. Jersey
- Castellino, M., Fashion Kaleoidoscope, Rupa Publication India Pvt Ltd, Kolkata
- Dickerson K.,Inside The Fashion Business, Pearson Education, New Delhi, 2003
- Leslie D. Burns, The Business Of Fashion, Fairchild Publication, New York, 2006
- Stone E., In Fashion, Fairchild Publication, Second Edition, New York ,2012

Recommended Readings:

- 1 Dorothy S. Lyle & Jeanne Brinkley, Contemporary Clothing, Bennet & Mc Knigh Publishing Company, Peoria, Illinois, 1983
- 2. Ulla Vad Lane-Rowley, Using Design Protection In The Fashion & Textile Industry, Jhon Wiley & Sons, Ist Edition 1997
- 3. Venkatesan. R, &Katti, V.Indian Textile Policy For 21st Century, B R Publishing Corporation

Journals/ E-Journals:

- AUTEX Research Journals(AUTEXRJ) (Open access) published by Lodz University of Technology, Poland.
  https://www.autexrj.com/
- Canadian Textile Journal (CTJ) (Open access), St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada.

https://www.scimagojr.com/journalsearch.php?q=83524&tip=sid&clean=0

- Clothing and Textiles Research Journal, SAGE Publications Asia-Pacific PTE LTD, California.
  https://journals.sagepub.com/home/ctr

QUALITY CONTROL IN GARMENT INDUSTRY
Course Code: MFD/1/CC/013
Objectives:
● To introduce students to quality control components. ● To acquaint the students with the production standards and professional ethics of the various quality control departments. ● Educate the students about the concepts & role of sourcing. ● To educate regarding the tools, equipments & machinery used in the spreading, cutting & sewing departments. ● Explain the importance of quality control in the garment packaging department.
Outcomes:
● Relate to quality control components & terminology. ● Be aware of the challenges & opportunities of quality control present in the textile & apparel industry. ● Understand the term sourcing & its practical applicability. ● Enable, identify & use effectively the tools, equipments & machinery of the spreading, cutting & sewing departments. ● Practice quality control in the garment manufacturing departments.
CONTENTS:
Unit I: Terminology
● Quality, Quality Control, Quality Assurance, Quality Inspection, Quality Parameters
Unit II: Quality Parameters in Sourcing Department
● Purchasing: purchasing specs, buying by grade, testing and inspection of raw materials
Unit III: Quality Parameters in Spreading and Cutting Department
● Fabric Preparation for Spreading & Cutting (Washing, Checking Grainline, Straightening, Pressing)
● Spreading Quality Specifications (Alignment of Fabric, Fabric Tension, Fabric Defects, Fabric Direction, Placement of Prints/ Motifs)
● Cutting Quality Specifications (Marker Inspection, Appropriate Cutting Tools Selection, Bundling, Sorting)
Unit IV: Quality Parameters in Sewing Department
● Importance of Quality Standards for Sewing Operations, In-Process Quality Inspection
Unit V: Quality Parameters in Packaging Department
● Garment Packaging – Defects, Workmanship, Size, Neatness, Cleanliness, Stains, Pressing

Text Books:

- The Fundamentals of Quality Assurance in the Textile Industry Stanley Bernard Brahams, ISBN 9781498777889 Published November 14, 2016 by Productivity Press
- Garment Manufacturing Technology.,Rajkishore Nayak and Rajiv Padhye,2015,Woodhead Publishing
- Work quality Management in the textile Industry , B.Purushothama 2013,Woodhead Publishing
- Garment Manufacturing: Processes, Practices and Technology .,by Prasanta Sarkar , 2015 Paperback
- Hand Book of Garments Manufacturing Technology , Eiri Staff ,2007,Hardcover – Import

Recommended Readings:

- Dorothy S. Lyle & Jeanne Brinkley, Contemporary Clothing, Bennet & Mc Knigh Publishing Company, Peoria, Illinois, 1983
- Ulla Vad Lane-Rowley, Using Design Protection In The Fashion & Textile Industry, Jhon Wiley & Sons, Ist Edition 1997
- Venkatesan. R, & Katti, V.Indian Textile Policy For 21st Century, B R Publishing Corporation

Journals/ E-Journals:

- Colourage, Colour publications Limited, New Delhi. https://colourpublications.in/colourage-journal/
- Clothing and Textile Research Journal (CTRJ), SAGE Publications Asia-Pacific PTE LTD, California. https://journals.sagepub.com/home/ctr
- FIBERS and TEXTILES in Eastern Europe, FTEE publishers, Poland, Eastern Europe. https://ftee.com.pl/
- Indian Journal of Fiber and Textile Research, India. http://op.niscair.res.in/index.php/IJFTR

BASICS OF APPAREL CONSTRUCTION (PRACTICAL)
Course Code: MFD/1/CC/014
Objectives:
● To impart knowledge about different aspects of pattern making and commercial pattern making. ● Demonstrate the process of drafting & adapting fashion garment, collars & sleeves. ● Introduce skills to organize a fashion & lifestyle exhibition.
Outcomes::
● Understand basic & advanced pattern making & apply the knowledge to create patterns. ● Utilizing the knowledge & skills gained to avail income generation opportunities. ● Capable of managing & organizing fashion events.
CONTENTS:
Unit I: Preparation of the Basic Sloper for the Following

● Childs Bodice Block, Sleeve Block and Skirt Block ● Female Bodice Block, Sleeve Block and Skirt Block
Unit II: Adaptation and Construction of the Following Sleeves
● Sleeve – Set in Sleeves – Plain Sleeve, Puff Gathered Top and Bottom, Bell Sleeve, Bishop Sleeve ● Sleeveless Style - Cape Sleeve ● Style with Bodice and Sleeve Combined – Raglan Sleeve, Kimono Sleeve, Magyar Sleeve
Unit III: Drafting, Adaptation and Construction of the Following Collars
● Shirt, Sailor's, Cape, Peter Pan (Flat & Raised) and Shawl Collars
Unit IV: **Development of Fashion Garment**
● Draft and Construct Child and Female Apparel
Unit V: Fashion Exhibition
● Exhibit Apparel and lifestyle Products

Text Books:

- More Dress Pattern Designing, Natalie Bray, Blackwell Series, 2010
- Gerry Cooklin., Garment Technology for Fashion Designers., Book Link, USA.
- Sewing for Fashion Design. Nurie. Relis/Gail Strauss-Reston Publishing Co.

Recommended Readings Books:

- Reader's Digest., Complete Guide of Sewing & Knitting, The Reader's Digest Association Ltd., London
- Ajgaonkar, D.B., Knitting Technology, Universal Publishing Corporation, Mumbai
- Armstrong, J., Patternmaking for Fashion Design (Ii Edition), Adison, Wesely Publishing Company, 1995.

Journals/ E-Journals:

- Indian Textile Journal(ITJ) (Open access) ASAPP Info Global Group, India. https://indiantextilejournal.com/
- Industria Textila, Institutional National de Cercetare-Dezvoltare PentruTexttile Pielarie, Romania.
  http://www.revistaindustriatextila.ro/
- International Journal of Clothing Science and Technology, St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada.
  https://www.scimagojr.com/journalsearch.php?q=12755&tip=sid&clean=0
- International Journal of Textile and Fashion Technology (IJTFT) (Open access), Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC), India.
  http://www.tjprc.org/journals/international-journal-of-textile-and-fashion-technology229

SURFACE ORNAMENTATION (PRACTICAL)
Course Code: MFD/1/CC/015
Objectives:

• To familiarize students with various techniques of surface ornamentation for value addition. • To enable students to use various surface enrichments in apparel and home furnishings. • To develop an innovative approach in the manufacturing of products using dyeing & printing, embroidery, machine sewing techniques, etc.
Outcomes:
• Discover new ideas & designs using various techniques of surface ornamentation. • Developing new ways of thinking, seeing and creating in product designing & manufacturing. • Perform with confidence while exploring & combining various surface ornamentation techniques.
CONTENTS:
Unit I: Dyeing & Printing
• Development of products with various printing techniques such as - Stencil Printing, Block Printing, Batik, Tie and Dye, Hand Painting etc.
Unit II: Embroidery
• Product Development using various Hand Embroidery Techniques • Product Development using various Machine Embroidery Techniques
Unit III: Machine Sewing Techniques
• Develop Home Furnishing articles using Appliqué, Patch Work, Quilting, different types of Tucks, Pleats etc.
Unit IV : Fabric Textures
• Developing self fabric textures using techniques such as Drawn Thread Work, Counted Thread Work etc.
UnitV : Fabric Texture Yarn crafts
• Developing Products using various techniques such as Macramé, Crochet etc.

Text Books:

- Wood, D. The Practical Encyclopedia of Sewing, Anness Publishing Ltd, USA
- Surface Ornamentation Techniques (Embroidery) Theory - I Year,Neetu Azad ,2021
- Surface Ornamentation Techniques - Embroidery 1st Semester Trade Theory, A. Mahendiran, 2018

Recommended Readings:

- Readers Digest, Complete Guide to Needle Work, The Readers Digest Association Inc, Pleasantville, New York

Journals/ E-Journals:

- International Journal of Textile Science, Scientific & Academic Publishing Co, USA.
  http://journal.sapub.org/textile/
- Fibers and Polymers, Springer Nature Switzerland AG.
  https://www.springer.com/journal/12221
- Journal of Textile Science & Engineering, Hilaris SRL, Belgium.
  https://www.hilarispublisher.com/textile-science-engineering.html
- Journal of Textile Engineering, J-Stage, Japan.

https://www.jstage.jst.go.jp/browse/jte/

DRAPING (PRACTICAL)
Course Code: MFD/1/CC/016
Objective:
● To enable the students to obtain perfect fit and harmony between the fabric & design of the garment. ● Educate & aware the students about the various fabric characteristics & terms. ● Impart draping skills for understanding & performing creative draping.
Outcomes:
● Student will excel in the job responsibility entrusted on him or her. ● Relate & apply the knowledge of fabric characteristics while performing practical jobs as well as in day to day life. ● Dynamic and confident individuals who excel in any adaptation & draping.
CONTENTS:
Unit I: Fabric Characteristics and Terms
● Method of draping - types of dress forms. ● Preparation of fabric for draping, seam allowances, marking and tracing, making basic front and back, bodice block by draping on dress form.
Unit II: Bodice Adaptation
● Asymmetrical Darts ● Bodice Styles: Classic Princess Drape, Armhole Princess Line, Panel Bodice, Halter Style Line, Off Shoulder, Cowl, Surplice.
Unit III : Skirt Adaptation
● A-Line ● Flared ● Panel ● Stylized Yoke With Flare, Gathers & Pleats
Unit IV: Draping Apparels
● Skirts ● Top ● One Piece Dress
Unit V: Creative Draping
● Draping of creative dress using Newspapers, Waste Products, etc.

Text Books:

- Abling, Bina and Maggio, Kathleen. 2008. Integrating draping, drafting and drawing, Fairchild Books, Inc.
- Patternmaking for Fashion Design,Helen Joseph-Armstrong, 4th Edition, Pearson Publication, 2012,
- Draping for Apparel Design, 2013, Helen Joseph-Armstrong
- Cutting & Sewing Theory, Gayatri Verma & Kapil Dev, Asian Publishers, 2015

- Armstrong, H Joseph., (2000). Draping For Apparel Design, Fairchild, New York

Recommended Readings:

- Crawform, C.A., The Art Of Fashion Draping, Fairchild Publications, New York.
- Hillhouse, M.S. And Mansfield, E.A., Dress Design- Draping And Flat Pattern, London.
- Sheldon, Maratha Gene., Design Through Draping, Usa Burgers Publishing Company.

Journals/ E-Journals:

- Journal of Fashion Technology & Textile Engineering, Scitechnol publications, Switzerland.
  https://www.scitechnol.com/fashion-technology-textile-engineering.php
- Journal of Textile (Open access), Hindawi Limited, UK.
  https://www.hindawi.com/journals/jtex/#:~:text=Journal%20of%20Textiles%20has%20ceased,archiving%20for%20electronic%20scholarly%20 journals
- Journal of Industrial Textile (JIT), SAGE Publications Asia-Pacific PTE LTD, USA.
- Journal of Industrial Textiles - All Issues (sagepub.com)
- Journal of Textile Institute(JTI), Taylor and Francis, UK.
  https://www.tandfonline.com/journals/tjti20
- Pakistan Textile Journal(PTJ) (Open access), Nadeem Mazhar, Pakistan.
  https://ptj.com.pk/

SEMESTER II

FASHION MERCHANDISING (THEORY)
Course Code: MFD/2/CC/021
Objectives:
● To acquaint students with basics of merchandising. ● To introduce the concept of sourcing strategies and sales promotion. ● Educate the concept of Standardization and Quality Control in Apparel Industry. ● Imbibe awareness about Visual Merchandising & its Application in marketing.
Outcomes:
● Apply the knowledge of merchandising to excel in his/her profession. ● Demonstrate understanding to successfully create visual display's to promote marketing. ● Articulate teamwork in the sourcing process. ● Implement Standardization requirement in the Production process.
CONTENTS:
Unit I: Merchandising
● Meaning & Definition of Merchandising ● Responsibilities of Merchandiser
Unit II: Introduction to Standardization and Quality Control in Apparel Industry
● Importance of Consumer Perception of Apparel Quality ● Managing apparel quality through inspection and sampling procedures
Unit III: Sourcing
● Stages of Sourcing ● Global Sourcing ● The role of merchandiser in sourcing
Unit IV: Fashion Visual Merchandising
● Functions of Visual Merchandising ● Elements of Visual Merchandising
Unit V: Visual Merchandising Application
● Store Exteriors, Interiors & Windows – Image ● Elements of Display – Merchandise, Props, Signage, Lighting, Fixtures, Mannequins, Floral & Graphics

Text Books:

- Fashion Merchandising ,Vasant Kothari,2011
- Fashion Merchandising Principles and Practice,James Clark,2014, 2nd Edition ,Springer Publication .
- Fashion and Style,Mariana Draws & Elya Lams ,2013,Canadian Agricultural Adaptation Program
- Fashion Retailing and Visual Merchandising ,JNU, Jaipur, First Edition 2013
- Fashion Marketing,Mike Easey,2009,A John Wiley & Sons, Ltd., Publication
- Rosenau, J. A., Wilson David L. David., Apparel Merchandising-The Line Starts Here, Fairchild Publications, New York.2006

- Mehta, Pradeep., Managing Quality In The Apparel Industry, New Age International Pvt. Limited,2004

Recommended Readings:

- Stone, Elaine. & Samples, J.A., Fashion Merchandising, Mc Graw Hill Book Co. New York
- Swanson, Kristen K. & Everett, Judith C., Promotion In The Merchandising Environment, Fairchild Publications, New York.2000.
- (38) Fashion Merchandising | vasant kothari - Academia.edu
- (38) Fashion and Style Reference Guide.pdf | Marianna Draws - Academia.edu
- Fashion merchandising (slideshare.net)
- (PDF) Fashion marketing (researchgate.net)
- Introduction to fashion merchandising (textiletoday.com.bd)

Journals/ E-Journals:

- Journal of Textile Institute (JTI), Taylor and Francis, UK. https://www.tandfonline.com/journals/tjti20
- Pakistan Textile Journal (PTJ) (Open access), Nadeem Mazhar, Pakistan. https://ptj.com.pk/
- The Journal of Cloth and Culture (JCC), Taylor and Francis Ltd., UK. https://journals.indexcopernicus.com/journal/11926
- Textile Research Journal, SAGE Publications Asia-Pacific PTE LTD, USA. https://journals.sagepub.com/home/trj
- Textile Asia (Open access) Business Press Ltd, Hongkong. https://www.textilesasia.com/

FASHION ACCESSORIES (THEORY)
Course Code: MFD/2/OE/022
Objectives:
• To acquaint students of the different trims, components, accessories and embellishments used as fashion accessories. • To make them acquire skills essential to effectively design & use accessories. • Aware the students about the difference between worn & carried accessories. • Introduction of the Indian & global fashion accessory industry.
Outcomes:
• Apply the knowledge of accessories while choosing accessories. • Classify & compare between types of accessories. • Design & develop accessories based on the current trends. • Understand and analyze the market trends and design market friendly, sustainable, ethically viable and client friendly designs and products.
CONTENTS:
Unit I:Fashion Accessories

• Definition, Meaning • Classification – Worn and Carried • Importance and Uses of Fashion Accessories
Unit II: Worn Accessories
• Belts & Suspenders • Gloves • Hats (Fedora, Straw Hat, Cowboy, Helmet, Party hat, Pillbox, Sun hat, Lampshade, Cap, Hood) • Scarves • Jewelry • Glasses • Wigs • Watches • Footwear (Sneaker, Stiletto, Kitten Heel, Ballets, Wedges, Ankle Boots, Cowboy shoes, Slippers, Peep toe, Clogs, Mules, Strappy Sandals)
Unit III: Carried Accessories
• Handbags – Types (Clutch, Tote bag, Pouch, Shoulder Bag, Sling/Cross body Bag, Duffle, Bag pack) & different materials used. • Hand kerchief • Umbrella
Unit IV: Global Fashion Accessory Industry
• Top International Fashion Accessory Brands – Origin, Logo & Products (Chanel, Burberry, Armani, Gucci, Dior)
Unit V:Indian Fashion Accessory Industry
• Top Indian Fashion Accessory Brands – Origin, Logo & Products (Chumbak, Baggit, FabIndia, Bata, Voylla)

Text Books:

- HOME ECONOMICS – FASHION ACCESSORIES- Module 1, Jelbeth Janice C. Agapay ,First Edition 2020,Published by the Department of Education – Division of Cagayan de Oro Schools Division Superintendent:
- Basics Fashion design -09 :Designing Accessories:Exploring the Design.John Lau,2012 AVA Publishing
- Fashion Accessories (Studies in Fashion) ,Olivier Gerval,2010.Paperback Publishers

Recommended Readings: :

- Individuality in clothing selection and personal appearance By Suzanne G Marshall, Prentice hall.
- Fashion from concept to consumer By Gini Stephens, Prentice hall

Journals/ E-Journals:

- International Journal of Clothing Science and Technology https://www.emeraldinsight.com/loi/ijcst

- Asian Textile Journal (ATJ) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/
- Asian Technical Textile (ATT) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/journal.html
- ATA Journal for asia on Textile and Apparel (Open access) Adsale publishing, Hongkong. https://www.ourglocal.com/journal/?issn=10158138
- AUTEX Research Journals(AUTEXRJ) (Open access) published by Lodz University of Technology, Poland. https://www.autexrj.com/

EFFECTIVE DRESSING SKILLS (THEORY)
Course Code: MFD/2/OE/023
Objectives:
• To equip the students with basic knowledge and skills required for making the required minor alterations in readymade garments to get the correct look and fit. • To help develop the ability to recognize and evaluate quality workmanship and making wise buying decisions. • To help learn the ways to leverage various optical illusions of line, colour and texture to create the right impression with clothes and accessories. • To help the students in acquiring skills for dressing up effectively for special occasions including interviews.
Outcomes:
• Create an awareness of the differences in body types and about the art of selecting styles that enhance the visual appeal. • Students apply the knowledge of the required dressing styles and skills for various professions. • Understand the role of effective dressing in making one's presence felt in personal & professional life. • Excel in their profession as a fashion stylist.
CONTENTS:
Unit I: Body Types
• Pear • Inverted Triangle • Round • Hourglass • Straight
Unit II: Clothing Selection Criteria

• Season/Climate • Body Types • Occasion • Age • Occupation • Socio Economic Status • Fabric • Workmanship and Fitting • Price
Unit III: Psychological and Sociological Influences of Clothing
• How Dress Affects Behavior • Non Verbal Communication: First Impression • Verbal Communication: Halo Effect Self Concept & Image
Unit IV: Effective use of Line & Color in Apparels
• Line – Effect on Dresses • Color – Effect on Dresses
Unit V: Care and Maintenance of Wardrobe-
• Daily and Periodic Care • Storage • Cleaning-Wet and Dry • Stain Removal

Text Books:

- Navneet Kaur, 2010, Comdex Fashion Design, Dreamtech Press
- Elizabeth Liechty, Steineckert D., Rasband J., 2009, Fitting And Pattern Alteration, Fairchild Publication

Recommended Readings:

- Sturm M, 1973, Guide To Modern Clothing Mcgraw- Hill
- Chata Romano, 2002, Plan Your Wardrobe, New Holland Publication

Journals/ E-Journals:

- Canadian Textile Journal (CTJ) (Open access), St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada. https://www.scimagojr.com/journalsearch.php?q=83524&tip=sid&clean=0
- Clothing and Textiles Research Journal, SAGE Publications Asia-Pacific PTE LTD, California. https://journals.sagepub.com/home/ctr
- Colourage, Colour publications Limited, New Delhi. https://colourpublications.in/colourage-journal/
- Clothing and Textile Research Journal (CTRJ), SAGE Publications Asia-Pacific PTE LTD, California. https://journals.sagepub.com/home/ctr
- FIBERS and TEXTILES in Eastern Europe, FTEE publishers, Poland, Eastern Europe. https://ftee.com.pl/

- Indian Journal of Fiber and Textile Research, India. http://op.niscair.res.in/index.php/IJFTR

FLAT PATTERN DESIGN (PRACTICAL)
Course Code: MFD/2/CC/024
Objectives:
● To develop an understanding of various types of pattern making. ● To acquaint students with the techniques of flat pattern design. ● To introduce students to the concepts of dart shifting & dart manipulation. ● To foster an understanding of redesigning of old apparel through flat pattern technique.
Outcomes:
● Draft patterns using the different pattern making techniques. ● Understand the different types of dart sifting methods. ● Convert darts for creating different elements of the garment. ● Re-create new designs of an old apparel using flat pattern designing.
CONTENTS:
Unit I : Introduction to Techniques in Pattern Making
● Drafting ● Flat Pattern Method ● Draping
Unit II : Flat Pattern Design on Bodice Block through Dart Manipulation: ● Moving, Dividing and Combining Darts by Pivot & Slash and Spread
Unit III : Converting Dart into
● Seam Lines, Gathers, Pleats, Tucks, and Yokes
Unit IV : Dart Manipulation
● Moving Basic Dart by Slash and Pivot Method ● Decorative Darts ● Darts, Tucks and Pleats ● Converting Dart to Flare ● Style Lines and Yokes
Unit V : Redesigning of Old Apparel through Flat Pattern Technique

Text Books:

- Relis, Nurie., & Jaffe, Hilde., Draping For Fashion Design, Prentice Hall Career & Technology, New Jersey.1993
- Armstrong, J., Draping For Fashion Design, Fair Child Publications ,New York.2004
- Pattern Making for Fashion Design, Helen J Armstrong, Prentice Hall. UK , 2009
- Pattern Grading for Women‟s Clothes, Gerry Cooklin, Wiley India Pvt. Ltd., 2009
- Encyclopedia of Dress Making, Raul Jewel,APH Publishing, 2015
- Garment Technology for Fashion Designers Gerry Cooklin, Book Link. Wiley-Blackwell. US, 2012
- Pattern Cutting & Making Up, Martin Shoben & Janet Ward, CBS Publishers, 1999

Recommended Readings:

- Hanford, Jack. Professional Pattern Grading: For Women"S, Men's And Children's
- Pamela, C. Stringer., (1995). Pattern Drafting For Dress Making, Augustan Publishers & Distributors, Delhi.
- Holman., Pattern Cutting Made Easy: A Step By Step Introduction, Om Publications
- Principles of Pattern Making & Grading - http://buc.edu.in/sde_book/fashion_design.pdf
- The Fashion Sketch Book - https://www.google.co.in/search?q=historic+textiles+book+pdf&oq=historic+textiles+book+pdf&aqs=chrome..69i57.9805j0j8&sourceid=chrome&ie=UTF-

Journals/ E-Journals:

- Indian Textile Journal(ITJ) (Open access) ASAPP Info Global Group, India. https://indiantextilejournal.com/
- Industria Textila, Institutional National de Cercetare-Dezvoltare PentruTexttile Pielarie, Romania. http://www.revistaindustriatextila.ro/
- International Journal of Clothing Science and Technology, St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada. https://www.scimagojr.com/journalsearch.php?q=12755&tip=sid&clean=0
- International Journal of Textile and Fashion Technology (IJTFT) (Open access), Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC), India. http://www.tjprc.org/journals/international-journal-of-textile-and-fashion-technology229
- International Journal of Textile Science, Scientific & Academic Publishing Co, USA. http://journal.sapub.org/textile/
- Fibers and Polymers, Springer Nature Switzerland AG. https://www.springer.com/journal/12221

FABRIC STUDY AND ITS APPLICATIONS (PRACTICAL)
Course Code: MFD/2/SC/025
Objectives:
● The student will be familiarized with the various fabrics and accessories available in the market. ● The students will be able to understand the basic dimensions of fabric properties. ● To familiarize with the trims & accessories available in the market. ● To enhance the knowledge of various fabrics & trims while preparing scrap book. ● To acquaint the concept of color fastness, dimensional stability,etc. In fabrics & trims.
Outcomes:

- Understand & identify the properties of different fabrics.
- Excel in appropriate selection of trims & fabrics as per design requirement.
- Relate to the effective use & design of various trims with regard to the garment specifications.
- Analyze available trims & accessories in line with the current market trend.

CONTENTS:

Unit I: Exploration in terms of fall, handle, drape and use of variety of following fabrics

- Cotton Fabrics
- Silk Fabrics
- Woolen Fabrics
- Synthetic Fabrics
- Other Fabrics
- Lining And Interlinings

Pay special attention to type of fabric, basic weave, thread count, balance, end use of fabric, and its general care

Unit II: Preparation of scrap book for fabrics related to various fabric construction techniques (felting/knitting/weaving/braiding etc).

Unit III: Understanding the Characteristics, Uses of various types of Trims & Accessories

- Support Materials: Interfacing, Lining, Interlining
- Support Devices: Shoulder Pad, Sleeve Headers And Collar Stays
- Closures: Zippers, Buttons, Button Holes, Hooks 'N' Eye, Press 'N' Studs, Buckles, Belts
- Trims: Ribbons, Laces And Braids
- Non Woven

Unit IV: Market Survey and Collection of various types of Trims & Accessories

Unit V: Analyzing Fabric Samples For:

- Colorfastness to Washing, Ironing, Crocking, Sunlight and Perspiration.
- Dimensional Stability
- Dyeing And Printing Defects

Text Books:

- Understanding Fabrics, Akshay Fabrics, Sarv International, 2017
- Raoul Jewel (2001), Encyclopedia of Dress Making, APH Publication Corporation
- Dana Willard (2012), Fabrics A-to-Z: The Essential Guide to Choosing and Using Fabric for Sewing, Harry N Abrams
- Clive Hallett (2014), Fabric to Fashion, Laurence King Publishing
- Fabric Source & Marketing, Bombay. (Monthly Magazine).
- Penelope, Cream., The Complete Book Of Sewing- A Practical Step By Step Guide To Sewing Techniques Adk Publications Book, New York 1996
- Drudi, Elisabetta, Kuky., Fabric Textures And Patterns, He Pepin Press, Singapore, 2008.
- Hallet.C., Johnston.A., Fabric For Fashion- A Comprehensive Guide To Natural Fibers, Laurence King Publishing Ltd., London, 2010.

- Hallet. C, Johnston.A., Fabric For Fashion-The Swatch Book, Laurence King Publishing Ltd., London, 2010

Recommended Readings:

- Humphries., Fabric Reference (Ii Edition), Prentice Hall International, New York, 2000.
- Fashion Studies –Text Book http://cbseacademic.in/web_material/doc/fashion_studies/3_XII_Text_Book.pdf
- Fabric Study - http://cbse.nic.in/publications/vocational/Fashion%20Design%20and%20Garment%20Technology/Fabric%20Study%20-%20(Textbook%20+%20Practical%20Manual)%20XII.pdf
- Fashion & Style - http://www.gov.pe.ca/photos/original/4hsk_fashionRG.pdf

Journals/ E-Journals:

- Journal of Textile Science & Engineering, Hilaris SRL, Belgium. https://www.hilarispublisher.com/textile-science-engineering.html
- Journal of Textile Engineering, J-Stage, Japan. https://www.jstage.jst.go.jp/browse/jte/
- Journal of Fashion Technology & Textile Engineering, Scitechnol publications, Switzerland. https://www.scitechnol.com/fashion-technology-textile-engineering.php
- Journal of Textile (Open access), Hindawi Limited, UK. https://www.hindawi.com/journals/jtex/#:~:text=Journal%20of%20Textiles%20has%20ceased,archiving%20for%20electronic%20scholarly%20 journals
- Journal of Industrial Textile (JIT), SAGE Publications Asia-Pacific PTE LTD, USA.
- Journal of Industrial Textiles - All Issues (sagepub.com)

COMPUTERS APPLICATIONS (PRACTICAL)
Course Code: MFD/2/SC/026
Objectives:
● Develop a basic concept of computers & its structure. ● Enable students to understand the working of ms office and its use in organizations. ● Enable students to work with professional documents i.e. Records, letters, and resumes, spec sheets, cost sheets and presentations for themes or collections. ● Develop ability to use internet and various search engines for academic purpose
Outcomes:
● Enhance their capacity of working with ms office. ● Professional readiness in using basic computer applications. ● Independent creation of documents such as resumes, letters, spec sheets, presentations, etc. ● Use internet facilities while designing & developing garments.
CONTENTS:

Unit I :Windows
● Start and shutdown of windows. Starting different applications. Using applications like calculator, paint, word ● Observe various features of windows like menus, push buttons, drop down list, check boxes, option buttons etc. ● Perform file management operations such as copying, deleting, renaming, creating folders, renaming folders using - My computer, Windows Explorer, searching files and folders. ● Change windows format such as wallpaper, date & time format, Installing printer, installing & removing programs by using add /remove programs, change display properties
Unit II: Microsoft Word
● Type sample bio data ● Type a report with pictures on social and environmental issues ● Type an application for job ● Prepare a time table in tabular format
Unit III :Microsoft Excel
● Create a sample result sheet of your class ● Create salary sheet for Employees
Unit IV :Internet
● Creation of email account ● Send E-mail, Receive E-Mail (use attachment) ● Management of email accounts ● Searching information on internet
Unit V: Microsoft PowerPoint
● Creating PowerPoint presentation, Running presentation ● Applying design template, background, transition effects, animation to slide ● Preparing custom presentations
Assignments:
● Students are required to write an article in MS-Word on any well known fashion designer from any fashion magazine. It should include his/her personal details, photo, major achievements, contribution to the fashion world, glimpses of his/her work. The article should be properly formatted, placement of the pictures in alignment with the text matter with a suitable caption, name of the author etc.
● Students are required to prepare a Powerpoint presentation on any popular brand of fashion using the available information. The presentation should use the support of clip arts, drawing objects, external image files, texts with 3D effects, patterns, gradients, backgrounds and templates. The ideas and communication should be easily conceivable by the audience.

Text Books:

- Comdex Computer Course, Vikas Gupta, PM Publications, 2015
- Mastering MS Office – 2000 by Tech Media

- Abhay Upadhyay, Elementary Of Computers.
- Peter Norton, “Introduction To Computers”, Tmh, 2001
- Mastering Word 2000 – Mansfield And Olsen
- Mastering Excel 2000 – Martin, Hansen, Klingher& Beth
- Courter, “Mastering Office 2000”, Bpb Publications.
- Bill Bruck, “Ms-Office 2000”, Tmh.

Recommended Readings:

- Robbins, “Mastering Dos”, Bpb Publications
- Content Development Group, “Working WithMs Office 2000”, Tmh
- Mansfield & Olsen, “Mastering Word 2000”, Bpb Publications
- Martin, Hansen, Klingher& Beth, “Mastering Excel 2000”, Bpb Publications
- Murray, “Mastering Power Point 2000”, Bpb Publications.
- Mahapatra & Sinha, “Essentials Of Information Technology”, Dhanpat Rai Publishing
- http://freecomputerbooks.com/microsoftOfficeBooks.html

Journals/ E-Journals:

- Pakistan Textile Journal(PTJ) (Open access), Nadeem Mazhar, Pakistan. https://ptj.com.pk/
- The Journal of Cloth and Culture (JCC), Taylor and Francis Ltd., UK. https://journals.indexcopernicus.com/journal/11926
- Textile Research Journal, SAGE Publications Asia-Pacific PTE LTD, USA. https://journals.sagepub.com/home/trj
- Textile Asia (Open access) Business Press Ltd, Hongkong. https://www.textilesasia.com/

SEMESTER III

INDIAN COSTUMES (THEORY)
Course Code: MFD/3/OE/031
Objectives:
● To learn the regional splendors of Indian consumers. ● To give knowledge about various traditional Indian draping styles. ● To give them knowledge about ornaments worn by common as well as royal people. ● Educate the reason & importance of headgear’s worn. ● Acquaint the students about the traditional embroideries & textiles of Rajasthan.
Outcomes:

- Design contemporary styles by a thorough study of regional heritage.
- Develop the skill of adapting basic silhouettes for designing.
- Incorporate the knowledge about traditional ornaments into contemporary style to suit current trends.
- Identify & revive the traditional sari's of India with a sustainable approach.
- Create & design contemporary garments using traditional embroideries & textiles of Rajasthan.

CONTENTS:

Unit I: Indian Male Costume

- **Topwear -** Kurta, Sherwani, Angrakha, Nehru Jacket, Achkan, Jama, Jodhpuri Jacket, Shirt, Choga, Bandhgala, Barabandi, Pheran, Jhabba, Pathani Suit
- **Bottomwear –** Pyjama, Dhoti, Lungi, Breeches, Churidar

Unit II: Indian Accessories

(A) Male Accessories

- **Male Headgear** – Turban, Pheta, Dastar, Sikh Pagdi, Mysore Peta, Rajasthani Safa, Rajasthani Padgi, Gandhi Topi, Kashmiri Skull cap(karakuli), Puneri Turban, Kullu/Pahari Topi
- **Footwear –** Mojri, Kolhapuri Chappal, Jutti
- **Male Jewelry –** Chain, Kada, Ear Studs, Rings, Kamarbandh

(B) Female Accessories -

- Head Jewelry - Maangtika, Jhoomar, Bor, Rakhdi, Sheeshphool
- Neck Jewelry - Choker, Mangalsutra, Chain, Haar, Mandalia, Hansli
- Hand Jewelry – Bajubandh, Haathphool, Kangan, Kada, Rings
- Ear & Nose Jewelry – Jhumkha, Karnphool, Baali, Tops, Nose Pin, Nath
- Waist Jewelry – Kandora, Satka
- Ankle and Feet Jewelry – Payal, Kada, Ghungroo, Bichhyia
- **Footwear –** Mojri, Kolhapuri Chappal, Jutti

Unit III: Indian Female Costume

- Sari, Sari-lehenga, Salwar suit, Pheran, Rajputi Poshak, Mekhla-Chadar, Parkar Polki, Ghagra Choli, Odhani, Churidar, Salwar, Gharara, Sharara, Anarkali

Unit IV: Traditional Indian Sari's

- Patola, Baluchari, Banarasi, Bandhani, Leheriya, Bomkai, Chanderi, Jamdani, Chikankari, Ilkal, Kasavu, Kanjeevaram, Pochampalli, Paithani, Venkatgiri, Tant, Sambhalpuri

Unit V: Traditional Embroideries & Textiles of Rajasthan

- Embroidery – Danka, Zari, Gota Patti, Mukesh, Aari-Tari, Zardosi, Mochi Bharat, Heer Bharat, Karchobi zari
- Textiles – Pichwai of Nathdwara, Phad painting, Sanganeri printing, Bagru, Dabu, Bandhani, Leheriya, Bhupalshahi, Samandar leheriya, Mothra, Kota doria

Text Books:

- Indian Costumes, A. Biswas ,2017,Publications Division Ministry of Information & Broadcasting

- The Costumes and Textiles of India: Brij Bhushan, Jamila. , 1958 Taraporevala, Bombay Publishers

Recommended Books:

- Annual reports of Textile Ministry
- Crafts of India - Handmade in India – Aditi Ranjan & MP Ranjan, Council of Handicraft Development Corporations
- Craft traditions of India - http://www.ncert.nic.in/NCERTS/l/lehc1ps.pdf
- https://www.mooc-list.com/course/recovering-humankinds-past-and-saving-universal-heritagecoursera

Journals/ E-Journals:

- International Journal of Clothing Science and Technology https://www.emeraldinsight.com/loi/ijcst
- Asian Textile Journal (ATJ) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/
- Asian Technical Textile (ATT) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/journal.html
- ATA Journal for Asia on Textile and Apparel (Open access) Adsale publishing, Hongkong. https://www.ourglocal.com/journal/?issn=10158138
- AUTEX Research Journals(AUTEXRJ) (Open access) published by Lodz University of Technology, Poland. https://www.autexrj.com/

GARMENT INDUSTRY DEPARTMENTS (THEORY)
Course Code: MFD/3/CC/032
Objectives:
● To give knowledge about various departments of garment manufacturing industry. ● Introduce the working of the designing & sampling department & the role of the merchandiser. ● To study about basic tools used in the cutting & stitching departments. ● Inculcate values & ethics of the various garment industry departments.
Outcomes:
● Gain knowledge of the role & responsibilities of a merchandiser in various departments. ● Capable of using various tools & machineries of the different departments. ● Effectively apply his/her knowledge to fulfill the role of a professional. ● Remember and understand the importance of process & flow of the garment industry.
CONTENTS:
Unit I: Designing & Sampling Department

● Designer's Role in Designing & Sampling ● Merchandiser's Role in Designing & Sampling ● Importance of Designing & Sampling Department in Production
Unit II: Cutting Department
● Fabric Spreading Machine ● Specialized Cutting Machine – Straight Knife, Round Knife, Laser Cutting, Die Cutting (Collars & Cuffs), Plasma Torch, Automatic Cutting Machines ● Spreading & Cutting Parameters – Fabric Layout, Marking, Bundling, Numbering of Garment Plies
Unit III: Stitching Department
● General Preparation of Sewing machine ● Sewing Machines – Single needle Lockstitch machine, Overlock Sewing machine, Flatlock sewing machine, Button attaching Machine, Buttonhole machine, Bartack Machine, Zigzag Sewing machine, Multineedle chainstitch machine, Computerized Sewing machine
Unit IV: Finishing & Inspection Department
● Functions of the Finishing & Inspection Department - Thread Trimming, Button Attaching, Checking Garments, Removing Stains, Repair Work & Mending
Unit V: Pressing & Packaging Department
● Functions of Pressing & Packaging Department – Ironing, Tagging, Folding, Packing

Text Books:

- More Dress Pattern Designing, Natalie Bray, Blackwell Series, 2010
- Gerry Cooklin., Garment Technology for Fashion Designers.,Book Link, USA.
- Srivastava, M., Computer Aided Apparel Fashion Designing and Production Pattern Making, Himanshu Publications, New Delhi, 2011
- Hallet. C, Johnston. A., Fabric For Fashion-The Swatch Book, Laurence King Publishing Ltd., London, 2010
- Hallet.C., Johnston. A., Fabric For Fashion- A Comprehensive Guide To Natural Fibers, Laurence King Publishing Ltd., London, 2010
- Humphries., Fabric Reference (II Edition), Prentice Hall International, New York, 2000

Recommended Readings:

- Pamela, C. Stringer., Pattern Drafting For Dressmaking, Augustan Publishers & Distributors,Delhi, 1995
- Michele M. Granger, Tina M. Sterling, Fashion Entrepreneurship Retail Business Planning, Fairchild Publications, 2011
- Eascy M., " Fashion Marketing" Blackwell Science, 1994
- Kotler Philip, " Marketing Management " prentice Hall, New Delhi, 2000
- J. Jarnow and K.G. dickerson, " Inside the Fashion Business", Prentice Hall, 1997
- Elaine Stone, Jean A Samples, "Fashion Merchandising", Mc Graw Hillbook, 1985
- Readers Digest, Complete guide to Sewing, Pleasant ville-Nu Gail L,Search Press Ltd, 1993

- On Trend – The Fashion Series - http://www.deborahweinswig.com/wpcontent/uploads/2017/02/From-Runway-To-Checkout-February-1-2017.pdf
- Fashion Studies –Text Book http://cbseacademic.in/web_material/doc/fashion_studies/3_XII_Text_Book.pdf
- Fashion & Style - http://www.gov.pe.ca/photos/original/4hsk_fashionRG.pdf
- https://www.mooc-list.com/course/management-fashion-and-luxury-companies-coursera

Journals/ E-Journals:

- Canadian Textile Journal (CTJ) (Open access), St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada. https://www.scimagojr.com/journalsearch.php?q=83524&tip=sid&clean=0
- Clothing and Textiles Research Journal, SAGE Publications Asia-Pacific PTE LTD, California. https://journals.sagepub.com/home/ctr
- Colourage, Colour publications Limited, New Delhi. https://colourpublications.in/colourage-journal/
- Clothing and Textile Research Journal (CTRJ), SAGE Publications Asia-Pacific PTE LTD, California. https://journals.sagepub.com/home/ctr
- FIBERS and TEXTILES in Eastern Europe, FTEE publishers, Poland, Eastern Europe. https://ftee.com.pl/
- Indian Journal of Fiber and Textile Research, India. http://op.niscair.res.in/index.php/IJFTR

APPLICATION OF TEXTILES IN FASHION (THEORY)
Course Code: MFD/3/CC/033
OBJECTIVES:
• The course imparts the knowledge about the traditional fabric made using different materials and techniques which acts as an expression of the tradition and culture of India. • The students will also understand the modification of the properties of material to make it more contemporary in the recent decade. • The students will explore the contemporary fabrics of recent decades which offer exciting options for an increasingly complex range of consumer demands.
Outcomes:
• Acquire the knowledge about the characteristics of Indian traditional dyed, printed, painted, woven, and embroidered textiles and explore the constraints and benefits related to its application. • Gain & apply knowledge about the significance and function of traditional textiles and embroideries. • Be aware about the demand of the Indian traditional textiles at global level.
CONTENTS: Understanding of Traditional Textiles for Process, Application and Design for the following
Unit I : Dyed And Printed
• Kalamkari, Ajrakh, Fabric Tie-Dye, Yarn Tie-Dye, Block Printing, Natural Dyeing
Unit II : Painting
• Phad Painting, Pichhwai, Madhubani Painting, Mata Ni Pachedi, Warli, Kalamkari
Unit III : Woven
• Maharashtrian Shalu, Brocades of Banaras (Mashru, Himroo, Kimkhwab), Maheshwari, Kashmiri carpets, Jaipuri Quilts
Unit IV : Embroidery
• Chamba Rumal, Phulkari and Bagh, Gota Patti, Zardozi, Chikankari, Kasuti, Kutch, Appliqué
Unit V : Significance of traditional textiles and embroideries at global level

Text Books:

- Textile and Fashion : Material Design and Technology.,Rose Sinclaire, 2014,Woodhead Publishing

Recommended Readings:

- Ikat textiles of India, Chelna Desai Chronicle Books, San Francisco, 1988
- Saris of India, Kapur Chishti and Ambasanyal Amar VastraKosh, Wiley Eastern Limited, New Delhi. 1989
- The sari Linda Lynton,Thames & Hudson, London.1995
- Indian Ikat Textiles Rosemary CrillWeatherhill Inc. 1998

- Ajrakh Impressions and Expressions, Dr.ElaDedhia and M. Hundekar Colour Publication Private Limited, Mumbai. 2008
- Indian Embroidery Rosemary Crill, Victoria & Albert Museum,London.1999
- Silk Brocades YashodharaAgarwal, Roli& Janssen BV, New Delhi. 2003

Journals/ E-Journals:

- Indian Textile Journal (ITJ) (Open access) ASAPP Info Global Group, India. https://indiantextilejournal.com/
- Industria Textila, Institutional National de Cercetare-Dezvoltare PentruTexttile Pielarie, Romania. http://www.revistaindustriatextila.ro/
- International Journal of Clothing Science and Technology, St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada. https://www.scimagojr.com/journalsearch.php?q=12755&tip=sid&clean=0
- International Journal of Textile and Fashion Technology (IJTFT) (Open access), Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC), India. http://www.tjprc.org/journals/international-journal-of-textile-and-fashion-technology229
- International Journal of Textile Science, Scientific & Academic Publishing Co, USA. http://journal.sapub.org/textile/

COMPUTER AIDED DESIGNING (PRACTICAL)
Course Code: MFD/3/CC/034
Objectives:
To acquaint students with computer aided designing. To impart the skills of fashion designing through designing software. To enhance skills in creation of various elements such as croqui, prints, textures, etc. To help students to acquaint with application of skills of using software in creating fashion accessories. To develop skills effective in creation of a fashion portfolio.
Outcomes:
Understand the various tools of Corel draw & its applications. Enhance the art of fashion designing using designing software's. Develop competency of students in computer graphics to create their own artworks and patterns. Understand & create innovative portfolio.
CONTENTS:
Unit I: Introduction to Corel Draw
• Tools of Corel Draw • Drawing 12 ½ female croqui with grids and guidelines • Stylization of Figures

Unit II : Creating illusion effects (silhouette, color, texture and prints) by fashion details and draping it on fashion figures
Unit III : Drawing Flat and Spec Sheets
Unit IV: Creating Fashion Accessories like Handbags, Footwear, Jewellery Etc.
Unit V: Designing the Following: • Posters and Fliers • Visiting Cards and Brochures • Theme based Portfolio Development

Text Books:

- Computer Aided Design: Text book and Practice book : H. P. Pitroda 08-Jun-2021
- Optimize Designs in Less Time Jayanta Sarkar Published July 27, 2017 by CRC Press
- Introduction to Auto CAD 2020 2D and 3D Design By Bernd S. Palmby Routledge ,2020
- Computer Aided Design: Text book and Practice book , WalnutPublication

Recommended Readings:

- Coreldraw 11 For Windows; Visual Quick Start Guide
- Coreldraw 11: The Official Guide, Dream Tech Publishers.

Journals/ E-Journals:

- Fibers and Polymers, Springer Nature Switzerland AG. https://www.springer.com/journal/12221
- Journal of Textile Science & Engineering, Hilaris SRL, Belgium. https://www.hilarispublisher.com/textile-science-engineering.html
- Journal of Textile Engineering, J-Stage, Japan. https://www.jstage.jst.go.jp/browse/jte/
- Journal of Fashion Technology & Textile Engineering, Scitechnol publications, Switzerland. https://www.scitechnol.com/fashion-technology-textile-engineering.php
- Journal of Textile (Open access), Hindawi Limited, UK. https://www.hindawi.com/journals/jtex/#:~:text=Journal%20of%20Textiles%20has%20ceased,archiving%20for%20electronic%20scholarly%20 journals

APPAREL CONSTRUCTION (PRACTICAL)
Course Code: MFD/3/OE/035
Objective:
• To Enable Students to Develop Skill in Constructing Garments. • Educate the components of paper drafts of Ethnic wear, Western wear, Casual wear/Formal wear, etc.
Outcomes:
• Draft & adapt the patterns of various garments. • Design, develop patterns & construct garments with regard to various occasions.
CONTENTS:

Unit I: Prepare paper drafts by making adaptations in basic blocks and constructing the following: Ethnic Wear
Unit II: Prepare paper drafts by making adaptations in basic blocks and constructing the following: Western Party Wear
Unit III: Prepare paper drafts by making adaptations in basic blocks and constructing the following: Casual Wear/Formal Wear
Unit IV : Prepare paper drafts by making adaptations in basic blocks and constructing the following: Night Wear
Unit V : Prepare paper drafts by making adaptations in basic blocks and constructing the following: Cocktail Wear

Text Books:

- More Dress Pattern Designing, Natalie Bray, Blackwell Series, 2010
- Gerry Cooklin., Garment Technology for Fashion Designers., Book Link, USA.
- Sewing for Fashion Design. Nurie. Relis/Gail Strauss-Reston Publishing Co.
- Jindal, Ritu., Handbook Of Fashion Designing, Mittal Publications, New Delhi.
- Reader's Digest-Complete Guide Of Sewing, The Reader's Digest Association Ltd., London
- Thomas, Anna, Jacob, The Art Of Sewing, UBSPD Publishers Distributors Ltd, New Delhi

Recommended Readings:

- Cream, Penelope., The Complete Book of Sewing, DK Publishing, New York.
- Kallal, Mary Jo., Clothing Construction, London: Macmillan New York.
- Shafeffer, Claire., The Complete Book of Sewing, Sterling , New York.
- Pamela, C. Stringer., (1995), Pattern Drafting For Dressmaking, Augustan Publishers & Distributors, Delhi

Journals/ E-Journals:

- Journal of Industrial Textile (JIT), SAGE Publications Asia-Pacific PTE LTD, USA.
- Journal of Industrial Textiles - All Issues (sagepub.com)
- Journal of Textile Institute(JTI), Taylor and Francis, UK. https://www.tandfonline.com/journals/tjti20
- Pakistan Textile Journal(PTJ) (Open access), Nadeem Mazhar, Pakistan. https://ptj.com.pk/
- The Journal of Cloth and Culture (JCC), Taylor and Francis Ltd., UK. https://journals.indexcopernicus.com/journal/11926
- Textile Research Journal, SAGE Publications Asia-Pacific PTE LTD, USA. https://journals.sagepub.com/home/trj
- Textile Asia (Open access) Business Press Ltd, Hongkong. https://www.textilesasia.com

CRAFT PROJECT (PRACTICAL)
Course Code: MFD/3/SC/036
Objectives:
This subject provides a wide array on Indian Traditional embroideries & textiles of India which is an integral part of Fashion for many years. This subject assists in understanding various NGO's who work to promote Indian crafts. The crafts that empower and are a source of income of few areas; studied by students to uplift them using their Design skills with the help of Artisans. ● The subject also helps in identifying the crafts which are to be revived and preserved. ● Also imparts the knowledge to update artist's, with technologies and creative inputs. ● To awaken the creativity of a community, to create a sustainable product line for the recent fashion scenario.
Outcomes:
To realize the requirement of a sustainable approach in the industry and strive to achieve the same.
CONTENTS:
Step-1
1) Selection of the Craft 2) Research on the Craft - History - Origin - Manufacturing process - Product range 3) Search for the "Artisans" working for the craft. 4) Initial approach to the "Artisans" for explaining the Project and its importance. 5) Telephonic interaction with the Artisan regarding the current problems associated with the promotion and development of the craft. 6) Search information for the various Organizations working to preserve the craft. - NGO - Government Organization - Local Outlets 7) Application of the Craft in recent Fashion Scenario- - Designer collection - Retail collection

Step-2 1) List down the challenges related to the craft. 2) Selection of the Product Category (any one) - Apparel - Corporate Gifts or Stationary - Accessories - Home/ corporate Decor 3) Students contribution in Product Identification & Development in terms of- - Motif Development - Print Development - Color Variations - Fabric Development - Design Development 4) Interpretation of ideas on paper - Pencil sketches - Color Sketches 5) Approval from the concerned Faculty 6) Approval from the Artisans regarding the changes. (through Internet) 7) Production (will be done at the actual location with the Artisan)
STEP- 3
1) Implementation and application of the Products in Fashion 2) Display 3) Show
Assignments-
- Designing of Women's apparel, accessories, stationary, lifestyle products etc. using Indian Traditional Crafts - Development of women's apparel products such as dresses, waistcoats, tops, jackets, skirts, Indian ethnic etc - Development of accessories for Women such as, Jewelry, bags, foot wear, stoles, belts etc. - Development of corporate stationery products such as Table stands, diaries, folders, pen stands, tea coasters etc. - Development of home decor products such as Table cloth, wall hangings, flower pots, cushion covers, bed sheets etc.

Text Books:

- Crafts of India - Handmade in India - Aditi Ranjan & M.P. Ranjan, Council of Handicraft Development Corporation

Recommended Readings:

- Craft Traditions of India - http://www.ncert.nic.in/NCERTS/l/lehc1ps.pd

Journals/ E-Journals:

- International Journal of Clothing Science and Technology https://www.emeraldinsight.com/loi/ijcst

- Asian Textile Journal (ATJ) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/
- Asian Technical Textile (ATT) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/journal.html
- Journal for Asia on Textile and Apparel (ATA) (Open access) Adsale publishing, Hongkong. https://www.ourglocal.com/journal/?issn=10158138

SEMESTER IV

RESEARCH METHODOLOGY (THEORY)
Course Code: MFD/4/CC/041
Objectives:
● To help students develop the skills needed in conducting research. ● To introduce students to the skills in report writing. ● To acquaint students with basic statistical techniques and their application.
Outcomes:
● Relate steps of a research problem and work towards identifying new problems. ● Utilize the data collection techniques while conducting research to become a good researcher.
CONTENTS:
Unit I: Research
● Definition and Concept of Research ● Objectives of Research ● Research Process, Problems, Criteria for Good Research, Significance of Research
Unit II: Types of Research
● Descriptive Vs Analytical ● Applied Vs Fundamental ● Quantitative Vs Qualitative ● Conceptual Vs Empirical ● Historical
Unit III: Research Design
● Meaning, Need and Characteristics of Good Research Design ● Variables- Meaning and Definition ● Hypothesis- Meaning and Definition
Unit IV: Techniques of Data Collection
● Observation ● Survey Method ● Interview Method ● Questionnaire
Unit V: Sampling
● Meaning ● Characteristics of a Good Sample selection ● Need for Sample selection ● Probability Sampling- Idea of Simple Random Sampling, Stratified and Cluster Sampling ● Non-Probability Sampling- Purposive And Quota Sampling

Text Books:

- Research Methods in Social Sciences,Veena Tucker,2019,Pearson Education,Kindle Edition

- Research Methodology : Methods And Techniques ,C.R.Kothari and Gaurav Garg,2019 ,New Age International Publishers
- Research Methodology - For Ph.D. Course Work,Ranjit Singh ,2021,RT Publications
- Ahuja ,Ram., Research Methods, Rawat Publications, Jaipur
- Kothari, C.R., Research Methodology-Methods & Techniques. New Age International Publishers, New Delhi.
- Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi.
- Kaplan, Abhram, The Conduct Of BehaviouralScience ,Chandler Publishing Company
- Baker,L. Therese, Doing Social Research, Mc Grawhill International Editions, Sociology Series

Recommended Readings:

- Sancheti & Kapoor., Statistics, Sultan Chand And Sons, New Delhi.
- Badarkar, P.L. And Wilkinson T.S. (2000), Methodology And Techniques Of Social Research, Himalaya Publishing House, Mumbai

Journals/ E-Journals:

- ATA Journal for asia on Textile and Apparel (Open access) Adsale publishing, Hongkong.
  https://www.ourglocal.com/journal/?issn=10158138
- AUTEX Research Journals(AUTEXRJ) (Open access) published by Lodz University of Technology, Poland.
  https://www.autexrj.com/
- Canadian Textile Journal (CTJ) (Open access), St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada.
  https://www.scimagojr.com/journalsearch.php?q=83524&tip=sid&clean=0
- Clothing and Textiles Research Journal, SAGE Publications Asia-Pacific PTE LTD, California.
  https://journals.sagepub.com/home/ctr
- Colourage, Colour publications Limited, New Delhi.
  https://colourpublications.in/colourage-journal/

FASHION RETAIL (THEORY)
Course Code: MFD/4/CC/042
Objectives:
• To create an awareness and understanding of the evolution and current structure of the apparel retailing industry in India. • To develop and understanding and appreciation of the four P's of marketing, basic principles of visual merchandising and effective customer handling practices.
Outcomes:

● Excel as a marketing professional using the knowledge of marketing strategies. ● Co-relate roles & responsibilities of marketing & sales personnel. ● Understand the importance of visual display as per the trend, seasons, etc.
CONTENTS:
Unit I: Retailing – Introduction
● Role of Retail in Marketing System ● Importance of Retailing
Unit II: Types of Fashion Retail Outlets
● Department Store ● Specialty Stores ● Chain Store ● Supermarkets ● Ware House Retailers/Factory Outlets ● E- Retailers
Unit III: Role of Marketing Strategy - 4 P's of Marketing
● Product – Merchandise Assortment ● Place- Store Location And Layout ● Price – Pricing Strategy ● Promotion – In-Store Promotion And Advertising
Unit IV: Visual Merchandising – Its Importance
● Display Schedules – Seasons, Promotions, Special Sales. Themes ● Type of Displays – Window Display, Interior Displays, Exterior Display ● Common Problems In Display
Unit V: Roles And Responsibilities of Retail Store Personnel
● Responsibilities of Store Manager ● Responsibilities of Sales Personnel ● Responsibilities of HR

Text Books:

- Fashion Merchandising Principles and Practice,James Clark,2014, 2nd Edition ,Springer Publication .
- Fashion and Style,Mariana Draws & Elya Lams ,2013,Canadian Agricultural Adaptation Program
- Fashion Retailing and Visual Merchandising ,JNU, Jaipur, First Edition 2013

Recommended Readings:

- Leslie David Burns, Nancy O. Bryant , 2011The Business Of Fashion Fairchild Publications
- Elaine Stone, 1987,Fashion Buying, Mcgraw- Hill
- Mary Frances Drake, Janice Harrison Spoone, Herbert Greenwald, 1992 ,Retail
- Fashion Promotion And Advertising Macmillan
- Michele M. Granger, Tina M. Sterling , 2011 ,Fashion Entrepreneurship Retail
- Business Planning, Fairchild Publications

Journals/ E-Journals:

- Clothing and Textile Research Journal (CTRJ), SAGE Publications Asia-Pacific PTE LTD, California.
  https://journals.sagepub.com/home/ctr
- FIBERS and TEXTILES in Eastern Europe, FTEE publishers, Poland, Eastern Europe.
  https://ftee.com.pl/
- Indian Journal of Fiber and Textile Research, India.
  http://op.niscair.res.in/index.php/IJFTR
- Indian Textile Journal(ITJ) (Open access) ASAPP Info Global Group, India.
  https://indiantextilejournal.com/
- Industria Textila, Institutional National de Cercetare-Dezvoltare PentruTexttile Pielarie, Romania.
  http://www.revistaindustriatextila.ro/

Fashion Communication (Practical)
Course Code: MFD/4/SC/043
Objectives:
● To familiarize students with various methods of business communication. ● To impart knowledge and skill in organizing fashion events.
Outcomes:
● Understand different types of business letters and use the same as required. ● Utilize skills required in conducting interviews & interpret the same. ● Design & create brand logo's, tag's, banner, etc.
Unit I : Business Letter
Business Letters (Types, Essentials and Layout) ● Letter of Enquiry ● Letter of Quotation ● Letter of Orders ● Letter of Advice ● Letter of Trade Reference ● Circular Letters ● Letter of Complaint and Adjustments ● Sales Letter ● Credit Letters and Status Inquiries ● Collection Letters
Unit II : Fashion Journalism - National
● Collect National Fashion Designers Interviews
Unit III : Fashion Journalism - Regional
● Interview a Regional Fashion Designer
Unit IV : Communication Design

Plan a Startup & Create the following: • Brand Logo • Tag • Shopping Bags • Banner and Poster • Visiting Card
Unit V : Fashion Communication
• Plan and Execute a Trade Activity – Fashion Show/ Exhibition/ Fair

Text Books:

- Fashion as Communication., Malcolm Barnard,2004,Second Edition,Routledge
- Fashion Communication, Marian Frances Wolbers, 2009; 1st edition, Fairchild Books
- Mohan, Krishna. And Banerjee, Meera., Developing Communication Skills, Macmillan Press
- Pal Rajender And Korlahalli J.J., Essentials Of Business Communications, Sultan Chand And Sons.
- Gupta C.V., Business Communication And Customer Relations, Sultan Chand And Sons.
- Pettit, Lesikarm Business Communication, Aitbs Publishers, New Delhi.

Recommended Readings:

1. Chaturvedi, P.D., Business Communication, Pearson Publication
2. Mathew, M.J., Business Communication ,Rbsa Publication, Jaipur
3. Taylor, Shirley., Communication Of Business, Pearson Publication

Journals/ E-Journals:

- International Journal of Clothing Science and Technology, St-Laurent, Quebec Canadian Textile Journal Pub. Co., Canada.
  https://www.scimagojr.com/journalsearch.php?q=12755&tip=sid&clean=0
- International Journal of Textile and Fashion Technology (IJTFT) (Open access), Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC), India.
  http://www.tjprc.org/journals/international-journal-of-textile-and-fashion-technology229
- International Journal of Textile Science, Scientific & Academic Publishing Co, USA.
  http://journal.sapub.org/textile/
- Fibers and Polymers, Springer Nature Switzerland AG.
  https://www.springer.com/journal/12221
- Journal of Textile Science & Engineering, Hilaris SRL, Belgium.
  https://www.hilarispublisher.com/textile-science-engineering.html
- Journal of Textile Engineering, J-Stage, Japan.
  https://www.jstage.jst.go.jp/browse/jte/

ADVANCED FASHION ILLUSTRATION (PRACTICAL)
Course Code: MFD/4/CC/044
Objectives:

• To enhance the creative skills in sketching and rendering for designing garments. • Introduce the concept of portfolio development.
Outcomes:
• Illustrate various fabric textures, prints, etc, to develop and create fabric swatches. • Design a line/collection of garments using the current market trends & forecast. • Prepare a creative portfolio with all the required components.
CONTENTS:
Unit I: Rendering various textures and surface ornamentation using suitable color media
• Emboss, Self print, Rough, Crape, Satin, Leather, Quilts, Knit, Fur, Patchwork, E Embroidery etc. Developing a fabric swatch with own Color scheme
Unit II: Illustrate figure using basic cuts in clothing
• Optical illusion (using elements of design) • Drawing from the photographs • Drapes
Unit III: Design following collection
• Design Ramp wear collection for Female – Ethnic Wear
Unit IV: Design following collection
• Design Ramp wear collection for Female – Casual Wear
Unit V :Portfolio Development
• Mood Boards • Client Profile • Fabric And Colour Sheet • Illustration Sheet • Specification Sheet

Text Books:

- Illustrating Fashion: Concept to Creation., Steven Stipelman,2010, Fairchild Books Publishers
- Fashion Illustration for Designers, Kathryn Hagen,2004,Prentice Hall Publishers
- Modern Fashion Illustration, Holly Nichols.2021, Centennial Books
- Fashion sketchbook: Fashion croquis book for girls, Todd Franklin ,2021,Notion Press
- Fashion Illustration, Anna Kiper, David & Charles Book, 2011
- Ireland., Fashion Design Drawing And Presentation, BT
- Batsford, London.2000
- Mckelvey, K., Fashion Source Book, Blackwell Science Ltd., 1996

Recommended Readings:

- Ireland, Patrick John., Fashion Design Illustration: Men, BtBatsford, London.1996
- Abling. Bina., Advance Fashion Sketch Book, Fairchild Publications, New York.2005
- Tate, S.L., (1987). The Complete Book Of Fashion Illustration, Harper R. Row, New York.
- Seama., Julian, Professional Fashion Illustration, B.T. Batsford Ltd., London.

Journals/ E-Journals:

- Journal of Fashion Technology & Textile Engineering, Scitechnol publications, Switzerland. https://www.scitechnol.com/fashion-technology-textile-engineering.php
- Journal of Textile (Open access), Hindawi Limited, UK. https://www.hindawi.com/journals/jtex/#:~:text=Journal%20of%20Textiles%20has%20ceased,archiving%20for%20electronic%20scholarly%20 journals
- Journal of Industrial Textile (JIT), SAGE Publications Asia-Pacific PTE LTD, USA.
- Journal of Industrial Textiles - All Issues (sagepub.com)
- Journal of Textile Institute(JTI), Taylor and Francis, UK. https://www.tandfonline.com/journals/tjti20
- Pakistan Textile Journal(PTJ) (Open access), Nadeem Mazhar, Pakistan. https://ptj.com.pk/
- The Journal of Cloth and Culture (JCC), Taylor and Francis Ltd., UK. https://journals.indexcopernicus.com/journal/11926

FASHION STYLING AND PROMOTION (PRACTICAL)
Course Code: MFD/4/CC/045
Objectives:
● To make students understand an in depth study of the "Stylist role" in Fashion as per the industry requirements. ● To produce a strong visual document that explains the skills, techniques and vocational quality that qualifies a student to work as a "Stylist" in the Fashion Industry.
Outcomes:
● Design a catalogue based on the client specifications. ● Compose an entire head to toe outfit as per the occasion & work as a professional. ● Create innovative & attractive products for enhancing brand values.
CONTENTS:
Unit I :Catalogue Design
● Designing of Professional Catalogue for different Brand Categories. ● The process includes selection of Apparel Brand, Study of various features of that Brand, keeping in mind the style of Promotion of that Brand
Unit II :Corporate Stationery Design
Designing of Letter Head, Visiting Card, Envelope (3 options each)
Unit III :Fashion Styling
● Selection of any one Category for Women ● Assembling the Collection and Accessories ● Developing a Look/ Mood for the Category ● Shooting the Photographs for the same
Unit IV :Visual Merchandising
Developing a Display solution for any reputed Brand
Unit V :Catalogue Designing
Designing a Catalogue of minimum 15 pages

ASSIGNMENTS

Students are expected to work on the given Practical based on all the above contents and are also expected to compile them in the form of a specialized Portfolio.

Text Books:

- Elizabeth Liechty, Steineckert D., Rasband J., 2009, Fitting And Pattern Alteration, Fairchild Publication
- Clive Hallett (2014), Fabric to Fashion, Laurence King Publishing
- Indian Costumes, A. Biswas ,2017,Publications Division Ministry of Information & Broadcasting

Recommended Readings:

- Ireland, Patrick John., Fashion Design Illustration: Men, BtBatsford, London.1996
- Abling. Bina., Advance Fashion Sketch Book, Fairchild Publications, New York.2005
- Tate, S.L., (1987). The Complete Book Of Fashion Illustration, Harper R. Row, New York.
- Seama., Julian, Professional Fashion Illustration, B.T. Batsford Ltd., London.

Journals/ E-Journals:

- Journal of Textile Institute(JTI), Taylor and Francis, UK. https://www.tandfonline.com/journals/tjti20
- Pakistan Textile Journal(PTJ) (Open access), Nadeem Mazhar, Pakistan. https://ptj.com.pk/
- The Journal of Cloth and Culture (JCC), Taylor and Francis Ltd., UK. https://journals.indexcopernicus.com/journal/11926
- Textile Research Journal, SAGE Publications Asia-Pacific PTE LTD, USA. https://journals.sagepub.com/home/trj
- Textile Asia (Open access) Business Press Ltd, Hongkong. https://www.textilesasia.com/

Internship / Special Project (one month)
Course Code: MFD/4/CC/046
Objectives:
● To gain real time work experience from the Industry. ● The internship will enrich the student for understanding of the career field, to develop useful skills.
Outcomes:
● Students will be able to work as a team in any organization and become accomplished or successful Designers, Entrepreneurs or Industry ready professionals.
CONTENTS:
● Internship refers to a stage/phase during which an individual will get an opportunity to experience her industry of interest before entering into full time future career. ● Internships exposes the candidate to understand the way particular industry functions and what it would be like to work in that scenario.

Follow, Learn and experience following as per instructions given by course teacher.

(1) Theme based Apparel Designing and Construction with accessories
(2) Organize an Exhibition/ Fashion Show
(3) Exposure cum Educational Visit
(4) Extension Lecture
(5) Visit to established designer house

Text Books:

- Jarnow, JandJudelle, B.,Inside Fashion Business,Merill Prentice Hall, New Jersey, 1987
- Wood, D. The Practical Encyclopedia of Sewing, Anness Publishing Ltd, USA
- Readers Digest, Complete Guide to Needle Work, The Readers Digest Association Inc, Pleasantville, New York
- Rosenau, J. A., Wilson David L. David., Apparel Merchandising-The Line Starts Here, Fairchild Publications, New York.2006

Recommended Readings:

- Frings Gini, Fashion-From Concept To Consumer, (5th Edition), Prentice Hall Publications, 1996
- Marshall S G, Jackson H O, Stanley Ms, Kefgen M &Specht T, Individuality In Clothing & Personal Appearance, 6th Edition, Pearson Education, USA, 2009
- Shorie,G.P.,Vastra Vigyan Ke MoolSidhant,Vinod Pustak Mandir, Hospital Road, Agra, 2007.(Hindi Book)
- Verma, Promila.,Vastra Vigyan Evam Paridhan,Madhya Pradesh Hindi Granth Akademy, Bhopal, 2003 (Hindi Book)
- The Fashion Sketch Book - https://www.google.co.in/search?q=historic+textiles+book+pdf&oq=historic+textiles+book+pdf&aqs=chrome..69i57.9805j0j8&sourceid=chrome&ie=UTF-8#
- http://www.arts.ac.uk/fashion/courses/short-courses/online-courses/pattern-cutting-course/ http://mooc.live/fashion-design-through-patternmaking-the-sloper-online-course/

Journals/ E-Journals:

- International Journal of Clothing Science and Technology https://www.emeraldinsight.com/loi/ijcst
- Asian Textile Journal (ATJ) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/
- Asian Technical Textile (ATT) Jennifer Kwatra publications, Mumbai. https://www.atjournal.com/journal.html
- ATA Journal for asia on Textile and Apparel (Open access) Adsale publishing, Hongkong. https://www.ourglocal.com/journal/?issn=10158138
- AUTEX Research Journals(AUTEXRJ) (Open access) published by Lodz University of Technology, Poland. https://www.autexrj.com/

Faculty of Earth Science

Department of Georaphy

Courses offered-

- B.A.
- M.A./ M. Sc.

DEPARTMENT OF GEOGRAPHY

Faculty of Earth Sciences

Mohanlal Sukhadia University, Udaipur

Programmes offered

1. **Post Graduate Programme in Geography (CBCS Semester Scheme) (M.A./M.Sc. (Geography)) in University Department**
2. **Post Graduate Programme in Geography (Annual Scheme) (M.A./M.Sc. (Geography)) in affiliated colleges**
3. **Undergraduate programme in Geography (B.A. Three-year degree course)**
4. **Ph.D in Geography**

Name of Programme: Under Graduate Programme in Geography (Annual Scheme) (B.A. Three Year Pass Course)

Geography is important because it helps us to better understand the world and its phenomenon, to understand our surroundings. It is indispensable to understand the link between society and nature. It has an amazing practical side. May it be urban or rural, economics or politics, industry or agriculture, flora or fauna, land or water, society or culture, planning or governance, practitioners of every field need some knowledge of geography to understand the past, present and inter-relationships between different phenomena. Owing to its vast scope and ramified applications, the subject is one of the core subjects at school level and also part of the General Studies curriculum of various competitive examinations.

The under graduate program offered by Department of Geography has been designed with twin objectives of developing a geographical aptitude with basic understanding of the various approaches of the discipline and preparing the students for various competitive examinations. In view of high employability of geography students at all levels of school education, the curriculum also includes courses relevant to the same at various levels.

The *Programme Specific Outcomes* may be enumerated as under:

1. To introduce the students to the importance of the discipline to understand the surroundings.
2. To understand the fundamental approaches and branches of the discipline.
3. To impart comprehensive knowledge of the regional geography of the State, country and the world.
4. To enable students to prepare for competitive examinations relevant for graduate students.
5. To develop an understanding of the cartographic tools and methods for representation of geographical data, surveying and mapping.

DEPARTMENT OF GEOGRAPHY

University College of Social Sciences & Humanities
Mohanlal Sukhadia University, Udaipur, Raj. - 313001

Proposed Scheme of Courses in Geography
Three-Year Pass Course (B. A.) 2015-16

TDC I Year Arts
Paper I : Physical Geography

Paper II : Human Geography

Practical : Cartography-I (Scales and presentation of geomorphic and climatic data)

TDC II Year Arts
Paper I : World Regional Geography

Paper II : Economic & Resource Geography

Practical : Cartography-II (Projections and presentation of socio-economic data & elementary statistical methods)

TDC III Year Arts
Paper I : Geography of India

Paper II : Geography of Rajasthan

Practical : Surveying and Remote Sensing

Notes:

1. Each theory paper will be of 70 marks each with minimum pass marks of 28
2. Each practical will be of 60marks with minimum pass marks of 23.
3. Teaching hours for each theory paper and practical will be three hours per week.
4. Practical batch will comprise of twenty Five students in one batch.
5. Use of map stencils (outline of political boundaries only) and simple function calculators are allowed in the examination.
6. Each theory paper of three hour duration will be divided into five units and questions will be asked as per following scheme:

Sections	Questions		Marks	Distribution of Questions
	To be Asked	To be Attempted		
1. Very Short (20-50 Words Answers)	10	10	20	Proportionately from each Unit with internal choice
2. Short Answers from each Unit with internal choice (250 words)	10	5	20	
3. Analytic/Descriptive Answers (500 words)	5	2	30	
Total	25	17	70	

B.A. First Year
Subject: Geography
Paper I - Physical Geography

Course Objectives

1. *To make students understand their immediate surroundings*
2. *To develop an understanding of theoretical concepts related with formation of the earth*
3. *To create strong foundation of various geomorphological phenomena shaping the earth surface.*
4. *To extend knowledge of landform dynamics, atmospheric phenomena and oceanography: three fundamental elements of the earth crust.*
5. *To cover basic contents for various competitive examinations such as civil services, state level PSC exams, school education exams and so on.*

Unit – I

a) Definition and scope of physical geography.
b) Origin of the earth - Tidal Hypothesis of James Jeans and Big Bang theory.
c) Interior of the earth.
d) Origin of the continent and oceans:- Wegner's theory of Continental drift and Plate tectonics.
e) Theories of mountain building:- Geosynclines Organ theory of Kober and Plate tectonic theory.

Unit – II

a) Isostacy :- Concept and Views of Airy and Pratt.
b) Diastrophism: - Faults & folds.
c) Weathering: - Physical, Chemical and Biological.
d) Drainage pattern and Cycle of erosion :- Davis & Penck.
e) Landforms: - Fluvial, coastal and arid.

Unit – III

a) Composition and structure of the atmosphere.
b) Atmospheric temperature: – Isolation and heat budget.
c) Atmospheric pressure :- Vertical and horizontal distribution of air pressure.
d) Winds: - Planetary, periodic and local winds.
e) Jet stream.

Unit – IV

a) Air masses: - Source region and classification of air masses.
b) Fronts :- Front genesis and frontolysis , Type of fronts.
c) Cyclones :- Tropical and temperate cyclones.
d) Anti cyclones.
e) Climatic classification by Koeppen.

Unit – V

a) Reliefs of the ocean basins - Bottom reliefs of the Indian ocean.
b) Distribution of temperature and Salinity of oceans.
c) Ocean currents : - Atlantic ocean and Pacific ocean currents.
d) Tides :- Type and theory of origin (Progressive wave and Stationary Wave theory.
e) Coral reefs :- Conditions of growth, types and origin according to Darwin and Murray.

Suggested Readings:

1. Dayal, P., A Text book of Geomorphology, Shukla Book Depot, Patna, 1996.

2. Dury, G. H., The Face of the Earth, Penguins, 1980.
3. Ernst, W.G., Earth Systems: Process and Issues, Cambridge University Press 2000.
4. ICSSR, A Survey of Research in Physical Geography, Concept, New Delhi, 1983.
5. Kale, V. and Gupta, A., Elements of Geomorphology, Oxford University Press, Calcutta, 2001.
6. Monkhouse, F. J., Principles of Physical Geography, Hodder and Stoughton, London, 1960.
7. Pitty, A., Introduction to Geomorphology, Methuen, London, 1974.
8. Sharma, H. S., Tropical Geomorphology, Concept, New Delhi, 1987.
9. Singh, S., Geomorphology, Prayag Pustakalaya, Allahabad, 1998.
10. Small, R. J., The Study of Landforms, McGraw Hill, New York, 1985.
11. Sparks, B. W., Geomorphology, Longmans, London, 1960.
12. Steers, J. A., The Unstable Earth: Some Recent Views in Geography, Kalyani Publishers, New Delhi, 1964.
13. Strahler, A. N., Environmental Geo-Science, Hamilton Publishing, Santa Barbara, 1973.
14. Strahler, A. N. and A. H. Strahler, Modern Physical Geography, John Wiley & Sons, 1992.
15. Summerfield, M. A., Global Geomorphology, Longman, 1991
16. Thornbury, W. D., Principles of Geomorphology, Wiley Eastern, l969.
17. Wooldridge, S. W. and R. S. Morgan, The Physical Basis of Geography: An Outline of Geomorphology, Longman Green & Co., London, 1959.
18. Wooldridge, S. W., The Geographer as Scientist, Thomas Nelson and Sons Ltd., London, 1956.
19. Barry, R. G. and R. J. Chorley, Atmosphere, Weather and Climate, Routledge, 1998.
20. Critchfield, H., General Climatology, Prentice-Hall, New York, 1 975.
21. Das, P. K., The Monsoons, National Book Trust, New Delhi, 1968.
22. Lydolph, Paul E., The Climate of the Earth, Rowman and Allanheld, Totowa, N. J., 1985.
23. Mather, J. R., Climatology, McGraw Hill, New York, 1974.
24. Patterson, S., Introduction of Meteorology, McGraw Hill Book Co., London, 1 969.
25. Stringer, E. T., Foundation of Climatology, Surjeet Publications, Delhi, 1982.
26. Trewartha, G. T., An Introduction to Climate, International Students Edition, McGraw Hill, New York, 1980.
27. Anikouchine, W. A. and R. W. Sternberg, The World Oceans: An Introduction to Oceanography, Englewood Cliffs, N. J. 1973.
28. Gerald, S., General Oceanography: An Introduction, John Wiley & Sons, New York, 1980.
29. Garrison, T., Oceanography, Wadsworth Co. USA, 1998.
30. King, C. A. M., Beaches and Coasts, E. Arnold, London, 1972.
31. King, C. A. M., Oceanography for Geographers, E. Arnold, London, 1975.
32. Sharma, R. C. and M. Vatel, Oceanography for Geographers, Chetnya Publishing House, Allahabad, 1970.
33. Shepard, F. P., Submarine Geology, Harper & Sons, New York, 1948.
34. Thurman, H. B., Introductory Oceanography, Charles Webber E. Merril Publishing Co., 1984.
35. Weisberg, J. and Howard, Introductory Oceanography, McGraw Hill Book Co., New York, 1976.
36. सविन्द्र सिंह : भौतिक भूगोल, वसुन्धरा प्रकाशन, गोरखपुर, 1997
37. शर्मा एच.एस. : ''भौतिक भूगोल'' पंचशील प्रकाशन, जयपुर
38. चतुर्भुज मामोरिया एव जैन : भौतिक भूगोल एवं जीव मण्डल, साहित्य भवन आगरा, 1996
39. वीरेन्द्र सिंह चौहान : भौतिक भूगोल, रस्तोगी पब्लिकेषन्स, मेरठ, 1996
40. उपाध्याय एल. एन. : भौतिक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
41. तिक्खा, रामनाथ : भौतिक भूगोल, केदारनाथ रामनाथ, मेरठ
42. तिवारी, ए. के. : जलवायु विज्ञान के मूल तत्व, राज.हिन्दी ग्रन्थ अकादमी, जयपुर
43. नेगी, बी. सी. : जलवायु विज्ञान तथा समुद्र विज्ञान, केदारनाथ रामनाथ, मेरठ

B.A. First Year
Subject: Geography
Paper: II Human Geography

Course Objectives

1. *To extend knowledge of core concepts, theories and ideologies of Human Geography.*
2. *To develop fundamental understanding of evolution of human races and distribution and socio-economic fabric of major tribes in the world and India.*
3. *To foster knowledge about distribution of population in the world, fundamental demographic concepts and population challenges with respect to India.*
4. *Basic contents for various competitive examinations for civil services, state PSC exams, school education exams, and so on.*

Unit – I

a) Definition and scope of Human geography.
b) Its relation with other social sciences.
c) Schools of Human geography: - Determinism, Possibilism and Neo – Determinism.
d) Concept of Man – Environment relationship.
e) Fundamental principles of Human geography: Principles of activities, Principle of areal differentiation, Principle of terrestrial unity.

Unit – II

a) Stages of evolution of man
b) Races of mankind: - criteria of classification according to G. Taylor
c) Classification and distribution of races according to G. Taylor
d) Factors of evolution of human races
e) Migration zone theory by Griffith Taylor

Unit – III

a) Distribution of Tribes in the world.
b) Habitat, Occupation & social organization: Pigmies, Badawins, Eskimos and Khirgiz,
c) Distribution of Tribes in India
d) Habitat, economic activities and social organization of Bhil, Naga, Toda and Santhal.
e) Early economic activities of mankind :- Food gathering, Hunting, Fishing & Shifting cultivation.

Unit – IV

a) Distribution of population: world distribution pattern physical, economic and social factors influencing spatial distribution.
b) Concept of over population, under population, optimum population and zero population growth.
c) Demographic transition theory.
d) Migration-internal and international, general laws of Migration
e) Concept of human development and population problems and policy of India.

Unit – V

a) Settlement: origin and types of settlement.
b) Rural settlement-Pattern of rural settlements, house types and building materials, rural settlement in India

c) Urban settlement- origin of towns, patterns of cities.
d) Functional classification of cities, zoning of cities, Christaller's theory
e) Urbanization and problems: slums, town planning, concept and principles.

*Note – Stencils are to be permitted in the examination.

Suggested Readings:

1. Brunhes, J. : Human Geography
2. Huntington, E.: The Principles of Human Geography, John Wiley & Sons, N.Y.
3. Perpillou, A.V. : Human Geography, Longmans, 196
4. Money, D.C.: An Introduction to Human Geography; U.I.P. London
5. Karan, M.P. : Manav Bhugol ke Siddhant, Kitabghar, Kanpur
6. Mamoria, C.B. : Principles of Human Geography
7. Negi, B.S. : Human Geography- An Ecological Aproach, Kedarnath Ramnath, Meerut,1982
8. Dwivedi, R.L. & Singh, R.L. : Manav Bhugol ki Samiksha
9. शर्मा, डॉ. बी.एल., भारद्वाज, डॉ. पलक, मानव भूगोल, हिमांशु पब्लिकेशन, उदयपुर
10. बंसल, डॉ. सुरेश चंद्र, मानव भूगोल, मीनाक्षी प्रकाशन मेरठ
11. खुल्लर , डी. आर., मानव भूगोल, कल्याणी पब्लिशर्स, नई दिल्ली
12. कौशिक, एस.डी., मानव भूगोल के सरल सिद्धान्त, रस्तोगी पब्लिकेशन, मेरठ

B. A. First Year

Subject: Geography

Practical

Practical: Cartography-I (Scales and presentation of geomorphic and climatic data) The art and science of cartography; history; techniques and preparation of maps and their classification.

Course Objectives

1. *To develop an understanding of fundamentals of scales.*
2. *To develop skills of representing geomorphic features using cartographic methods.*
3. *To train students to represent climatic data using various graphs.*
4. *To impart sound knowledge of weather symbols and instruments.*

1. Scales: plain, diagonal, comparative, time and Venire's (two exercises of each scale and two scales on each sheet). (10 exercises)
2. Enlargement, reduction and combination of maps (2 exercises)
3. Methods of representation of relief: hachure, form line, contour and layer tint methods. (4 exercises on two sheets)
4. Composite features to be drawn with the help of contours based on topo sheets representing the typical areas of glaciated region, arid region, region and fluvial region (any one of either youth, mature and old stage). (4 exercises)
5. Drawing of profiles: serial (at least four), composite, superimposed and projected. (4 exercises on two sheets)
6. Knowledge of principles and working of weather instruments including self-recording instruments: thermometer, thermograph, barometer, barograph, hygrometer, hygrograph, rain gauge, rainograph, wind wane and cup anemometer.
7. Weather symbols: based on Indian weather maps. (1 exercise)
8. Study and interpretation of Indian weather maps: One each of December-January and July August. (2 exercises)
9. Representation and interpretation of climatic data:
10. (a) Rainfall histogram (b) Hyther graph, (c) Climograph, (d) Rainfall variability graph (departure from mean). (4 exercises)

Notes:

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on 1/4th of a full drawing sheet.
3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.
4. The distribution of marks will be as follows:

a. Paper 36 Marks
b. Record Work* 14 Marks
c. Viva-voce** 10 Marks

* Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

** Viva-voce will be based on the record work and weather instruments.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggested Readings:

1. Monkhouse, F. J., Maps and Diagrams, Methuen & Co. Ltd., London.
2. Robinson, A. R.,Elements of Cartography, Chapman & Hall.
3. Singh, R. L., Elements of Practical Geography, Kalyani Publishers.
4. Raize, E., General Cartography, McGraw Hill Book Co., London.
5. Singh, R. N. and Kanaujia L. R. S., Map Work & Practical Geography, Central Book Depot, Allahabad.
6. Mishra, R. P. and A. Ramesh, Fundamentals of Cartography, Concept Publishers, New Delhi.

7. शर्मा, जे.पी. प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

8- जैन शेषमल : प्रायोगात्मक भूगोल, साहित्य भवन आगरा

9- भल्ला, एल. आर. : प्रायोगात्मक भूगोल, के.डी. प्रकाशन, अजमेर

10- मामोरिया चतुर्भुज : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, साहित्य भवन, आगरा

11- पंवार, आर. एस. : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, तुलसी प्रकाषन, मेरठ

12. वर्मा, एल एन.व आर. एम लोढा : प्रायोगात्मक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर

13. सिंह, एल.आर.; : मानचित्र एवं प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद

14. सिंह एवं कन्नोजिया : प्रायोगात्मक भूगोल की रूपरेखा, सेन्ट्रल बुक डिपो, इलाहाबाद

B.A. Second Year

Subject: Geography

Paper I: World Regional Geography

Course Objectives

1. *To develop an understanding of terrain, climate, natural vegetation and soil of various continents.*
2. *To gain knowledge about demographic and economic aspects of major continents of the world.*
3. *To enrich the knowledge of regional geography of various continents.*
4. *Basic contents for various competitive examinations for civil services, state level PSC exams, school education exams and so on.*

UNIT I: Japan (Asia)

a) Geographical Location and Importance of Japan in Asia
b) Physical Division, Drainage and Climate
c) Population Distribution and Urbanization
d) Horticulture and Natural Resources: Vegetation and Major Minerals
e) Industrial Regions of Japan

UNIT II: Egypt (Africa)

a) Geographical Location and Importance of Egypt in Africa
b) Physical Division, Drainage and Climate
c) Population Distribution and Natural Resources: Vegetation and Major Minerals
d) Agricultural Development in Nile Valley: Aswan Project & Irrigation
e) Industrial Development

UNIT III: United State of America (North America)

a) Geographical Location and Importance of USA in North America
b) Physical Division, Drainage and Climate
c) Population Distribution and Development of Megalopolis (East Coast)
d) Agricultural Belts: Wheat, Corn and Cotton
e) Industrials Regions: Iron-Steel and Engineering Industry

UNIT IV: Brazil (South America)

a) Geographical Location and Importance of Brazil in South America
b) Physical Division, Drainage and Climate
c) Population Distribution and Natural Resources: Vegetation and Major Minerals
d) Agricultural Development: Coffee & Sugarcane: Distribution and Production
e) Industrial development and Urbanization

UNIT IV: France (Europe) & New Zealand (Oceania)

a) Geographical Location and Importance of France in Europe
b) Physical Division, Drainage and Climate of France
c) Population Distribution and Paris basin: Agriculture, Industrial Regions, Transportation
d) Geographical Location, Physical Division and Climate of New Zealand
e) Population Distribution and Dairy Farming

Suggested Readings:

1. Cole, J., A Geography of the World's Major Regions, Routledge, London, 1996.
2. Cole, J. P., Latin America - Economic and Social Geography, Butterworth, USA, 1975.
3. Cole, M. M., South Africa, Dutton, New York, 1961.
4. de Blij, H. J., Geography: Regions and Concepts, John Wiley & Sons Inc., New York, 1994.
5. Dickenson, J. P. et al., The Geography of the Third World, Routledge, London, 1996.
6. Gourou, R., The Tropical World, Longman, London, 1980.
7. Jackson, R. H. and L. E. Hudman, World Regional Geography: Issues for Today, John
8. Kolb, A., East Asia: Geography of a Cultural Region, Methuen, London, 1977.
9. Minshull, G. N., Western Europe, Hoddard & Stoughton, New York, 1984.
10. Patterson, J. H., Geography of Canada and the United States, Oxford University Press, 1985.
11. Songquiao, Z., Geography of China, John Wiley & Sons Inc., New York, 1994.
12. Ward, R. W. and A. Miller, World Regional Geography: A Question of Place, John Wiley &Sons Inc., New York, 1989.
13. वर्मा, लक्ष्मी नारायण, प्रादेशिक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
14, हुसैन, माजिद, विश्व का भूगोल, रावत पब्लिकेशन, नई दिल्ली
15, मिश्र, निरंजन, क्षैत्रीय भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
16, सक्सेना, डॉ. एच. एम., विश्व का प्रादेशिक भूगोल, रस्तोगी पब्लिकेशन, मेरठ

B. A. SECOND YEAR
SUBJECT: GEOGRAPHY
Paper-II: Economic & Resource Geography

Course Objectives

1. *To enhance spatial knowledge of various economic activities of man in relation to his natural milieu.*
2. *To develop an understanding of classification and conservation of natural resources.*
3. *To develop insight into distribution, production and status in international trade of selective agricultural and industrial activities.*
4. *To develop a comprehensive understanding of international trade and transport activities and trade organizations at world level.*

Unit – I

a) Definition, nature and scope of economic geography
b) Recent trends in economic geography; its relation with economics, and allied subjects.
c) Classification of economies and spatial organization.
d) Sectors of economy: primary, secondary and tertiary.
e) Impact of economic activities on environment.

Unit – II

a) Natural resources: meaning; Classification of resources.
b) Conservation of resources; Water and forest resource conservation.
c) Changing nature of economic activities: Mining and forestry,
d) Changing nature of economic activities: Agriculture and industry.
e) Changing nature of economic activities: Trade and transport.

Unit – III

a) Agricultural types and classification.
b) Agriculture: physical, social, cultural environment influencing crop production.
c) Spatial distribution, production and international trade of rice and wheat
d) Spatial distribution, production and international trade of cotton and rubber.
e) Spatial distribution, production and international trade of coffee and tea.

Unit – IV

a) Classification of minerals; distribution, production and trade of iron ore and bauxite.
b) Distribution and production of coal, petroleum and hydroelectricity.
c) Factors of localization of industries; iron and steel industry.
d) Chemical and cement industries.
e) Textile and ship building industries.

Unit – V

a) Trade and transport: geographical factors in their development.
b) Major water, land and air transport routes.
c) Internal and international trade.
d) World Trade Organization (WTO) and globalisation.
e) Impact of WTO and globalisation on developing countries of the world.

Suggested Readings:

1. Bengston, N. A. and V. L. Royen, Fundamental of Economic Geography, Prentice Hall, New York.
2. Boesch, H., A Geography of World Economy, D. Van-Nostrand Co., New York, 1964.
3. Chapman, J. D., Geography and Energy, Longman, London, 1989.
4. Gregor, H. F., Geography of Agriculture, Prentice Hall, New Jersey, USA, 1970.
5. Griggs, D. B., The Agricultural Systems of the World, Cambridge University Press, New York, 1974.
6. Hartshorne, T. N. and J. W. Alexander, Economic Geography, Prentice Hall, New Delhi, 1988.
7. Jones, C. F. and G. G. Darkenwald, Economic Geography, McMillan Co., New York. 1975.
8. Millar E., Geography of Manufacturing, Prentice Hall, New York, 1962.
9. Pickes, L. D., The Wealth of The World, Dan & Co., London.
10. Raza. M. and Y. Agrawal, Transport Geography of India, Concept, New Delhi, 1986.
11. Robinson, H., Economic Geography, Longmans.
12. Smith, D. M., Industrial Location - An Economic Geographical Analysis, John Wiley, New York, 1971.
13. Stamp, L. D., A Commercial Geography, Longmans.
14. Thomas, R. S., The Geography of Economic Activities, McGraw Hill, New York 1962.
15. UNO, Statistical Year Book (Latest Edition).
16. दास, गुप्ता एवं कपूर :आर्थिक और वाणिज्य भूगोल, एस चांद एण्ड कम्पनी, दिल्ली
17. दुबे रामनाथ :आर्थिक–वाणिज्य भूगोल, किताब महल, इलाहाबाद
18. नेगी :संसाधन भूगोल
19. नेगी :मानव तथा आर्थिक भूगोल
20. कौशिक, एस. डी., आर्थिक भूगोल की समीक्षा
21. कौशिक, एस. डी., संसाधन भूगोल

B.A. Second Year
Subject: Geography
Practical: Cartography-II (Projections and Presentation of socio-economic data)

Course Objectives

1. *To develop a fundamental understanding of various types and use of map projections.*
2. *To understand the pre-conditions, suitability and limitations of various maps and diagrams.*
3. *To learn the various techniques for cartographic representation of socio-economic phenomena using thematic maps, diagrams and graphs.*
4. *To learn fundamentals of quantitative techniques.*

Map projections:

1. Meridians and parallels: definition, and characteristics.
2. Map projections: meaning, compromises, classification,
3. Characteristics, use and graphical construction along with outline map of the following projections:
   - i. Zenithal projections: orthographic, stereographic and gnomonic (both polar and equatorial cases) (6 exercises)
   - ii. Conical projections: Bonne's and polyconic (2 exercises)
   - iii. Mercator's projections (1 exercise)
   - iv. Globular projection (1 exercise)
   - v. Gall's projection (1 exercise)
   - vi. Mollweide's projection (1 exercise)
   - vii. Sinusoidal projection (1 exercise)

Presentation socio-economic data:

1. Thematic maps: Elements and characteristics of thematic maps.
2. Drawing and use of dot, choroschematic, chorochromatic, choropleth and isopleth maps (6 exercises)
3. Diagrams: elements and characteristics of diagrams.
4. Drawing of diagrams along with appropriate scales:
   - i. One dimensional (2 exercises)
   - ii. Two dimensional (3 exercises)
   - iii. Three dimensional (3 exercises)
   - iv. Traffic flow diagram (1 exercise)
5. Graphs: elements and characteristics of graphs.
6. Drawing of poly, band, and triangular graphs. (3 exercises)

Basic statistical methods:

1. Frequency distribution and its presentation.
2. Measures of central tendency: Arithmetic mean, mode and median.
3. Measures of dispersion: Standard deviation and coefficient of variation.
4. Measures of correlation: Rank correlation and product moment correlation.

Notes:

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on $1/4^{th}$ of a full drawing sheet.

3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.

4. The distribution of marks will be as follows:

a.	Paper	36 Marks
b.	Record Work*	14 Marks
c.	Viva-voce**	10 Marks

* Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

** Viva-voce will be based on the record work.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggested Readings:

1. Ahmed, K. S., Simple Map Projection, Friends Book House, Aligarh.
2. Bygott, J., An Introduction to Map Work and Practical Geography, University Tutorial Press, London.
3. Meux, A. H., Reading Topographical Maps, University of London Press.
4. Mishra, R. P. and A. Ramesh, Fundamentals of Cartography, Concept Publishers, New Delhi.
5. Monkhouse, F. J., Maps and Diagrams, Methuen & Co. Ltd., London.
6. Raize, E., General Cartography, McGraw Hill Book Co., London.
7. Robinson, A. R., Elements of Cartography, Chapman & Hall.
8. Singh, R. L. and P. K. Dutt, Elements of Practical Geography, Student Friends, Allahabad
9. Singh, R. L., Elements of Practical Geography, Kalyani Publishers.
10. Singh, R. N. and L. R. S. Kanaujia, Map Work & Practical Geography, Central Book Depot, Allahabad.
11. Tamaskar E. G. and V. M. Deshmukh, Geographical Interpretation of Indian Topographical Maps, Orient Longman.
12. शर्मा, जे. पी. : प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
13. जैन शेषमल : प्रायोगात्मक भूगोल, साहित्य भवन आगरा
14. भल्ला, एल. आर. : प्रायोगात्मक भूगोल, के.डी. प्रकाशन, अजमेर
15. मामोरिया चतुर्भुज : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, साहित्य भवन, आगरा
16. पंवार, आर. एस. : मानचित्र विज्ञान एवं प्रायोगात्मक भूगोल, तुलसी प्रकाषन, मेरठ
17. वर्मा एवं लोढा : प्रायोगात्मक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
18. सिंह, एल.आर.; : मानचित्र एवं प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
19. सिंह एवं कन्नोजिया : प्रायोगात्मक भूगोल की रूपरेखा, सेन्ट्रल बुक डिपो, इलाहाबाद

B.A. Third Year
Subject: Geography
Paper-I: Geography of India

Course Objectives

1. *To develop a sound understanding of natural and cultural landscape of India.*
2. *To develop comprehensive understanding of the physical, economic and demographic aspects of the country.*
3. *To develop an understanding of the planning regions and developmental challenges on regional basis.*
4. *To cover the fundamental contents of general studies for various competitive examinations such as civil services, state level PSC exams, school education exams and so on.*

Unit – I

a) India in the context of Southeast and South Asia.
b) India: a land of diversities; unity within diversities.
c) Major terrain elements of India and their role in shaping physical landscape of India.
d) Drainage systems of India and their functional significance.
e) The morphological regions of India.

Unit – II

a) Regional and seasonal variations of climate: the monsoon, western disturbance, norwesters, climatic regions of India.
b) Soil types of India: their distribution and characteristics
c) Vegetation types and their distribution; forest resources
d) Status, use and need for conservation of mineral resources
e) Status, use and need for conservation of power resources

Unit – III

a) Spatial distribution of population and density; socio-economic implications of population growth; urbanization;
b) Changing nature of Indian economy.
c) Agricultural growth during the plan period; Green Revolution vis-à-vis traditional farming;
d) Major crops and their status; wheat, Rice, Sugarcane, cotton
e) Regionalization of Indian agriculture;

Unit – IV

a) Industrial development and Indian economy.
b) Industrial regions of India and their industrial structure.
c) Major industries: Iron and steel, Cotton, cement, chemical Industries
d) Means of transportations: Roads, Railways and Railways
e) Composition of Domestic and International trade.

Unit – V

a) Basis of regional divisions of India.
b) Classification of Economic Regions of India: P. Sen Gupta
c) Comparative Analysis of macro regions.
d) Resource regions of India.

e) Planning region of India

Suggesting Readings:

1. Deshpande, C. D., India - A Regional Interpretation, Northern Book Centre, New Delhi, 1992.
2. Farmer, B. H., An Introduction to South Asia, Methuen, London, 1983.
3. Govt. of India, India - Reference Annual, Pub. Div, New Delhi, (latest edition)
4. Govt. of India, National Atlas of India, NATMO Publication, Calcutta.
5. Govt. of India, The Gazetteer of India, Vol. I & III Publication Division, New Delhi, 1965.
6. Khullar, D. R., India: A Comprehensive Geography, Kalyani Publishers, Ludhiana, 2000.
7. Learmonth, A. T. A. et al (ed), Man and Land of South Asia, Concept, New Delhi.
8. Manorama Press, Manorma Year Book, Kottayam (Kerala), (Latest Edition).
9. Mitra, A., Levels of Regional Development of India, Census of India, Vol. 1, Part I-A (i) and (ii), New Delhi, 1967.
10. Routray, J. K., Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993.
11. Shafi, M, Geography of South Asia, McMillan & Co., Calcutta, 2000.
12. Singh, G., Geography of India. Atmaram & Sons, Delhi.
13. Singh, R. L. (ed), India: A Regional Geography, National Geographical Society, India,
14. Spate, O. H. K. and Learmonth, A. T. A., India and Pakistan - Land, People and Economy Methuen & Co., London, 1967.
15. Times of India Press, Times of India Year Book, Bombay (Latest Edition)
16. Vaidiya, K. S., Dynamic Himalaya, University Press, Hyderabad, 1998,
17. Wadia, D. N., Geology of India, McMillan & Co., London, 1967.
18. गौड कृपाशंकर : भारत की भौगोलिक समीक्षा, हिन्दी प्रचार पुस्तकालय, वाराणसी
19. मामोरिया चतुर्भुज : भारत का आर्थिक भूगोल, आगरा बुक स्टोर, आगरा
20. दुबे, रामनाथ : भारत का आर्थिक भूगोल, किताब महल, इलाहाबाद
21. तिवारी विश्वनाथ : भारत का वृहद् भूगोल, रामप्रसाद एण्ड सन्स, आगरा
22. चौहान, वीरेन्द्रसिंह : विशाल भारत, रस्तोगी एण्ड कम्पनी, मेरठ
23. चौहान, तेजसिंह : भारत का भूगोल, विज्ञान प्रकाशन, जयपुर

B. A. Third year
Subject: Geography
Paper-I: Geography of Rajasthan

Course Objectives

1. *To provide a comprehensive understanding of the geographical landscape of the state including all physical, socio-economic and cultural aspects.*
2. *To develop a sound understanding of demographic composition, distribution and their challenges in the state.*
3. *To understand the fundamental environmental challenges of the state associated at regional level.*
4. *To cover the basic contents for various competitive examinations viz. civil services, state level PSC exams, school education exams and so on.*

Unit – I

a) Rajasthan in the context of India; diversity and unity; history of emergence.
b) Geological structure and formation of the state.
c) Relief features and physiographic regions; drainage characteristics.
d) The monsoon rhythm and weather conditions; climatic regions; climate and man.
e) Vegetation; forests; soils types.

Unit – II

a) Distribution of population: status, factors and implications.
b) Population characteristics: gender, literacy and workforce.
c) Urbanization and migration.
d) Tribal population: composition, concentration and principal tribal groups.
e) Population growth and associated problems.

Unit – III

a) Agriculture and economy of Rajasthan
b) Cropping pattern: detailed study of bajra, maize, wheat, pulses and oilseed crops
c) Source of irrigation; irrigation system of Indira Gandhi Canal and Chambal Command Area; problem of depleting ground water resources
d) Livestock resource: distribution by composition and size; dairy development
e) Major agricultural problems and their solution.

Unit – IV

a) Minerals, industries and economy of Rajasthan.
b) Detailed study of minerals: rock phosphate, mica, marble, soapstone and limestone.
c) Status and potential of energy minerals: lignite, petroleum and natural gas.
d) Detailed study of industries: zinc, cement, chemical, cottage and small-scale industries.
e) Industrial problems and prospects of the state.

Unit – V

a) Tourism: basis of tourism in Rajasthan; major destinations; tourists by place of origin.
b) Means of transportation: net work of roads and railways and related problems.
c) Droughts in Rajasthan: nature, causes, implications and coping measures.
d) Basis of regions of Rajasthan and study of different schemes of regionalization.
e) Detailed study of Marusthali and Aravalli regions.

Suggesting Readings:

1. Bhalla, L. R., Rajasthan ka Bhugol, Kuldeep Publication, Ajmer (Hindi).
2. Census of India, Rajasthan Series, General Population Tables of 1961to 2001.
3. DST (Govt. of Rajasthan), Resource Atlas of Rajasthan, Jaipur.
4. Govt. of Rajasthan, Statistical Abstract (latest edition), Jaipur.
5. Mishra, V. C., Geography of Rajasthan, National Book Trust, New Delhi.
6. NCEAR, Techno-economic Survey of Rajasthan, Vol. I and II, New Delhi.
7. Publication Division, Govt. of India, India (Latest edition), New Delhi.
8. Spate, O. H. K., India and Pakistan, Methuen, 1960.
9. चौहान, तेजसिंह : राजस्थान का भूगोल, विज्ञान प्रकाशन, जोधपुर
10. लोढा, राजमल एवं महेश्वरी : राजस्थान का भूगोल, हिमांशु पब्लिकेशन्स, उदयपुर
11. मामोरिया, चतुर्भुज व जैन शेषमल : राजस्थान का भूगोल, साहित्य भवन पब्लिकेशन्स, आगरा
12. सक्सेना, एच.एम. : राजस्थान का भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
13. विजयवर्गीय, राम रक्षपाल : राजस्थान का भू–विज्ञान एवं खनिज सम्पदा, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

B. A. Third year
Subject: Geography
Practical: Surveying, Topographical Maps and Remote Sensing

Course Objectives

1. *To develop skills to map locations of real-world features.*
2. *To develop a sound knowledge of basic surveying techniques and instruments.*
3. *To learn fundamentals of studying and interpreting topographic maps with particular reference to Rajasthan.*
4. *To understand the fundamentals of aerial photographs and satellite imageries in order to introduce the students to the field of remote sensing.*

I. Surveying:

1. Objectives; primary division and classification of surveying; principles of surveying.
2. Plane table survey:
   i. Radiation; intersection; open and close traverse with a minimum of five stations. (4 exercises)
   ii. Resectioning: three point problem by mechanical and graphical methods of Bessel and Llano. (3 exercises)
3. Prismatic compass survey:
   i. Types of bearings and conversion of bearings.
   ii. Radiation; intersection; open and close traverse (with a minimum of five stations. (4 exercises)
   iii. Calculation of included angles; correction of bearing; closing of the error. (1 exercise)

II. Topographical maps:

1. A brief history of Survey of India; scheme of topographical maps; and conventional symbols. (2 exercises)
2. Scale of slopes. (1 exercise)
3. Study and interpretation of Survey of India 1:50,000 or 1:63,360 topographical maps representing typical areas of Rajasthan in respect of relief, drainage, land use, settlement and means of transport (2 exercises)

III. Remote sensing:

1. Remote sensing as a tool for data generation and mapping;
2. Basic concepts of aerial photographs and satellite imageries;
3. Generating maps (physical and human features) from aerial photographs and remote sensing data products using pocket stereoscope and other aids. (2 exercises)

Notes:

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on a full drawing sheet.
3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.
4. The distribution of marks will be as follows:

   a. Paper 30 Marks
   b. Record Work* 10 Marks
   c. Viva-voce** 5 Marks

d. Field survey and viva- voce 15 Marks (10+5)

*Record work will be assessed by the teacher in-charge of the practical group and the external examiner.
**Viva-voce will be based on the record work.

4. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

Suggesting Readings:

1. Cole, John P. and Cuchlaine A. M. King, Quantitative Geography: Techniques and Theories in Geography, John Wiley & Sons Ltd., London, 1970.
2. Hammond, Robert and McCullagh Patrick, Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford, 1978.
3. Kanetkar, T. P., Surveying and Levelling, Vol. I, A. V. Griha Prakashan, Bombay, 1985.
4. Nag, Prithvish and M. Kudrat, Digital Remote Sensing, Concept Publishing Company, New Delhi, 1998.
5. Singh, R. L., Elements of Practical Geography, Student Friends, Allahabad.
6. सिंह एवं कनोजिया : मानचित्र तथा प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
7. तिवारी, विश्वनाथ : प्रायोगिक भूगोल, रामप्रसाद एण्ड संस, आगरा
8. वर्मा, एल.एन. एवं लोढा, आर. एम. : प्रायोगात्मक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
9. शर्मा, जे.पी. : प्रायोगात्मक भूगोल, रस्तोगी प्रकाशन, मेरठ

DEPARTMENT OF GEOGRAPHY

Faculty of Earth Sciences

Mohanlal Sukhadia University, Udaipur

Programmes offered

1. **Post Graduate Programme in Geography (CBCS Semester Scheme) (M.A./M.Sc. (Geography)) in University Department**
2. **Post Graduate Programme in Geography (Annual Scheme) (M.A./M.Sc. (Geography)) in affiliated colleges**
3. **Undergraduate programme in Geography (B.A. Three year degree course)**
4. **Ph.D in Geography**

Name of Programme: M.A/ M. Sc CBCS Scheme (GEOGRAPHY)

Programme Specific Outcomes

Geography is the mother of all disciplines. Studies in Geography comprise a systematic and scientific study of practically all aspects of the natural and cultural surroundings of human society – the land and water bodies; flora and fauna; environment, atmosphere, landforms and interior of the earth; demography, economy and society; distribution of natural resources; development patterns and so on. Accordingly geographical studies comprise study of diverse sub-disciplines ranging from geomorphology, climatology, oceanography, biogeography, environmental geography, social geography, economic geography, industrial geography, resource geography, transport geography, urban geography, agricultural geography, political geography, regional geography, social geography, cultural geography and so on. Needless to say, the discipline has high applied relevance. Besides the subject specific fields, Geography forms an integral part of the syllabi of the *general studies* section of many State as well as Central public service examinations especially school & higher education and civil services including allied services. The subject is also a core content of subjects offered at secondary and higher secondary level in school education. Further, geographical concepts and techniques form the basic requirement of several professional fields viz. urban planning and management, surveying, cartography and mapping, and likewise.

Recently geospatial technology has emerged as a very powerful analytical tool having vast applications in applied geographical research. A strong theoretical base in the subject with technical expertise in the field of geospatial technology has vast employment opportunities in public and private sector, as well as for self-employment. For creating successful professionals good communication and presentation skills are also to be developed.

The post graduate programme in Geography under CBCS Scheme offered by the Department has been designed keeping in view the above strengths, requirements, developments and employment potential in the field. The theory courses cover all important sub-disciplines. Core courses relate to papers significant for major competitive exams with contents overlapping with their course requirements. Elective courses relate to specialized fields more relevant for research specialization. The programme focuses on developing a strong research orientation in the students at post-graduate level itself. Hence, courses focusing on quantitative techniques and research methodology are also

offered as both core and elective courses. The practical and skill courses aim at developing strong understanding of the cartographic and analytical techniques relevant to the discipline. Besides manual work the students are also trained in geospatial technology comprising image interpretation, digital image processing, mapping and spatial analysis in GIS environment, and other tools and methods of digital cartography. Courses relating to quantitative analysis using statistical softwares are also offered as core as well as skill courses. Strengthening communication and presentation skills is being taken care of through assignments conducted for internal assessments.

Summarily, the *Programme Outcomes* of CBCS programme in Geography may be enumerated as:

- Developing a strong theoretical foundation and research orientation in the subject covering all major sub-disciplines.
- Training the students in field specific state of the art tools and methodologies to develop vocational skills, and research skills as well.
- Enabling preparation of various competitive examinations- particularly relating to school/higher education and civil services – along with PG studies.
- Developing entrepreneurship skills by imparting quality training in geospatial technology, statistical software based analysis with activities enabling personality development.

Department of Geography,MLSU
M.A./M.Sc. CBCS Syllabus session 2017-18

Sno	Course Code	Title of the Course	L-T-P	No.of Credits	Max.Marks 100		
					Univ.Exam	Int. Exam	TOTAL
I semester							
1	M1GEOG1-CT01	: Geographical Thoughts	3-1-0	4	80	20	100
2	M1GEOG2-CT02	: Geomorphology	3-1-0	4	80	20	100
3	M1GEOG3-CT03	: Economic Geography	3-1-0	4	80	20	100
4	M1GEOG4-CT04	: Climatology and Oceanography	3-1-0	4	80	20	100
5	M1GEOG1-CP01	*PRAC : Surveying & Leveling*	0-0-8	4	100		100
6	M1GEOG2-CP02	*PRAC : Air-Photo Interpretation*	0-0-8	4	100		100
II semester							
1	M2GEOG1-CT05	: Geography of India	3-1-0	4	80	20	100
2	M2GEOG2-CT06	: Geography of Resources	3-1-0	4	80	20	100
3	M2GEOG3-CT07	: Regional Development and Planning	3-1-0	4	80	20	100
4	M2GEOG4-CT08	: Political Geography	3-1-0	4	80	20	100
5	M2GEOG1-CP03	*PRAC : Cartography- I **	0-0-8	4	100		100
6	M2GEOG2-CP04	*PRAC : Basics of Remote Sensing and Image Interpretation*	0-0-8	4	100		100
7	M2GEOG1-Skill 01	*Skill : Digital Cartography*	0-0-4	2	100		100
	** Cartography I : Techniques of Climatic Data Analysis,Geomorphology*						
III semester							
1	M3GEOG1-CT09	:Agricultural Geography	3-1-0	4	80	20	100
2	M3GEOG2-CT10	: Urban Geography & Planning	3-1-0	4	80	20	100
3	**Elective: Any one of the following**						
	M3GEOG3-ET11-A	:Environmental Geography	3-1-0	4	80	20	100
	M3GEOG3-ET11-B	: Geography of Rajasthan	3-1-0	4	80	20	100
4	**Elective: Any one of the following**						
	M3GEOG4-ET12-A	:Cultural Geography	3-1-0	4	80	20	100
	M3GEOG4-ET12-B	:Transport Geography	3-1-0	4	80	20	100
5	M3GEOG1-CP05	*PRAC :Advanced Cartograohy II ***	0-0-8	4	100		100
6	M3GEOG2-CP06	*PRAC : Basics of Geographical Information System*	0-0-8	4	100		100
	*** Advanced Cartography II : Techniques of Demographic Data Analysis and Projections(Mathematical)*						
IV semester							
1	M4GEOG1-CT13	:Industrial Geography	3-1-0	4	80	20	100
2	M4GEOG2-CT14	: Population & Settlement Geography	3-1-0	4	80	20	100
3	**Elective: Any one of the following**						
	M4GEOG3-ET15 - A	: Geographical Research Methodology	3-1-0	4	80	20	100
	M4GEOG3-ET15 - B	:Social Geography	3-1-0	4	80	20	100
4	**Elective: Any one of the following**						
	M4GEOG4-ET16 - A	:Quantitative methods in Geography	3-1-0	4	80	20	100

	M4GEOG4-ET16-B	World Geography	3-1-0	4	80	20	100
5	M4GEOG1-CP07	*PRAC: Geospatial Techniques for Applied Geographical Research*	0-0-8	4	100		100
6	M4GEOG2-CP08	*Project Work on Natural Resource Management using RSGIS*	0-0-8	4	100		100
7	M4GEOG1-Skill 02	*Skill: Statistical Analysis using Software*	0-0-4	2	100		100

M.A./M.Sc. Geography

First Semester

Paper – I (M1GEOG1-CT01) Geographical Thought

Course Objective

1. *To develop an understanding of historical and evolutionary perspective of the subject*
2. *To make students learn new concepts and recent developments in the subject.*
3. *To develop fundamental understanding of various approaches to geographical studies.*
4. *Basic contents for various competitive examinations for civil services, lecturership, school education, UGC NET-JRF and so on.*

Unit – I

a) Definition, philosophy and nature of geography
b) Scope and contents of geography
c) Detailed study of Greek and Roman scholars
d) Nature of geographical thought in ancient India

Unit – II

a) Geographical knowledge during the ancient & medieval period
b) Dark age of geography
c) The Arabic period
d) Contribution of Varenius and Kant

Unit – III

a) Main characteristics of German school of thoughts- contribution of Alexander von Humbolt
b) Contribution of Carl Ritter & Ratzel
c) Main characteristics of French school of thought-Contributions of Paul Vidal de la Blache
d) Contribution of Jean Brunhes

Unit – IV

a) Main characteristics of American school of thoughts- Contribution of W. M. Davis
b) Contribution of Carl O. Sauer
c) Main characteristics of British school of thoughts
d) Changing methods & techniques in Geography.

Unit – V

a) Environmental determinism, possibilism and neo-determinism

b) Concept of Region, study of aerial differentiation

c) Dichotomies in geography, systematic and regional, qualitative and quantitative geography

d) Impact of Positivism, Humanism, Radicalism & Behaviouralism in Geography.

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48. वर्मा एल. एन. : भौगोलिक विचारधाराएँ (राज. हिन्दी ग्रंथ अकादमी, जयपुर)
49. रमेश दत दीक्षित : भौगोलिक चिन्तन का विकास (प्रिन्टिस हाल ऑफ इण्डिया प्राइवेट लिमिटेड, नई दिल्ली)

M.A./M.Sc. Geography
First Semester
Paper – II (M1GEOG2-CT02) Geomorphology

Course Objective

1. *To develop an understanding of major relief features and process of their formation on the earth surface.*
2. *To develop an understanding of landform dynamics and predict their changes on the earth surface.*
3. *To develop knowledge and skills to carry out geomorphological mapping and field investigations.*
4. *To develop research aptitude in the field of Geomorphology.*
5. *Basic contents for various competitive examinations for civil services, lecturership, school education, UGC NET-JRF and so on.*

Unit – I

a) Development in geomorphology
b) Concept & scope of geomorphology
c) Development of slopes: approaches to the study of slopes; views of W. Penck, A. Wood and A. N. Strahler
d) Isostasy : concept and theories

Unit – II

a) Continental Drift Theory and Plate Tectonic theory
b) Theories of mountain building
c) Processes: weathering, types of weathering
d) Processes: cycle of erosion, views of Davis and Penck

Unit – III

a) Geomorphic processes and landforms – fluvial
b) Geomorphic processes and landforms – glacial and fluvio-glacial
c) River forms and processes – stream flow, hydrographs and flood frequency analysis
d) Geomorphic processes and landforms – aeolian

Unit – IV

a) Geomorphic processes and landforms – coastal
b) Geomorphic processes and landforms – karst
c) Submarine relief
d) Geomorphometry: geomorphology and topographic analysis

Unit – V

a) Extra-terrestrial geomorphology
b) Environmental change – causes, effects on processes and landforms
c) Soil processes and conservation
d) Dams and reservoirs: geomorphic consideration and environmental impact

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M.A./M.Sc. Geography
First Semester

Paper – III (M1GEOG3-CT03) Economic Geography

Course Objective

1. *To enhance spatial knowledge of various economic activities of man in relation to his natural milieu.*
2. *To develop an understanding of diversified economic regions of the world in context of case studies.*
3. *Basic contents for various competitive examinations for civil services, lecturership, school education, UGC NET-JRF and so on.*
4. *To develop insight into various issues for applied research in the field of economic geography.*
5. *To develop a comprehensive understanding of the agro, economic and industrial landscape at regional level.*

Unit –I

a) Definitions, aims and scope of Economic Geography
b) Approaches and recent trends in Economic Geography
c) Classification of economies – sectors of economy- primary, secondary, tertiary & quaternary occupations
d) Relationship between economic activities & environment

Unit –II

a) Location – importance , Christaller – Central Place Theory
b) Movement & interaction in the simplified and heterogeneous economic landscape
c) Significance & elements of production cost – raw materials, labour, capital, technical knowledge –spatial variation in production costs & locational impact
d) Spatial variation in transportation cost-location & structure of transport cost, factors affecting the transportation cost

Unit- III

a) World agricultural regionalization – Whittlesey's classification of agricultural region
b) Subsistence intensive agriculture
c) Mediterranean agriculture & tropical plantation
d) Commercial grain farming and Cohen region of USA

Unit – IV

a) Major industrial regions of the world : study of Great Lake industrial region of USA
b) Study of Ruhr industrial region
c) Study of industrial region of Ukraine
d) Study of industrial belt of Japan

Unit - V

a) Means of transportation : factors affecting the choice of particular means of transport
b) World pattern of water transportation & trade : oceanic transport routes

c) International trade : types of trade

d) Economic regions of the world

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40. नैगी, बी. एस. : संसाधन भूगोल
41. सिंह एवं सिंह : आर्थिक और संसाधन भूगोल

M.A./M.Sc. Geography
First Semester

Paper – IV (M1GEOG4-CT04) Climatology and Oceanography

Course Objective

1. *To extend knowledge of major climatic and oceanic phenomena and their inert-related processes taking place on the earth surface.*
2. *To develop an understanding of applying knowledge of day to day weather and climatic phenomenon which is very significant in everyday life.*
3. *To develop a perspective of impact of climatic change on our ecosystem.*
4. *Basic contents for various competitive examinations for civil services, lecturership, school education, UGC NET-JRF and so on.*

Unit-1: Basic Concepts and Atmospheric Phenomenon

a) Nature and scope of Climatology

b) Composition and layered structure of the atmosphere

c) Insolation; energy balance of the Earth; horizontal and vertical distribution of temperature

d) Atmospheric pressure and pressure belts

Unit-2: Atmospheric Circulation

a) Winds: forces-PGF, CF, FF

b) Planetary, periodic and local winds; jet streams

c) Atmospheric humidity–process and forms of precipitation: types of rainfall; world distribution of rainfall.

d) Air masses and fronts; tropical and temperate cyclones

Unit-3: Climate Types and Climate Change

a) Approaches to classification of world climates; Koppen's classifications

b) Major climates of the world: Characteristics of Equatorial, Tropical Monsoon, Savanna, Hot Desert, Mediterranean and Mountain type of climate

c) Ocean atmosphere interaction: El Nino- La Nina; Walker's circulation & El Nino Southern Oscillation (ENSO)

d) Ozone depletion; greenhouse effect; global warming

Unit-4: Oceans-Physical Characteristics

a) Nature and scope of Oceanography

b) Ocean bottom relief; relief of Indian and Atlantic oceans

c) Ocean temperature and salinity: factors and distribution patterns

d) Coral reefs: types and theories of formation

Unit-5: Dynamics of Ocean Water and Human-marine Interface

a) Tides: types, theories of origin of tides

b) Ocean currents: currents of Indian, Atlantic and Pacific Ocean

c) Marine resources: food, mineral and energy resources

d) Sea level changes; human impact on marine communities

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M.A./M.Sc. Geography
First Semester
Practical -I (M1GEOG2-CP01) Surveying & Leveling

Course Objective

1. *To develop skill to map locations of real-world features.*
2. *Develops skill to determine the distances on ground and height of various features on the earth.*
3. *Develops a sound knowledge of surveying and levelling instruments with focus on improving precision in field measurements.*
4. *To develop vocational expertise for work as surveyors, town planners and cartographers.*

Unit – I Introduction

a) Surveying as an art and science, principles of surveying
b) General errors and inaccuracies in surveying
c) Precautions in using survey instruments
d) Trignometrical methods of solution of triangles and computation of lengths

Unit – II Plane table

a) Use of Plane Table in composite surveys and related methods, methods of resectioning
b) General planning of large area plane surveys
c) A composite survey of college campus or village/neighborhood
d) Drawing of control points and surveyed plan

Unit – III Theodolite and Tacheometer

a) Theodolite as an instrument of surveying and leveling, adjustment of Theodolite
b) Computation of Theodolite bearings
c) Computation of length of triangles and plotting of control points
d) Telemetry: stadia and tangential

Unit – IV Clinometer

a) Use of Clinometer as instrument of leveling
b) Measuring spot heights
c) Contouring and interpolation of contours
d) Drawing of profiles

Unit – V Dumpy level

a) Use of Dumpy level as an instrument of leveling and adjustment of the dumpy level
b) Principles: calculation of difference of level, series leveling, back sights, foresights, intermediate sights
c) Level book and computation of reduced level: Rise and Fall and collimation method
d) Plotting of profiles

Note:

1. Candidates will submit following exercises as record work:
   i. Resectioning: 3 exercises of geographical methods of Llano's, Bessel's and trial and error
   ii. Profiles: 2 exercises based on leveling measurements obtained with dumpy level
   iii. Contouring: 1 exercise based on leveling measurements obtained with dumpy level
   iv. Contouring: 1 exercise based on leveling measurements obtained with clinometers

v. Measuring and plotting reduced levels using tacheometer: 2 exercises
vi. Triangulation survey based on a minimum of 15 control points using theodolite: 2 exercises including one related to composite survey
vii. Plan of un-surveyed campus/neighbourhood/village area based on composite survey: 1 exercise (10 day's camp)
viii. Thematic maps showing characteristics of the surveyed area: form of built-up area, and building material: 6 exercises

2. All exercises will be based on surveying and leveling work done by the candidates themselves for areas hitherto un-surveyed

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7. Williamson, J. T., Surveying and Field Work, Constable

Practical Exam Scheme

Distribution of Marks: - Total Marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. Test paper - 10 Marks
2. Objective paper - 10 marks (10 objective questions)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner

The distribution of 80 marks will be as follows:

A. Test paper - 20 Marks
B. Survey exercise - 25 Marks
C. Record work - 15 Marks
D. Viva-voce - 10 Marks
E. Performance in survey camp - 10 marks

A- Test Paper – 20 marks

The practical test paper of two hours duration and candidates will be required to answer two questions out of four questions.

B- Survey exercise – 25 marks

Working on each instrument with following distribution of marks:

Instrument	Exercise	Marks	Time (minutes)
A. Plane Table	Resectioning	5	35
B. Theodolite	Measurement of angle between two points	5	10
C. Dumpy Level	Measuring level difference between two distant points	5	10
D. Clinometer	Measuring heights of and level difference between two distant points	5	10

E. Tacheometer	Measurement distance of any distant point	5	10

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
First Semester
Practical -II (M1GEOG2-CP02) Air Photo Interpretation

Course Objective

1. *To understand the basic structure of remote sensing data.*
2. *To understand process of acquisition and geometry of remotely sensed data and visualization of various earth features using aerial photos.*
3. *Develops skill for use of aerial photographic techniques and instruments.*
4. *Develops skill to extract features and create thematic maps using aerial photos.*

Unit – I: Introduction

a) Definition
b) Scope
c) Development of aerial photography
d) Interpretation techniques

Unit – II: Types and quality of aerial photographs

a) Types of aerial photographs
b) Factors affecting quality of aerial photographs
c) Aerial photographs versus maps
d) Usages of aerial photographs in interdisciplinary research

Unit – III: Tools and geometry of air photography and interpretation:

a) Pocket stereoscope and mirror stereoscope
b) Aerial camera, lens and filters
c) Geometry of aerial photographs
d) Stereogram, stereo triplet and mosaic

Unit – IV: Basic air photo measurements:

a) Photographic scale
b) Measuring height of object
c) Calculation of area, number of strips and number of air photos
d) Measuring angles, direction and slope measurement

Unit – V

a) Elements of object identification,
b) Interpretation and mapping of natural landscapes
c) Interpretation and mapping of cultural landscapes
d) Field checking

Practical Exercises

Notes:

Students are required to perform one experiment from each unit during examination.

1) Stereo test
2) Orientation of stereo model under mirror stereoscope (1 exercise)
3) Calculate the photo base & flight line. (2 exercises)
4) Determination of photo/image scale (1exercise)
5) Determination of heights using single photograph (1exercise)
6) Objects identification by Pocket Stereograph (1 exercises)

7) Interpretation and mapping of natural landscapes :physical aspects, drainage patterns, river basins, and vegetation (8 exercises)
8) Interpretation and mapping of cultural landscapes: land use, agricultural utilisation, field patterns, cultural aspects, settlements and transportation lines (8 Exercises)

One local field trip will be conducted for field verification of aerial photographs of Udaipur city and nearby areas. Students will be required to prepare a Field Report and submit along with the Record Work.

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Practical Exam Scheme

Distribution of marks: - Total marks (100) = Internal marks (20) + External marks (80)

Internal marks - 20

1. The identification of objects (at least 10) on the air photo pairs shall be of 30 minutes duration and will carry 10 marks
2. Objective paper -10 marks (10 objective questions)

External marks - 80

Candidates will be examined by an external examiner in consultation with the internal examiner.

The distribution of 80 marks will be as follows:

A.	Test paper	-	25 Marks
B.	Lab exercise	-	30 Marks
C.	Record work	-	15 Marks
D.	Viva-voce	-	10 Marks

A- Test Paper – 25 marks

The Practical test paper of two hours duration and candidates will be required to answer two questions out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises based on aerial photographs.

C- Record work – 15 marks

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Second Semester
Paper – I (M2GEOG1-CT05) Geography of India

Course Objective

1. *To develop a sound understanding of natural and cultural landscape of India.*
2. *To develop comprehensive understanding of the physical, economic, demographic, social and environmental aspects of the country.*
3. *To develop understanding of the resource base and developmental challenges on regional basis.*
4. *To cover the fundamental contents of general studies for various competitive examinations.*

UNIT I: Physical Aspects

a) Historical/administrative background of India, Physical divisions of India
b) Climate: seasonal variations in climate; mechanism of Indian monsoon; climatic regionalization by Koppen
c) Forests: types and distribution
d) Soil regions; problem of soil erosion

UNIT II: Human Aspects

a) Population distribution, density and growth
b) Population problems
c) Population policy of India
d) Tribal population: distribution pattern and belts

UNIT III: Economic Aspects: Resource Base

a) Water resources: status and problems
b) Agriculture: major characteristics and problems; green revolution; agro-climatic regions
c) Minerals: distribution, production and development potential with special reference to Iron-ore, Manganese, Bauxite and Copper
d) Power resources: distribution, production and potential with respect to coal, petroleum, natural gas, hydel, solar and atomic power.

UNIT IV: Industrial Development and Transportation

a) Major industries: mineral based- Iron & Steel, cement; agro based – cotton textile, sugar industry
b) Industrial regions of India
c) Industrial development in five year plans
d) Transportation development-road, rail, air, ports.

UNIT V: Regionalization and Problems

a) Geographical regions of India- outline of scheme proposed by R.L.Singh
b) Resources regions of India
c) Regional disparities in socio-economic development in India
d) Geographical problems of India; cyclones, earthquake, floods, drought

References:

1. Blandford, H. F., Climate and Weather of India, Ceylon and Burma, Meteorological Department of India
2. Brown, C. and Dey, India's Mineral Wealth, Oxford University Press, London
3. Chandrashekhar, S., India's Population: Facts and Policy, Allen and Unwin
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35. मामोरिया, सी. बी. : भारत का भूगोल (साहित्य भवन, आगरा)
36. मामोरिया, सी. बी. : भारत का वृहद् भूगोल (साहित्य भवन, आगरा)
37. चौहान, टी. एस. : भारत का भूगोल (विज्ञान प्रकाशन, जयपुर)
38. सिंह एवं सिंह : भारत एक भौगोलिक समीक्षा (वसुन्धरा प्रकाशन, गोरखपुर)

M.A./M.Sc. Geography
Second Semester
Paper – II (M2GEOG2-CT06) Geography of Resources

Course Objective

1. *To develop an understanding of distribution of various resources in the world.*
2. *To foster knowledge about conservation of resources and their role in regional planning for development.*
3. *To develop perspective towards sustainable utilization of resources.*
4. *Basic contents for various competitive examinations for lecturership, school education and so on.*

Unit – I

a) Meaning, scope of Resource Geography
b) Approaches and recent trends of resource geography
c) Resources: meaning & clarification
d) Concepts of resources

Unit –II

a) Conservation of resources : concept & aims
b) World distribution, production and problems of conservation of Iron & Manganese
c) World distribution, production and problems of conservation of Coal, Petroleum & Hydroelectricity
d) Forest & water resources : world distribution, utility & conservation

Unit –III

a) Human as a sources and a resources
b) World distribution, density and growth of human resources
c) Distribution, density and growth of human resources of India
d) Population –resource equilibrium & population resource region of world

Unit - IV

a) Problems of resource utilization
b) Resource conservation and preservation
c) Problems of conservation & trends of resource development
d) Planning of conservation of natural resources

Unit –V

a) Resource region - meaning & determinant elements of resource region
b) Major resource region of the World
c) Region of bounty resources & region of resource scarcity
d) Indian resource region – a case study of Aravali region

References:

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15. नैगी, बी. एस. : संसाधन भूगोल
16. सिंह एवं सिंह : आर्थिक और संसाधन भूगोल

M.A./M.Sc. Geography
Second Semester
Paper – III (M2GEOG2-CT07) Regional Development and Planning

Course Objective

1. *To develop understanding of the fundamentals of regional planning.*
2. *To assess the impact of government policies on regional development and planning*
3. *To gain knowledge of various schemes and models on regionalization of India.*
4. *To impart a strong conceptual base regarding development patterns, disparities, planning, challenges and priorities for students opting for administrative services as career.*

Unit – I

a) Concept of space, area and locational attributes
b) Development: concepts and indicators; planning: concept need and levels
c) Region: concept, types and delineation
d) Planning regions: Planning regions of India

Unit – II

Main themes of regional development theories

a) Economic growth doctrines and their impact on regional development
b) Theories of transmission of economic growth: (G. Myrdal, A.O. Hirschmann, Friedmann
c) Debate on the relevance of development theories: D. Seers, Marxists
d) Multifaceted paradigms of regional development: Eco-development, sustainable development

Unit – III

Regional planning strategies

a) Urban-industrial growth pole strategies as a tool of diffusion of modernisation
b) Neo-populist regional development strategies: Integrated rural development, basic need approach, target area and target group approach
c) Multi-level regional planning
d) Peoples participation in the planning process; Panchayati Raj system; role and relationship of Panchayati Raj Institutions (Gram Panchayat, Panchayat Samiti and Zila Parishad) and administrative structure (village, block and district)

Unit – IV

a) Delineating regions for planning: planning regions v/s geographical regions
b) Schemes of regionalization V. Nath, L.S. Bhat, P. Sengupta, territorial production complexes
c) The role of cities and the urbanization process in regional development in India; Planning for supra-urban spaces
d) The state and regional policy in India; the status of regional planning in the Five Year Plans

Unit – V

a) National plans: South East resource region plan and The Western Ghat plan
b) Administrative machineries of regional planning in India: The Planning Commission, the Town and Country Planning Organization, district level planning
c) Regional social movements in India and their linkages with state regional policy and development strategies

d) The New Economic Policy and its impact on the regional structure and regional planning problems in India

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M.A./M.Sc. Geography
Second Semester
Paper – IV (M2GEOG4-CT08) Political Geography

Course Objective

1. *Helps in understanding the fundamentals of political phenomenon across the world.*
2. *To extend knowledge on various Geopolitical models.*
3. *To learn electoral behaviour patterns in context of India and Rajasthan.*
4. *Basic contents for various competitive examinations for lecturership, UGC NET-JRF and so on.*

Unit – I

a) Nature, scope and subject matter of political geography
b) Geopolitics: meaning and contributions of Emmanuel Kant, Karl Ritter, Friedrick Ratzel, H. V. Tritischke, Rudolf Kjellen and Karl Haushofer
c) Development of political geography
d) Contributions of Alfred Thayer Mahan, H. J. Mackinder and Alexander-de-Seversky, D.W. Meining, N.J. Spykman and Hooson

Unit – II

a) Recent trends in political geography
b) The functional approach in political geography
c) The unified field theory of political geography
d) Nature of administrative areas and geography of public policy and finance

Unit – III

a) Concept of nation, state and nation state
b) The state as a politico-geographical region: location, shape, size
c) Resources of state: natural, cultural and human
d) Frontiers and boundaries: types and functions, boundary making and boundary problems

Unit – IV

a) Core areas and capitals
b) Unitary and federal states
c) The impress of government on landscape
d) Politics of world resources; globalization and WTO

Unit – V

a) Electoral studies in political geography
b) Conceptual model of voting decision; Gerrymandering: gerrymandering in relation to India
c) Geographical influence on voting behavior of the electors in India
d) Spatial pattern of voting behavior in Rajasthan

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29. भट्टाचार्य, ए.एन. एवं आच्छा, एस. एल : राजनीतिक भूगोल (राजस्थान हिन्दी ग्रन्थ अकादमी जयपुर)
30. दीक्षित, आर. डी. : राजनीतिक भूगोल – समसामयिक परिदृप्टि (प्रेन्टिस हॉल आफ इण्डिया)
31. सक्सेना, एच. एम.: राजनीतिक भूगोल (रस्तोगी पब्लिकेषनस, मेरठ)
32. कपूर कालीदास : भारतीय भू–नीति (हिन्दी समिती सूचना विभाग)
33. कोलोषोव, वी. : राजनीतिक भूगोल (प्रगति प्रकाषन, मास्को)
34. दीक्षित श्रीकान्त : राजनीतिक भूगोल (ज्ञानोदय प्रकाषन, गोरखपुर)

M.A./M.Sc. Geography
Second Semester
Practical -I (M2GEOG1-CP03) Cartography I
Basics of Cartography and Physical Aspects

Course Objective

1. *To learn the fundamentals of cartography, manual map-making - the basic element of geographical studies.*
2. *To understand the techniques of extraction of geomorphological attributes from base maps and representation of relief.*
3. *To learn the techniques of representation of climatic data through diagrams and graphs.*
4. *To enhance cartographic skills for applied research.*

Unit – I

Introduction

a) Definition and nature of cartography
b) Scope & history of cartography
c) Cartographic techniques.
d) Cartographic materials and tools

Unit – II

Maps and Diagrams

a) Map: definition and basic concepts
b) Classification of maps
c) Distributional maps and cartograms
d) Representation of statistical data: Diagrams- one, two, three dimensional **(3 exercises)**

The representation of data, information, features related to the following geographical aspects through maps and diagrams and their interpretation (To be submitted along with the record work)

Unit – III

Geomorphic aspects based on toposheets of 1:50000 or 1:25000 (5 exercise)

a) Stream orders and basin demarcation
b) Drainage density and texture
c) Slope : average slope maps according to Wentworth's method
d) Profiles : serial, composite, super- imposed & projected Profiles

Unit – IV

Climatic aspects: I (4 exercises)

a) Rainfall variability graphs (running average, cumulative deviation & trend line).
b) Rainfall dispersion diagram
c) Isohyets or isotherms
d) Temperature variation graph.

Unit – V

Climatic aspects: II (5 exercises)

a) Ergograph & Ogilvie's ergograph

b) Climatograph
c) Climograph
d) Hythergraph

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10. Sing, R. L., Elements of Practical Geography, Kalyani Publishing.
11. Singh, R. N., Map Work and Practical Geography, Central Book Depot.
12. शर्मा, जे. पी.: प्रयोगात्मक भूगोल (रस्तोगी पब्लिशर्स, मेरठ)

Practical Exam Scheme

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. Test paper - 10 marks
2. Objective paper - 10 marks (10 objective questions)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner.

The distribution of 80 marks will be as follow:

A. Test paper - 25 Marks
B. Lab exercise - 30 Marks
C. Record Work - 15 Marks
D. Viva-voce - 10 Marks

A- Test Paper – 25 marks

The practical test paper of two hours duration and candidates will be required another two question out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises.

C- Record work – 15 marks

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Second Semester
Practical -II (M2GEOG2-CP04) Basics of Remote Sensing and Image Interpretation

Course Objective

1. *To understand the fundamentals of Remote Sensing.*
2. *To understand various aspects of digital images acquired from satellites.*
3. *To develop technical skills to interpret satellite data and extraction of required information in image processing softwares.*
4. *To train the students in geospatial technology with state-of-the-art technical, research and professional skills.*
5. *To create a strong foundation for students planning to opt for employment as GIS analyst and consultancy as their career.*

UNIT I Basics of Remote Sensing

a) Historical development; significance of remote sensing in geographical studies
b) Electromagnetic Radiation (EMR) Spectrum; Laws of radiation
c) Stages of Remote Sensing, EMR interaction with earth's surface
d) Spectral signatures, typical spectral reflectance curves of vegetation, soil and water

UNIT II Remote Sensing Satellites and Platforms

a) Orbits and platforms for earth observation; Swath, Row, Path
b) Satellite and sensor types: geo-synchronous and polar satellites, active and passive systems
c) Sensor types: Along Track, Across Track
d) Sensor specifications of IRS and Landsat satellite series

UNIT III Image Characteristics

a) Image formats - BIL, BIP, BSQ; Image display, color composites
b) Fundamental image statistics, image histogram
c) Image resolutions - spatial, spectral, radiometric and temporal resolution
d) Characteristics of major satellite systems: IRS, Landsat, NOAA, IKONOS, World-View satellite System

UNIT III Image Preparation

a) Geometric errors: Types
b) Geometric corrections: Image to map rectification, georeferencing
c) Resampling techniques
d) Contrast enhancement techniques: stretching, histogram equalization, density slicing

Unit V Image Interpretation and Thematic Map Generation

a) Visual Image Interpretation: principles, elements, interpretation keys
b) Manual Digitization and map composition
c) Interpretation and mapping of natural landscapes using satellite image.
d) Interpretation and mapping of cultural landscapes using satellite image.

Practical Exercises:

1. Familiarization with the software –ILLWIS/ Erdas Imagine/ ENVI/ SAGA
2. Data acquisition-accessing satellite data of area of interest, digital referencing system
3. Data import and subset
4. Observation and identification of earth's features in various spectral bands and different types of images (PAN/ multi-spectral)
5. Observation of spectral profiles of water, soil and vegetation
6. Analysis of image histograms
7. Image display – Grey scale, pseudo color, TCC, FCC
8. Georeferencing toposheets
9. Geometric correction- Image to map rectification: NN, Bi-linear and Cubic interpolation
10. Image enhancement: Stretching, interpretation of results
11. Image enhancement: Histogram Equalization, interpretation of results
12. Image enhancement: Density Slicing, interpretation of results
13. Identification of features using elements of visual interpretation
14. Thematic map generation using visual interpretation and on-screen manual digitization/ analog multi-spectral images: Natural landscape
15. Thematic map generation using visual interpretation and on-screen manual digitization/ analog images: Cultural landscape
16. Computation of area of different classes

Exercises will be implemented in ERDAS, ENVI, ILLWIS, SAGA or any other DIP Software as per availability. One computer system will be provided to each student for conducting practical exercises.

One local field trip will be conducted for field verification of satellite image of Udaipur city and nearby areas. Students will be required to prepare a Field Report and submit along with the Record Work.

Suggested Readings

1. American Society of Photogrammetry, 1983. *Manual of Remote Sensing*, ASP, Falls Church, VA
2. Barrett, E. C. and L. F. Curtis, 1992. *Fundamentals of Remote Sensing and Air Photo Interpretation*, Macmillan, New York
3. Campbell, J., 1989. *Introduction to Remote Sensing*, Guilford, New York
4. Chauniyal, D.D., 2004. *Remote Sensing and Geographical Information Systems* **(in Hindi)**, Sharda Pustak Bhawan, Allahabad
5. Curran, Paul J., 1985. *Principles of Remote Sensing*, Longman, London
6. Jenson J.R., 1996. *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall, New Jersey
7. Jenson, J.R., 2000. *Remote Sensing of the Environment: An Earth Resource Perspective.* Perason Education

8. Lillesand, T.M., Keifer R.W. & Chipman, J.W., 2008. *Remote Sensing and Image Interpretation*. John Wiley & Sons, New Delhi
9. Pratt W.K., 1978. *Digital Image Processing*. Wiley, New York
10. Vyas P.R., Remote sensing and Geographical Information System : basics and Applications 2014

WEB RESOURCES

1. *Ebook on Remote Sensing Applications,* www.**nrsc**.gov.in/Learning_Centre_**EBook**.html
2. *E-Tutorial on Fundamentals of Remote Sensing*, Canada Centre for Mapping and Earth Observation, Natural Resources Canada, accessible at http://www.nrcan.gc.ca/earth-sciences/geomatics

Practical Exam Scheme

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks - 20

1. The identification of objects (at least 10) on the satellite imagery shall be of 30 minutes duration and will carry 10 marks.
2. Objective paper – 10 marks (10 objective questions)

External marks -80

Candidates will be examined by an external examiner in consultation with the internal examiner.
The distribution of 80 marks will be as follows:

A- Test paper - 25 Marks
B- Lab exercise - 30 Marks
C- Record work - 15 Marks
D- Viva-voce - 10 Marks

A- Test paper – 25 marks

The practical test paper of two hours duration and candidates will be required another two question out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises one based on the satellite imagery.

C- Record work – 15 marks

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Second Semester
Skill-I (M2GEOG1-SKILL-01) Digital Cartography

Course Objective

1. *To create an understanding of handling geographical data in softwares with special focus on cartographic modelling.*
2. *To introduce the students to proprietary and open source GIS softwares such as ArcGIS, and QGIS.*
3. *To develop preliminary expertise of statistical analysis and representation of geographical data in MS Excel and SPSS.*
4. *To learn tools and techniques of digital representation of physical, climatic and socio-economic data in form of maps and diagrams using GIS softwares*
5. *Enhancing technical skills for self-employment and job opportunities relating to cartographic services across public and private sector.*

Unit-I: Introduction

a) Nature & Scope
b) Concepts in Digital Cartography
c) Cartographic Visualization
d) Geo-visualization

Unit II: Overview of Software Packages

a) ArcGIS
b) QGIS
c) Microsoft Excel, SPSS
d) AUTOCAD

Unit-III: Maps

a) Introduction to maps: types
b) Cartographic communication – virtual, cognitive, temporal and permanent maps
c) Mapping techniques: preparation of dot, choropleth, isopleths chorochromatic and choroschematic maps
d) Map composition: symbolization, map layout, labeling and annotation

Unit IV: Diagrams

a) Construction of simple line, poly line, trend graphs
b) Construction of simple, multiple, compound bar diagrams, histograms
c) Construction of cartograms, value area cartograms
d) Preparation of maps using proportional squares, circles, spheres

Unit V: Cartographic Modeling

a) Cartographic modeling and its types
b) 3D modeling
c) TIN
d) DEM

Lab exercises

a) Preparation and editing of data in microsoft excel
a) Preparation and editing of data in SPSS
b) Generation of vector point, line, polygon map and cartographic symbolization
c) Map composition

References

1. Allpress, J.D., Visual geography, Part-I [George Harrap]
2. Bagrew,L.: History of Cartography, C.A.Watts and Co., London, 1964.
3. Barrett,E.C. and Curtis,L.F.: Introduction to Environmental Remote Sensing, Chapman and Hall Ltd., London, 1976.
4. Bernhardsen, Tor, Geographic Information Systems, Viak IT, Longum Park, Norway, 1992
5. Lobeck, A.K. and Tellington, W.J., Military Maps and Air-Photographs [Mc Graw Hill]
6. Lobeck, A.K., Block Diagrams [John Wiley]
7. Mather, Paul M., 1991: Computer Applications in Geography, John Wiley & Sons, Inc., New York.
8. Monkhouse, F.J. and Wilkinson, H.R., Maps and Diagrams [Methuen]
9. Raisz, E., Principles of Cartography [Mc Graw hill]
10. Robinson, A.H., Elements of Cartography [John Wiley]
11. Stamp. L.D., Models
12. Sylvester, D., Maps and Landscape [George Philip and sons] Allpress, J.D., Visual geography, Part-I [George Harrap]

Practical Exam Scheme

Distribution of Marks: - Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. One assignment based on computer – 10 marks
2. Objective Paper- 10 marks (10 objective questions)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner.

The distribution of 80 marks will be as follows:

A. Test paper - 25 Marks
B. Lab exercise - 30 Marks
C. Record work - 15 Marks
D. Viva-voce - 10 Marks

A- Test Paper – 25 marks

The Practical test paper of two hours duration and candidates will be required another two question out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises based on computer.

C- Record work – 15 marks

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Third Semester
Paper – I (M3GEOG1-CT09) Agricultural Geography

Course Objective

1. *To learn fundamentals of agricultural geography*
2. *To gain knowledge about world agricultural systems and models of agricultural land use.*
3. *To develop sound understanding of the use of quantitative techniques in agricultural studies.*
4. *To develop understanding regarding the course of agricultural development in India, problems, policies, planning and agricultural regionalization.*
5. *To impart comprehensive theoretical and conceptual understanding for a potential field of applied geographical research.*

Unit – I

a) The nature and development of agricultural geography
b) Approaches recent trends in agricultural geography
c) Origin and dispersal of agriculture
d) Sources of agricultural data

Unit – II

a) Factors affecting agriculture: physical, institutional and technological
b) Agricultural systems of the world
c) Critical review of classification of agricultural types of Whittlesy
d) Detailed study of intensive subsistence, commercial grain farming and tropical plantation agriculture

Unit – III

a) Land use classification; landuse pattern in India; and land capability classification
b) Von Thunen's agricultural model of agricultural land use and recent modification in it
c) Nutrition and food balance sheet; food surplus and food deficient regions of India
d) Diffusion model

Unit – IV

a) Concept and techniques of delimitation of agricultural regions; agricultural regions of India and their characteristics
b) Measures of agricultural productivity and efficiency levels and other characteristics
c) Crop combination methods: Weaver's, Doi's and Rafiullah's methods and their applications
d) Agricultural typology: concept and methodology; patterns with special reference to the world and Rajasthan

Unit – V

a) Sustainable development of agriculture
b) Green and white revolutions: their components, impact and consequences
c) Specific problems in Indian agriculture and their management and planning
d) Agricultural policy of India

References:

1. Bayliss Smith, T. P., The Ecology of Agricultural Systems, Cambridge University Press, London, 1987
2. Berry, B. J. L. et al, The Geography of Economic Systems, Prentice hall, New York, 1976
3. Brown, L. R., The Changing World Food Prospects: The Nineties and Beyond, World Watch Institute, Washington D. C., 1990
4. Coppock, J. K. , An Agricultural Atlas of England and Wales, Faber and Haber, London

5. Cox, K. R., Man, Location and Behaviour: An Introduction to Human Geography, John Willey and Sons, London
6. Dyson, T., Population and Food: Global Trends and Future Prospects, Routledge, London, 1996
7. George, H. F., Geography of Agriculture: Themes in Research, Prentice Hall, New York
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11. Kostrowicki, J., World Types of Agriculture, Warsaw, Poland
12. Mannion, A. M., Agriculture and Environment Change, John Wiley and Sons, London, 1995
13. Morgan, W. B. R. and J. C. Norton, Agricultural Geography, Methuen, London, 1971
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19. Singh, Jasbir, An Agricultural Geography of Haryana, Vishal Kurukshetra
20. Singh, Jasbir and S. S. Dhillon, Agricultural Geography, Tata McGraw Hill Publishing Company Ltd., New Delhi, 1988
21. Symones, Lesli, Agricultural Geography, G. Bell & Sons, London
22. Tarrant, J. R., Agricultural Geography, John Wiley and Sons, New York, 1974
23. Whittlesey, D., Major Agricultural Region of the Earth, AAAG, Vol.26, pp.199 and 240-296
24. Whyle, R. O., Land, Livestock and Human Nutrition in India, F. A. Paragon

M.A./M.Sc. Geography
Third Semester
Paper – II (M3GEOG2-CT10) Urban Geography & Planning

Course Objective

1. *To understand site evolution, growth and classification of cities.*
2. *To provide scientific study of urban settlements and morphology.*
3. *To understand potential solutions to problems of urbanization.*
4. *Focuses on core concepts of town planning, helping students to prepare for better careers in this field.*

Unit – I

a) Nature, scope and development of urban geography; urban concepts
b) Origin and growth of urban centers: ancient and medieval age
c) Process of urbanization: trends of urbanization in the world
d) Urbanization In India , development of metropolitan cities in India

Unit – II

a) Classification of urban centers: views of Mum ford and Griffith Taylor
b) Development of conurbation and megalopolises : North Eastern Sea board of USA , Rhine-Ruhr conurbations, Mumbai and Kolkata conurbations in India
c) Theories of urban system: the law of primate city and the rank-size rule
d) Central place theories: Christaller's central place system, Losch's economic landscape

Unit – III

a) Urban land use: human ecology and urban land use models of Burgess, Harris-Ullman and Hoyt; land economics and urban land use
b) Central business district (CBD): criteria and methods of areal definition, historical process and CBD; the zone in transition
c) Functional classification of cities: empirical and statistical methods
d) Centripetal and centrifugal forces of urban growth

Unit – IV

a) Rural urban fringe : concept, criteria's of delimitation and characteristics
b) Morphology of Indian cities : ancient , medieval and modern planned cities of India with special studies of Jaipur and Chandigarh cities
c) Concept of basic and non-basic functions, internal functional structure of urban centers
d) Social structure in urban areas of India , social segregation in Indian cities

Unit – V

a) Urban problems: development of slums in urban areas and their problems, problems of housing and social infrastructure
b) Urban planning: principles of urban planning , layout plans of cities
c) Urban environment: industrial pollution and environmental panning
d) Sustainable urban development: studies of master plans of Udaipur and Jaipur cities.

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2. Bansal, S. C., Urban Geography, Minakshi Publication, Meeruth, 2000, (Hindi)
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4. Berry, B. J. L. and F. E. Horton, Geographic Perspectives on Urban Systems, Prentice Hall, New York, Englewood Cliffs, New Jersey, 1970
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7. Chorley, R. J. and P. Haggett (eds.), Models in Geography, Methuen, London, 1966
8. Davis, Kingsley and Hertz, Patterns of World Urbanisation, Columbia University Press
9. Dickinson, R. E., City and Region, Routledge, London, 1964
10. Duncan, O. D., Metropolis and Region, John Hopkins Press, Baltimore
11. Dwyer, D. J. (ed.), The City as a Centre of Change in Asia, University of Hong Kong Press, Hong Kong, 1971
12. Forrester, Jay W., Urban Dynamics, M. I. T. Press, Cambridge
13. Gallion, Arthur B. and Simon Eisner, The Urban Pattern: City Planning and Design, Affiliated East-West Press Private Ltd., New Delhi, 1969
14. Gibbs J. P., Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, New Jersey, 1961
15. Gottmann, Jean, Megalopolis: The Urbanised Northeastern Seaboard of the United States, M. I. T. Press, Cambridge, Massachusetts, New York, 1961
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17. Hall P., Urban and Regional Planning, Penguin, London, 1974
18. Hauser, Philip M. and Schnore Leo F. (ed.), The Study of Urbanisation, Wiley, New York, 1965
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28. Murphy, R. E., The American City: An Urban Geography, McGraw Hill Book Co., New York, 1966
29. Nangia, Sudesh, Delhi Metropolitan Region: A Study in Settlement Geography, Rajesh Publication, 1976
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31. Rao, V. L. S. Prakasa, The Structure of an Indian Metropolis: A Study of Bangalore, Allied Publishers, Bangalore, 1979
32. Rao, V. L. S. Prakasa, Urbanisation in India: Spatial Dimensions, Concept Publishing Co., New Delhi
33. Robson, B. T., Urban Analysis, Cambridge University Press, London, 1969
34. Singh, K. and F. Steinberg, (eds.), Urban India in Crisis, New Age Interns, New Delhi, 1998
35. Singh, O. P., Urban Geography, Tara Book Agency, Varanasi, 1987, (Hindi).
36. Smailes, A. E., The Geography of Towns, Hutchinson, London, 1953
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38. Wingo, L. et al, Cities and Space: The Future Use of Urban Land, Johns Hopkins, London

M.A./M.Sc. Geography

Third Semester

Paper – III-A (M3GEOG3-ET11-A) Environmental Geography

Course Objective

1. *To develop an understanding of man and environment relationship.*
2. *Creating awareness about current environmental issues, related laws and global initiatives to combat environmental degradation.*
3. *To study various types of ecosystems.*
4. *To provide knowledge regarding tools and methods of environmental management and planning.*

Unit – I

a) Environment: meaning, elements, and types
b) Human ecology: meaning, scope and concepts
c) Principles of environmental geography
d) Man-environment relationship: review of different perspectives

Unit – II

a) Ecosystem: concept, definitions, characteristics and types
b) Components and functioning of ecosystem
c) Trophic level, food chain and ecological pyramids; energy flow in ecosystem
d) Geo-chemical cycles and circulation of element in the ecosystem: carbon cycle, nitrogen cycle and oxygen cycle

Unit – III

a) Fresh water ecosystems: meaning, types and their properties
b) Marine ecosystems: meaning, types and their properties
c) Terrestrial ecosystems: meaning, types and their properties
d) Biomes: concept, types, characteristics and distribution; detail study of tropical desert biomes

Unit – IV

a) Environmental hazards and disasters: meaning, types and impacts
b) Environmental degradation and pollution: meaning, process, causes, types and impacts
c) Environmental planning and management: concept, objectives and strategies
d) Sustainable development: concept, need, problems and strategies

Unit – V

a) Ecology of tropical farming systems
b) Mountain ecosystem with special reference to Aravalli hills
c) The Stockholm Conference and the Earth Summit
d) Environmental laws in India related to wild life, water, forest and environment

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1. Ackerman, E.A., Geography as a Fundamental Research Discipline, University of Chicago Research Papers, 1958
2. Agarwal, A. and S. Sen, The Citizens Fifth Report. Centre for Science and Environment New Delhi 1999

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39. सक्सेना, एवं उपाध्याय : मानव एवं पर्यावरण, के.डी. प्रकाषन, अजमेर।
40. राव, बी. पी. एवं बी. के. श्रीवास्तव : पारिस्थितिकी विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर।
41. नेगी, बी. एस. : पारिस्थितिकी एवं पर्यावरण भूगोल, रस्तोगी प्रकाशन, मेरठ।
42. रघुवंशी, अरूण एवं चन्द्रलेखा : पर्यावरण एवं प्रदूशण, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल।

M.A./M.Sc. Geography
Third Semester
Paper – III-B (M3GEOG3-ET11-B) Geography of Rajasthan

Course Objective

1. *To provide a comprehensive understanding of the geographical landscape of the state including all physical, socio-economic and cultural aspects.*
2. *To develop a sound understanding of resource base, its distribution and challenges of utilization.*
3. *To understand the major developmental and environmental challenges of the state.*
4. *To cover the basic contents for various competitive examinations viz. civil services, state level PSC exams, lecturership, school education and so on.*

UNIT I: Physical Aspects

a) Geographical and political introduction of Rajasthan
b) Physical divisions of Rajasthan
c) Climate: seasonal variations in climate; monsoon; climatic regions
d) Water resources: status and problems

UNIT II: Resources

a) Forests: types and distribution
b) Soil regions; problems of soil
c) Demographic characteristics: distribution, density, growth rate, literacy, sex ratio
d) Major tribes of Rajasthan; Bhil, Meena, Sahriya, Kathodi (distribution and socio-economic characteristics)

UNIT III: Economic Aspects: Resource Base

a) Agriculture: major characteristics, problems, solutions and agro-climatic regions
b) Livestock and dairy development
c) Minerals: distribution, production and development potential with special reference to zinc-lead, copper, marble, lime stone and rock phosphate
d) Power resources: distribution, production and potential with respect to coal, petroleum, natural gas, solar and wind power.

UNIT IV: Industrial Development and Transportation

a) Major industries: mineral based- zinc, cement and marble
b) Agro based industries- cotton textile and sugar industry
c) Major problems in industrial development
d) Transportation development-road, rail, air

UNIT V: Tourism, Regionalization and Problems

a) Tourism: basis of tourism in Rajasthan and major destinations
b) Geographical regions of Rajasthan- outline of scheme proposed by R.L. Singh
c) Special area development programs in Rajasthan (ADP, DPAP, DDP, IGC)
d) Geographical problems of Rajasthan; desertification, drought, water logging, depleting ground water and flood

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2. Bhalla, L.R., Geography of Rajasthan. Kuldeep Publication, Jaipur

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9. चौहान, तेज सिंह, राजस्थान का भूगोल, विज्ञान प्रकाशन जोधपुर

10. लोढ़ा, राजमल एवं माहेश्वरी, दीपक, राजस्थान का भूगोल, हिमांशु पब्लिकेशन्स, उदयपुर

11. मामोरिया, चतुर्भुज एवं जैन, शैषमल, राजस्थान का भूगोल, साहित्य भवन पब्लिकेशन्स, आगरा

12. सक्सेना, एच.एम., राजस्थान का भूगोल, राजस्थान ग्रन्थ अकादमी, जयपुर

13. विजयवर्गीय, राम रक्षपाल, राजस्थान का भू–विज्ञान एवं खनिज सम्पदा, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

M.A./M.Sc. Geography
Third Semester
Paper – IV-A (M3GEOG4-ET12-A) Cultural Geography

Course Objective

1. *To understand various cultural realms and cultural regions of the world.*
2. *To understand socio-cultural trends of various tribes and human races.*
3. *To understand the cultural conflicts in context of globalization.*
4. *Basic contents for various competitive examinations for lecturership, UGC NET-JRF and so on.*

Unit – I

a) Definition, nature, development and scope of cultural geography
b) Cultural elements, environment and culture, components of culture
c) Divergence process and convergence process
d) Cultural changes: perception, behaviouralism and cultural relativism

Unit – II

a) Races of mankind: origin, traits and classification
b) Cultural diversity: nature and bases
c) Language: evolution, dispersion, classification and distribution
d) Religion: evolution, dispersion, classification and distribution

Unit – III

a) Origin and dispersion of agriculture
b) Industrial revolution and cultural development
c) Economy and society of tribal groups, theories of tribal groups; dwelling places as cultural explorations
d) Economy and cultural landscape

Unit – IV

a) Human settlements: relation to ideology
b) Social structure and technology
c) Pattern of rural & urban society
d) Social process in the city

Unit – V

a) World cultural realms and regions
b) Cultural regions of Europe
c) Cultural regions of Indian Sub-continent
d) Globalization and culture conflicts

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5. Hutchinson and D. Smith, Ethnicity, Oxford University Press, Oxford, 1996

6. Massey, D and Jess P., A place in the World: Places, Cultures and Globalization, Oxford University Press, New York, 1995
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8. Mukherjee, A.B. and A. Aijazuddin, India: Culture, Society and Economy, Inter-India Publication, New Delhi, 1985
9. Singh, A.K., Approaches to Tribal Development, Swarup and Sona, New Delhi, 1994
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12. Wagner, Philip L. and Marvin W. Mikesell, Readings in Cultural Geography, The University of Chicago Press, Chicago, 1962

M.A./M.Sc. Geography
Third Semester
Paper – IV-B (M3GEOG4-ET12-B) Transport Geography

Course Objective

1. *To understand the movement of people, goods and ideas in transport network.*
2. *To understand the concept and models of transport system.*
3. *To understand spatial relations in transport network – flow, connectivity and accessibility.*
4. *To understand the problems related to urban transportation systems and potential solutions.*

Unit – I

a) Meaning, scope and development of transportation geography
b) Factors associated with the development of transport system: historical, technological, physical, economic, political and social
c) Spatial interaction: ideas of Edward Ullman; functional approach of M. E. Hurst
d) Concepts of distance: point to point distance and distance in a group of points; measures of distance

Unit – II

a) The functional region, linkages and nodes, diagrammatic representation of hinterlands and hierarchies
b) Transportation and spatial processes: regional specialization and agglomeration economies
c) Cost of overcoming distance: transportation cost, price and rate structure; transport costs as factor of production
d) An idealized process of transport development

Unit – III

a) Graph theoretic concepts; networks as models
b) Types of connectivity: concept and indices of connectivity
c) Measures of nodal accessibility: the network as a matrix; degree of connectivity: direct and indirect connectivity
d) Indices of accessibility: accessibility matrix, matrix T, shortest path matrix and valued matrix; sinuosity

Unit – IV

a) Spatial patterns of flow
b) Gravity model: basic model and its modifications related to traffic and commodity flow
c) Allocation model: transportation problem and optimum solution
d) Flow in a capacitated network

Unit – V

a) Negative impacts of transportation: social, accidents and other impairments
b) Economic and environmental aspects of urban transport problems and their control
c) Alternative transport systems in mega cities; transport systems in the developing countries
d) Development of the Indian surface transport system

References:

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3. Hagget, P. et al, Locational Analysis in Human Geography, Edward Arnold, London, 1977
4. Haggett, P. and R. J. Chorley, Network Analysis in Geography, Arnold, London, 1968
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7. Hoyle, B. S. (edt.). Transport and Development, Macmillan, London, 1973
8. Hoyle, B. S. and R. Knowles, Modern Transport Geography, Wiley Europe
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14. Knowles, R. and J. Wareing, Economic and Social Geography, Heinemann
15. Lowe, J. C. and S Moriyadas, The Geography of Movement, Houghton Mifflin Co., Boston
16. Munby, D., Transport, Penguin
17. Patankar, P. G., Urban Transport in Distress, Central Institute of Road Transport, Pune
18. Raza, Moonis and Y. P. Agrawal, Transport Geography of India, Concept Publishing Company, New Delhi, 1985
19. Robinson, H. and C. G. Bamford, Geography of Transportation, McDonald and Evans, London, 1978
20. Taaffe, E. J. and et al, Geography, Prentice Hall Inc
21. Taaffe, E. J. and H. L. Gauthier, Geography of Transportation, Prentice Hall Inc., New Jersey, 1973
22. Taaffe, Edward James, Howard L. Gauthier, Morton E. O'Kelly, Geography of transportation, Prentice-Hall Foundations of Economic Geography Series, 2nd edition, Morton O'Kelly, 1996
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24. White H. P. and M. L. Senior, Transport Geography, Longman, London, 1983
25. Woodcock, R. G. and M. J. Baily, Quantitative Geography, McDonald & Evans
26. Yeates, Maurice, An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill Book Company, New York

M.A./M.Sc. Geography
Third Semester
Practical – I (M3GEOG1-CP05) Advanced Cartography II
Techniques of Demographic Data Analysis and Projections (Mathematical)

Course Objective

1. *To develop a thorough understanding of various types and use of map projections.*
2. *To learn the various techniques for cartographic representation of socio-economic and demographic phenomena.*
3. *To understand the pre-conditions, suitability and limitations of various maps and diagrams.*
4. *To cover basic contents for various competitive examinations for lecturership, school education, UGC NET-JRF and so on.*

Unit – I

a) Quantitative & qualitative symbols.
b) Sources of geographic data (India)
c) Rules of constructing diagram & graphs
d) Special diagrams – star, triangular, scatter (3 exercises)

Unit – II

Map projections – classification, characteristics, use and mathematical constriction along with outline maps of the following projections (4 Exercises)

a) Bonne,s projection
b) Conical projection –two standard parallel
c) Gall's projection
d) Mollweide's projection

Unit – III

Demographic aspects - at least with 20 administrative units (4 Exercises)

a) Population distribution (Dot method)
a) Density of population (Choropleth maps)
b) Age and sex composition (Pyramid)
b) Urban and rural composition/population by religion

Unit – IV

Economic and social aspects (at least 20 administrative units):

a) Occupational structure.
b) Crop production and area.
c) SC and ST population distribution
d) Literacy rate

Unit – V

Transport and settlement aspects (at least with 20 administrative units)

a) Traffic flow cartogram
b) Isochronic cartogram (speed of travel)
c) Nearest neighbor analysis
d) Histogram – based on human settlement distribution

References:

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4. Keates, J. S., Cartographic Design and Production, Longman, London.
5. Loxton, J., Practical Map Production, John Wiley & Sons, New York.
6. Mishra, R. P. and A. Ramesh, Fundamentals of Cartography, Concept Publishers, New Delhi.
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8. Raisz, E., General Cartography , McGraw Hill Book Co., New York.
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10. Sing, R. L., Elements of Practical Geography, Kalyani Publishing.
11. Singh, R. N., Map Work and Practical Geography, Central Book Depot.
12- शर्मा, जे. पी.: प्रयोगात्मक भूगोल (रस्तोगी पब्लिशर्स, मेरठ)

Practical Exam Scheme

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. Test paper - 10 marks
2. Objective paper- 10 marks (10 objective question)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner Distribution of 80 marks will be as follows:

A. Test paper - 25 Marks
B. Lab exercise - 30 Marks
C. Record work - 15 Marks
D. Viva-voce - 10 Marks

A- Test Paper – 25 marks

The Practical test paper of two hours duration and candidates will be required another two question out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises.

C- Record work – 15 marks

Note: Record work will comprised of a minimum of 20 exercises drawn on one fourth of a full drawing sheet and with methodological and analytical interpretation of each one.

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Third Semester
Practical – II (M3GEOG2-CP06) Basics of Geographical Information System

Course Objective

1. *To train the students in state-of-the-art geospatial technology.*
2. *To introduce the fundamental concepts of GIS, methods of geospatial data generation and visualization and the vast repository of data available on web-geoportals.*
3. *To develop working skills in open source and proprietary GIS softwares.*
4. *To create awareness regarding the potential of GIS in decision making and planning.*
5. *To foster technical skills for employment opportunities as GIS consultant/analyst/project associates/entrepreneurs across private and public sector.*

UNIT I: Introduction to GIS

a) Definition, evolution and components of GIS
b) Representation of geographical data in GIS
c) Geospatial data structure and formats
d) Data models: raster and vector data models

UNIT II: Coordinate Systems and Transformation

a) Datums, ellipsoid , geoid
b) Projected and Geographic Coordinate Systems, UTM coordinate system
c) Geometric transformation: map to map, image to map
d) Resampling, Root Mean Square Error

UNIT III: Data Generation and Database Management

a) Data Input, Spatial data editing
b) Topology
c) Attribute data input and management: data types, data entry, joining and relating tables
d) Attribute data manipulation

UNIT IV: Data Exploration

a) Descriptive statistics
b) Spatial data query, attribute data query, raster data query
c) Data generalization; data classification; zonal statistics
d) Data visualization and map composition

UNIT V: Introduction to Web Data Sources

a) Google Earth
b) Bhuvan
c) Water Resources Information System (India-WRIS)
d) Open Street Maps (OSM)

Practical exercises will be done using available GIS software - QGIS & ArcGIS - any other GIS software available in the department. One computer per student will be provided. Students will be

required to prepare a record work of the outputs of all exercises conducted in the lab. In addition the students will also be required to submit the outputs in soft copy in a CD.

Lab Exercises (No. of exercises):

1. Familiarization with the software (1)
2. Importing raster data in GIS (1)
3. Geo-referencing and projecting a toposheet (1)
4. Geo-referencing and projecting a scanned map (1)
5. Generation of vector- point, line & polygon data - generating attribute data -GIS software (3)
6. Generation of vector- point, line & polygon data - generating attribute data - Google Earth (3)
7. Linking spatial and aspatial data- Table join (Excel file) (1)
8. Data visualization (2)
9. Computation of descriptive statistics (2)
10. Attribute data query (1)
11. Spatial data query (1)
12. Raster data query (1)
13. Data generalization (1)
14. Data classification (1)
15. Map composition (1)
16. Use of web sources for data acquisition using Bhuvan/ Google Earth/ India-WRIS/ OSM (3)

Suggested Readings

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2. Burrough, P.A. and McDonnell, R., 1998. *Principles of Geographic Information Systems*. Oxford University Press, Oxford
3. Chang, Kang-tsung, 2003. *Introduction to Geographical Information Systems*. Tata McGraw Hill Publ. Co., New Delhi
4. Chauniyal, D.D., 2004. *Remote Sensing and Geographical Information Systems* (**in Hindi)**, Sharda Pustak Bhawan, Allahabad
5. Clarke, Keith C., 2003. *Getting Started with Geographical Information Systems*. Prentice Hall
6. Demeers, Michael N., 2000. *Fundamentals of Geographical Information Systems*, John Wiley, Singapore
7. Heywood, Ian, 2003. *An Introduction to Geographical Information Systems*. 2nd Ed. Pearson Publ. Co., Singapore
8. Lo, C.P. and Yeung, Albert K. W. 2002. *Concepts and Techniques of Geographic Information Systems*. Prentice Hall of India, New Delhi.
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10. Reddy, M. Anji 2001. *Textbook of Remote Sensing and Geographic Information Systems*. B. S. Publs., Hyderabad.
11. Vyas P.R.,Remote Sensing and Geographical Information System and Remote Sensing : Basics and Applications, Rawat Publications, Jaipur, New Delhi-2014

WEB RESOURCES

1. www.qgistutorials.com
2. http://www.pasda.psu.edu/tutorials/gisbasics.asp
3. https://earth.google.com
4. bhuvan.nrsc.gov.in
5. india-wris.nrsc.gov.in
6. https://openstreetmap.org
7. http://openstreetmap.in

Practical Exam Scheme

Practical exercise will be done using GIS software – QGIS, ArcGIS, Arc View, TNTMips, ERDAS or any other GIS Software available in the department. One computer per student will be provided.

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. One assignment based on computer – 10 marks
2. Objective paper- 10 marks (10 objective questions)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner

The distribution of 80 marks will be as follows:

A-	Test paper	-	25 Marks
B-	Lab exercise	-	30 Marks
C-	Record work	-	15 Marks
D-	Viva-voce	-	10 Marks

A- Test paper – 25 marks

The Practical test paper of two hours duration and candidates will be required another two question out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises based on different GIS Software.

C- Record work – 15 marks

Student will be required to prepare a record work of the output of all exercise conducted in the lab. In addition the students will also be required to submit the output in soft copy in a CD.

D- Viva-Voce - 10 marks

The practical exercise, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./M.Sc. Geography
Fourth Semester
Paper – I (M4GEOG1-CT13) Industrial Geography

Course Objective

1. *To impart sound understanding of factors, theories and models of industrial location.*
2. *To learn about the distribution of major industries and industrial regions in the world with special reference to India.*
3. *To develop proficiency in use of various quantitative techniques in the field.*
4. *To develop understanding of various environmental issues related to industrialization.*
5. *Basic contents for various competitive examinations for lecturership, school education, UGC NET-JRF and so on.*

Unit – I

a) Nature and scope of industrial geography, recent development in industrial geography
b) Classification of industries: bases and characteristics
c) Elements and factors of industrial localization, centralization and decentralization of industrial enterprises
d) Horizontal, vertical and diagonal linkages of industries

Unit – II

Basic economic concepts, theories and models of industrial locations:

a) Demand, supply and price; marginal cost and average cost
b) Economies of scale and agglomeration and related concepts
c) A. Weber, E. M. Hoover, August Losch, A. Fetter, G. T. Renner
d) A. Pred, Palander Tord, D. M. Smith, E. M. Rawstron, Bos H. C. & Hamilton

Unit – III

Geographical analysis of selected industries in the world with reference to India:

a) Copper, aluminum and iron and steel
b) Pulp and paper, textile
c) Oil refining, shipbuilding and software industries
d) Locational analysis of zinc and cement industries of Rajasthan

Unit – IV

a) Industrial location and spatial distribution analysis and measures: coefficients of localisation, specialisation, geographic association and index of diversification
b) Delimitation of industrial regions: indices and methods
c) Study of major industrial regions of the world: Great Lakes region and Lancashire region
d) Major industrial regions of India

Unit – V

a) Environmental degradation and hazards caused by manufacturing industries
b) Impact of industries on economic development
c) Role of globalization on manufacturing sector in less developed countries
d) Shifting of industries and its impact on the urban fringe

References:

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2. Alexander, J. W., Economic Geography, Prentice Hall, New York
3. Alexanderson, G., Geography of Manufacturing, Prentice Hall, New York, 1967
4. Bengston, N. A. and V. L. Royen, Fundamental of Economic Geography, Prentice Hall, New York

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7. Carlson, A. S., Economic Geography of Industrial Materials, Rinchart Publishing Corporation
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9. Hoover, E. M., The Location of Economic Activity, McGraw Hill, New York, 1948
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16. Riley, R. C., Industrial Geography, Chatto and Windus, London, 1973
17. Saushkin, Yu. G., Economic Geography: Theory and methods, Progress Publishers, Moscow, 1980
18. Smith, D. M., Industrial Location: An Economic Geographical Analysis, Wiley, New York, 1971
19. Weber, Alfred, Alfred Weber's Theory of Location of Industries, Chicago University Press, Chicago, 1929
20. Yaseen, Leonard, Plant Location, American Research Council, New York
21. कुमार, प्रमिला एवं शर्मा, श्रीकमल : औद्योगिक भूगोल, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी
22. लोढा, राजमल : औद्योगिक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी

M.A./M.Sc. Geography
Fourth Semester
Paper – II (M4GEOG2-CT14) Population and Settlement Geography

Course Objective

1. *To understand the world distribution of population, demographic dividend and demography attributes and population policy with special reference to India.*
2. *To foster knowledge of trends of population growth and migration patterns.*
3. *To understand the development, typology, structure, models and theories of rural and urban settlements.*
4. *Basic contents for various competitive examinations for lecturership, school education, UGC NET-JRF and so on.*

Unit – I

a) Meaning, scope and development of population geography
b) Sources of data: population counts and census; sample data; reliability of data and problems of mapping population data; data errors and their detection and correction
c) Measures of population distribution; world pattern of population distribution; determinants of population distribution
d) Population distribution in India: patterns and determinants

Unit – II

a) Population growth since prehistoric period; demographic transition theory and population growth models
b) Mortality analysis, patterns and its determinants
c) Fertility analysis, fertility patterns and its determinants
d) Growth of population in India: patterns, components and determinants

Unit – III

a) Age structure and sex composition
b) Educational composition; urbanization
c) Economic characteristics and occupational structure
d) Population composition of India: characteristics and problems

Unit – IV

a) Migration: types and determinants
b) Population and development; population-resource regions
c) Population and environment
d) Population policies in developed and less developed countries; population policy of India

Unit – V

a) Evolution, size and spatial distribution pattern of human settlements and related theories and models
b) Physical structure of settlements; internal characteristics and external forms
c) Functional structure of settlements; functional classification of towns and functional typology of villages; functional landscape of settlements
d) Settlement hierarchy: concept and contributing factors

References:

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2. Bilasborrow, Richard E. and Daniel Hogan, Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium, 1999

3. Bogue, D. J., Principles in Demography, John Wiley and Sons, New York, 1969
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8. Clarke, John I., Population Geography and the Developing Countries, Pergamon Press Inc., Oxford, 1971
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13. Garnier, Beaujeu J., Geography of Population, Longman, London, 1970
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25. Trewartha, G. T., A Geography of Population: World Patterns, John Wiley & Sons, New York, 1973
26. Trewartha, Glenn T. (ed.), The More Developed Realm, A Geography of its Population, Pergamon Press, Oxford, 1978
27. UNDP, Human Development Report, Oxford University Press, Oxford, 2000
28. United Nations, Methods for Projections of Urban and Rural Populations, No VIII, New York 1974
29. United Nations, The Determinants and Consequences of Population Trends, Volume I, Population Studies No 50
30. Woods, Robert, Population Analysis in Geography, Longman, London, 1979
31. Zelinsky, Wilbur, A Prologue to Population Geography, Prentice Hall, 1966

M.A./M.Sc. Geography
Fourth Semester
Paper – III A (M4GEOG3-ET15 A) Geographical Research Methodology

Course Objective

1. *To prepare sound theoretical background for scientific research in the field of Geography.*
2. *To introduce the concepts of research problem, hypotheses, research design and methodology.*
3. *To impart knowledge regarding various sources of data, methods of data collection, sampling techniques, processing, qualitative and quantitative analysis of data.*
4. *To master the skills of literature review and thesis/report writing.*
5. *To develop aptitude for applied research with due awareness of research ethics.*

Unit – I Research Methodology: An Overview

a) Research methodology- an overview; procedure of scientific research
b) Some methodological controversies and explanation in geography
c) Selection and relevance of research theme, defining research problem
d) Formulation of hypothesis, objectives, nature, type and characteristics of hypothesis

Unit II: Research Design

a) Research design, methodology and data base, outline of the research; research design.
b) Sources and types of data: primary and secondary data, published and unpublished sources, toposheet, satellite imageries
c) Methods of data collection: observation, questionnaire, schedule and interview
d) Sampling: need for sampling methods, size of sampling

Unit III: Measurement

a) Measurement in research, measurement scales
b) Scales of measurement: nominal, ordinal, interval and ratio
c) Sources of error in measurement; scaling: meaning of scaling
d) Scale of classification bases, important scaling techniques

Unit-IV: Processing and Analysis of Data

a) Processing-editing, coding
b) Classification and tabulation
c) Significance of quantitative techniques
d) Descriptive and inferential statistics - overview

Unit-V: Interpretation and Preparation of Research Reports

a) Meaning and techniques of interpretation, steps & layout
b) Types of reports
c) Appendices, notes, references, citation and bibliography
d) Writing of the dissertation/ thesis & defense of the thesis at viva voce

References:

1. Chou, Ya-Lun, Statistical Analysis: With Business and Economic Applications, Holt, Rinehart and Winston, New York, 1975
2. Cole, J. P. and C. M. A. King, Quantitative Geography: Techniques and Theories in Geography, John Wiley and Sons Ltd., London, 1970
3. Gregory, S., Statistical Methods and the Geographer, Longman Group Ltd. London, 1978

4. Hammond, Robert and Patrick McCullagh, Quantitative Techniques in Geography: An Introduction, Oxford University Press, London, 1978
5. Hebden, Julia, Statistics for Economists, Heritage Publishers, London, 1990
6. Johnston, R. J. , Multivariate Statistical Analysis in Geography, Longman Group Ltd. London, 1978
7. Kundu, Amitabh, Measurement of Urban Processes: A study of Regionalisation, Popular Prakashan Private Ltd., Bombay, 1980
8. Silk, J., Statistical Concepts in Geography, George Allen and Unwin, London, 1980
9. Wilson, A. H. and M. J. Kirkby, Mathematics for Geographers and Planners, Oxford University Press London 1982

M.A./M.Sc. Geography
Fourth Semester
Paper – III B (M4GEOG3-ET15 B) Social Geography

Course Objective

1. *To understand social structure and their spatial attributes.*
2. *To understand socio-cultural trends of various tribes and human races of the world.*
3. *To understand about social relations, identities and inequalities from geographical perspective.*
4. *Basic contents for various competitive examinations for lecturership, UGC NET-JRF and so on.*

Unit – I

a) Nature, scope and development of social geography, philosophical bases of social geography
b) Positivist, structuralist and radical
c) Humanist, post-modern, and post-structuralist
d) Social geography in the realm of social sciences

Unit – II

a) Space and society
b) Understanding society and its structure and processes
c) Geographical bases of social formations; power relations and space
d) Contribution of social geography to social theory

Unit – III

a) Towards a social geography of India; nature and problems of social geographic data
b) Social differentiation and region formation; evolution of socio-cultural regions in India
c) Bases of social region formation; role of caste, ethnicity, religion, dialect and languages
d) Indian unity and diversity; social transformation and change in India.

Unit IV

a) Concepts of social well-being and physical quality of life
b) Human development: concept, components, indices and measurement
c) Patterns and bases of rural and urban society; rural-urban deprivation with respect to shelter, health and education
d) Social exclusion, deprivation and discrimination issues relating to women and underprivileged groups

Unit – V

a) Spatial distribution of social groups: tribes, castes, religious and language groups
b) Social groups and power relations in India
c) Review of five-year plans and area plans towards social policy in India
d) Strategies to improve social well-being in tribal, hill and drought prone areas; social and environmental impact assessment of development projects

References:

1. Ahmad, Aijazuddin, Social Geography, Rawat Publication, New Delhi, 1999
2. Casino, Vincent J. Del, Social Geography: A Critical Introduction, Wiley-Blackwell, 2009
3. Churye, B. S., Caste and Class in India, Popular Prakashan
4. Davis, K., Population of India and Pakistan, Princeton University Press
5. de Blij, H. J., Human Geography, John Wiley and Sons, New York

6. Dreze, Jean and Amartya Sen, Economic Development and Social Opportunity, Oxford University Press, New Delhi, 1996
7. Dubey, S. C., Indian Society, National Book Trust, New Delhi, 1991
8. Geddes, A. and A. T. A. Learmonth (eds.), Man and Land in South Asia, Concept Publishing Co., New Delhi
9. Government of India, Economic and Socio-Cultural Dimensions of Regionalization, Census of India, Census Centenary Monograph No.7, 1974
10. Government of India, Report on Development of Tribal Areas, Planning Commission, 1981
11. Gregory, D and J. Larry, (eds.) Social Relations and Spatial Structures, McMillan, 1985
12. Guha, B. S., Racial Elements in India's Population, Oxford University Press, London
13. Haq, Mahbubul, Reflections on Human Development, Oxford University Press, New Delhi
14. Jones, E. (ed.), Readings in Social Geography, Oxford University Press, London
15. Jones, E. and J. Eyles, An Introduction to Social Geography, Oxford University Press, London
16. Maloney, Clarence, People of South Asia, Winston, New York, 1974
17. Rao, M. S. A., Urban Sociology in India, Orient longman, 1970
18. Rao, M. S. A., Urbanisation and Social Change, Orient Longman
19. Rao, Subba, Personality of India: Pre and Proto Historic Foundation of India and Pakistan, M. S. University Baroda, Vadodara, 1958
20. Risley, H., The People of India, Reprint Corporation
21. Schwartzberg, Joseph, An Historical Atlas of South Asia, University of Chicago Press, Chicago, 1978
22. Sen, Amartya and Dreze Jean, Indian Development: Selected Regional Perspectives, Oxford University Press, London, 1996
23. Singh, K. S., Tribal Situation in India, IIAS, Shimla
24. Smith, David, Geography: A Welfare Approach, Edward Arnold, London, 1977
25. Sopher, David: An Exploration of India, Cornell University Press, 1980

M.A./M.Sc. Geography
Fourth Semester
Paper – IV A (M4GEOG4-ET16 A) Quantitative Methods in Geography

Course Objective

1. *To develop an understanding of basic and advanced quantitative methods of data analysis and interpretation.*
2. *To provide a thorough understanding of the use, applicability and interpretation of various descriptive and inferential statistical techniques relevant to geographical research.*
3. *To implement quantitative analysis in statistical softwares.*
4. *To develop statistical skills with software expertise providing an edge for various employment opportunities - UGC NET-JRF, lecturership, research consultants, project associates, public service examinations and avenues for self-employment.*

Unit –I

a) Definition & history of Quantitative Geography
b) Significance & utilization of quantitative methods in geography
c) Nature & levels of measurement – qualitative and quantitative
d) Graphical presentation of data –bar, pie, ogive (cumulative histogram), frequency curve

Unit –II

a) Measure of central tendency – mode, median & mean
b) Skewness and kurtosis
c) Measures of deviation – types
d) Mean deviation, standard deviation, Coefficient of variation, Z-scores

Unit –III

a) Gini coefficient of concentration and Lorenz Curve
b) Geographic relationship- correlation
c) Carl Pearson correlation; Spearman's rank correlation
d) Regression analysis – linear regression

Unit –IV

a) Assessment of probability –Z Score
b) Tests of statistical significance : T-test ,Chi-Square test , ANOVA
c) Composite indices analysis
d) Matrices – types and inversion of matrices

Unit –V

a) Advantages of using software for quantitative analysis; Interface
b) Data entry and manipulation, generation of graphs
c) Data analysis in statistical software – computation of descriptive statistics
d) Regression and Correlation using software

******Available statistical software with introduction to SPSS*

Suggested Readings

1. Chou, Ya-Lun, Statistical Analysis: With Business and Economics Application, Holt, Rinehart and Winston, New York, 1975.
2. Cole, J. P. And C. M. A. King, Quantitative Geography: Techniques and Theories in Geography, John Willey and Sons Ltd., London, 1970.
3. Gregory, S., Statistical Method and the Geographer, Longman Group Ltd. London, 1978.

4. Hammond, Robert and Patrick McCullagh, Quantitative Techniques in Geography: An Introduction, Oxford University Press, London, 1978.
5. Hebden, Julia, Statistics for Economists, Heritage Publishers, London, 1990.
6. Johnston, R. J.,Multivariate Statistical Analysis in Geography, Longman Group Ltd. London, 1978.
7. Kundu, Amitabh, Measurement of Urban Processes: A Study of Regionalisation, Popular Prakashan Private Ltd., Bombay, 1980.
8. Silk, J., Statistical Concept in Geography, George Allen and Unwin, London, 1980.
9. Wilson, A. H. And M. J. Kirkby, Mathematics for Geographers and Planners, Oxford University Press London 1982.
10. Nagar, Kailashnath: Basic Elements of Statistical, Meenaxi Publications.

M.A./M.Sc. Geography
Fourth Semester
Paper – IV B (M4GEOG4-ET16 B) World Geography

Course Objective

1. *To develop an understanding of terrain, climate, natural vegetation and soil of continents.*
2. *To gain knowledge about demographic and economic of all continents of the world.*
3. *To enrich the knowledge of regional geography of various continents.*
4. *Basic contents for various competitive examinations for civil services, lecturership, school education, UGC NET-JRF and so on.*

Unit – I: Asia

a) Asia in the context of the world
b) Terrain and drainage
c) Climate, natural vegetation and soils
d) Spatial distribution of population and economic base of the continent in general; regional study - West Asia

Unit- II: Europe

a) Europe in the contest of Asia and Africa
b) Terrain and drainage
c) Climate, natural vegetation and soils
d) Demographic and economic characteristics; regional study -Western Europe

Unit- III: Africa

a) Africa in the context of Europe and North America
b) Terrain and drainage
c) Climate, natural vegetation and soils
d) Demographic and economic characteristics; regional study -Southern Africa

Unit- IV: North and South America

a) North and South America in the context of the Atlantic and Pacific Rim states
b) Terrain and drainage
c) Climate, natural vegetation and Soils
d) Demographic and economic characteristics; regional study of Middle America

Unit- V: Oceania; Global issues

a) Australia & New Zealand in the context of Polynesia, Micronesia and South Asia
b) Terrain and drainage
c) Climate, natural vegetation and soils
d) Demographic and economic characteristics; globalization and W. T. O.; population, environment and sustainable development

Reference:

1. Cole, J., A Geography of the World's Major Regions, Routledge, London, 1996
2. Cole. M.M. , South Africa, Dutton, New York, 1961
3. Blij, H.J. , Geography: Regions and Concepts, John Wiley & Sons Inc., New York, 1994

4. Dickenson, J.P. et al, The Geography of the Third World Routledge, London, 1996
5. Jackson, R.H. and L. E. Hudman, World Regional Geography: Issues for Today, John
6. Kolb, A., East Asia : Geography of a Cultural Region, Methuen, London, 1977
7. Minshull, G. N., Western Europe, Hoddard & Stoughton, New York, 1984
8. Patterson, J. H., Geography of Canada and the United States, Oxford University Press, 1985
9. Songquiao, A., Geography of China, John Wiley & Sons Inc., New York, 1994
10. Ward, R. W. and A. Miller, World Regional Geography; A Question of Place, John Wiley & Sons Inc. , New York, 1989

M.A./M.Sc. Geography
Fourth Semester
Practical - I (M4GEOG1-CP07)

GEOSPATIAL TECHNIQUES FOR APPLIED GEOGRAPHICAL RESEARCH

Course Objective

1. *To learn the various steps of image processing and information extraction workflow from satellite imageries.*
2. *To learn the various advanced techniques of GIS based analysis for applied research, decision making and planning.*
3. *To develop working skills in various open source and proprietary image processing and GIS softwares - ArcGIS, Erdas Imagine, ENVI, ILWIS, QGIS, SAGA, etc.*
4. *To produce professionals with an edge as researchers trained in state-of-the-art technology with sound theoretical base; planners and decision makers with thorough understanding of the capabilities and tools of geospatial technology; and avenues for self-employment as technical/geo-spatial consultants.*

UNIT I: Digital Image Processing: Data Preparation

a) Data preparation: geometric corrections, reprojection
b) Radiometric errors & corrections - image normalization, Dark Object Subtraction
c) Contrast enhancement - linear stretching techniques, non-linear -histogram equalization
d) Band ratioing- NDVI & NDWI

UNIT II: Thematic Map Generation

a) Image statistics, feature space
b) Unsupervised classification- Minimum distance
c) Supervised classification - training, signature evaluation, parametric (Maximum Likelihood) and non-parametric classifiers (Parallelepiped, Minimum Distance)
d) Accuracy assessment - overall, user's & producer's accuracy, Kappa

UNIT III: Spatial Analysis in GIS

a) Types of spatial analytical functions in GIS
b) Buffer, clip, update, union, intersection
c) Map overlay
d) Remote sensing and GIS data integration; sources of error

UNIT IV: Statistical Surfaces

a) Generation of statistical surfaces
b) Methods of spatial interpolation: linear, nonlinear- IDW
c) DEM, TIN and their derivatives
d) Terrain analysis

UNIT IV: Spatial Pattern Analysis

a) Point pattern analysis: Nearest Neighbour analysis

b) Spatial auto-correlation

c) Global indices (Geary's *c,* Global Moran's I & Getis-Ord General G Index)

d) Local indices (Local Moran's I & Getis- Ord Gi * index)

*** Laboratory Practical Exercises (No. of exercises)**

1 Introduction to Bhuvan/NASA portal (2)
2 Acquisition of satellite data and DEM (2)
3 Geo-referencing of toposheets (1)
4 Image to map rectification (1)
5 Radiometric correction of satellite images- DOS (1)
6 Contrast enhancement (2)
7 Image ratioing - generation and interpretation of NDVI image (1)
8 Thematic map generation using supervised classification (1)
9 Thematic map generation using unsupervised classification (1)
10 Extraction of topographic attributes and landscape features using DEM (3)
11 Spatial interpolation of point data using IDW and evaluation of results (4)
12 Settlement pattern analysis- Nearest Neighbor technique (1)
13 Computation of Geary's *c,* Global Moran's I & Getis-Ord General G Index and interpretation of results - population data (3)
14 Computation of Local Moran's I & Getis- Ord Gi * index and interpretation of results - population data (2)

Exercises will be implemented in ERDAS, ENVI, Illwis, QGIS, TNT Mips, Arc View, ArcGIS or any other DIP and GIS Software as per availability. One computer per student will be provided.

Suggested Readings

1. Chang, Kang-tsung, 2003: Introduction to Geographical Information Systems. Tata McGraw Hill Publ. Co., New Delhi
2. Chauniyal, D.D., 2004. *Remote Sensing and Geographical Information Systems* (**in Hindi)**, Sharda Pustak Bhawan, Allahabad
3. Dobesch Hartwig, Dumolard Pierre & Dyras Izabela, 2007. *Spatial Interpolation for Climate Data* (Ed.), Geographical Information Systems Series, ISTE Ltd., USA
4. Goodchild, M.F., Park, B.O. and Steyaert, L.T. (Ed.) 1993, Environmental Modelling with GIS. Oxford University Press, Oxford.
5. Jenson J.R., 1996. *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall, New Jersey
6. Jenson, J.R., 2000. *Remote Sensing of the Environment: An Earth Resource Perspective.* Perason Education
7. Lillesand, T.M., Keifer R.W. & Chipman, J.W., 2008. *Remote Sensing and Image Interpretation*, John Wiley & Sons, New Delhi
8. Lloyd, Christopher D., 2010. *Spatial Data Analysis: An Introduction for GIS Users,* Oxford University Press

9. Longley, P. And Batty, M. (eds.) 1996. Spatial Analysis: Modelling in a GIS Environment. Geo-Information International, Cambridge
10. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. 1999. Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley, New York.
11. Maguirre, David J.; Michael F. Goodchild and David W. Rhind 1999. Geographical Information Systems: Principles and Application. Geo Information International, Vol.2, Longman Pub., N.Y.
12. Martin, D. 1996, Geographic Information Systems: Socio-economic Applications. Routledge, London
13. Mitchell Andy, 1999. *The ESRI Guide to GIS Analysis (Volume I) Geographic Patterns and Relationships*. ESRI Press, California.
14. Mitchell Andy, 2009. *The ESRI Guide to GIS Analysis (Volume II) Spatial Measurements and Statistics*. ESRI Press, California.
15. American Society of Photogrammetry, 1983. *Manual of Remote Sensing*, ASP, Falls Church, VA
16. Barrett, E. C. and L. F. Curtis, 1992. *Fundamentals of Remote Sensing and Air Photo Interpretation*, Macmillan, New York
17. Campbell, J., 1989. *Introduction to Remote Sensing*, Guilford, New York
18. Chauniyal, D.D., 2004. *Remote Sensing and Geographical Information Systems* **(in Hindi)**, Sharda Pustak Bhawan, Allahabad
19. Curran, Paul J., 1985. *Principles of Remote Sensing*, Longman, London
20. Jenson J.R., 1996. *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall, New Jersey
21. Jenson, J.R., 2000. *Remote Sensing of the Environment: An Earth Resource Perspective.* Perason Education
22. Lillesand, T.M., Keifer R.W. & Chipman, J.W., 2008. *Remote Sensing and Image Interpretation*. John Wiley & Sons, New Delhi
23. Pratt W.K., 1978. *Digital Image Processing*. Wiley, New York

WEB RESOURCES

1. *Ebook on Remote Sensing Applications,* www.**nrsc**.gov.in/Learning_Centre_**EBook**.html
2. *E-Tutorial on Fundamentals of Remote Sensing*, Canada Centre for Mapping and Earth Observation, Natural Resources Canada, accessible at http://www.nrcan.gc.ca/earth-sciences/geomatics

Practical Exam Scheme

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

1. One assignment based on computer - 10 marks
2. Objective paper - 10 marks (10 objective questions)

External marks-80

Candidates will be examined by an external examiner in consultation with the internal examiner
The distribution of 80 marks will be as follows:

A-	Test paper	-	25 Marks
B-	Lab exercise	-	30 Marks
C-	Record work	-	15 Marks
D-	Viva-Voce	-	10 Marks

A- Test paper – 25 marks

The practical test paper of two hours duration and candidates will be required answer two questions out of four questions.

B- Lab exercise – 30 marks

Practical exercise shall be of three hours duration and candidates will be required to attempt any 2 exercises out of 4 exercises based on different GIS Software.

C- Record work – 15 marks

Student will be required to prepare a record work of the outputs of all exercises conducted in the lab. In addition the students will also be required to submit the output in soft copy in a CD.

D- Viva-Voce - 10 marks

The practical exercises, record work and viva-voce examination shall be conducted by external examiner in consultation with the internal examiner.

M.A./ M.Sc. Geography
Fourth Semester
Practical - II (M4GEOG2-CP08)
PROJECT WORK ON NATURAL RESOURCE MANAGEMENT USING RS-GIS

Course Objective

1. *To impart practical experience of using geospatial technology for solving real world problems related to various fields viz. natural resource management, urban planning, land-use planning, water resource, agriculture and health management.*
2. *To develop an understanding of the work flow of project conceptualization, planning and implementation using geospatial techniques.*
3. *To develop presentation skills and defending the work in open viva.*
4. *To impart research experience enabling the students to carry out small projects and present their work on various platforms such as conferences/seminars.*

UNIT I: Overview of Applications of Remote Sensing and GIS

a) Natural resource evaluation and management
b) Urban planning and management
c) Land use planning and management
d) Environmental management & hazard mapping

UNIT II: Overview of Applications of Remote Sensing and GIS

a) Socio-economic applications
b) Health GIS
c) Water resource management
d) Agricultural studies

UNIT III-V: Project Planning, Execution and Writing of Project Report

Theme of project may be selected from any of the fields outlined in Unit I & II or any other problem of student's/ supervisor's choice with a geographical perspective analysed using geo-spatial methodology. The theme may range from methodological issues to real world geographical applications. Students will be required to get the selected theme approved by the concerned supervising faculty by way of presentation of synopsis in a class seminar.

The paper is divided into two parts. Part 1 (Unit I & II) comprises class room teaching. The students will be introduced to applications of RSGIS technology for applied geographical research. Subsequently, students will be required to take up a small case study as Part 2 (Unit III -V), essentially applying the geospatial tools for decision making and analysis. The case study will be carried out under supervision of internal faculty of the department. The project report will be of approximately 30-50 pages.

References

1. *Ebook on Remote Sensing Applications,* www.**nrsc**.gov.in/Learning_Centre_**EBook**.html
2. Chauniyal, D.D., 2004. *Remote Sensing and Geographical Information Systems* (**in Hindi)**, Sharda Pustak Bhawan, Allahabad
3. Lillesand, T.M., Keifer R.W. & Chipman, J.W., 2008. *Remote Sensing and Image Interpretation*. John Wiley & Sons, New Delhi

4. Vyas P.R.,Remote Sensing and Geographical Information System and Remote Sensing : Basics and Applications, Rawat Publications, Jaipur, New Delhi-2014

Practical Exam Scheme

Distribution of Marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

Seminar presentation: 20 marks

External marks-80

The project will be based and analysed by using RS data in any of the GIS Software.

Project report will be examined by external examiner.

Project report: 80 marks

M.A./M.Sc. Geography
Fourth Semester
Skill -II (M4GEOG1-Skill-02) Statistical Analysis Using Software

Course Objective

1. *To develop professional skills of using statistical softwares such as SPSS, MS Excel for quantitative analysis.*
2. *To make students learn analysing geographical data using robust statistical tools provided by these softwares.*
3. *To develop skills of data handling and manipulation in softwares.*
4. *To develop them as professionals capable of working as data analysts across public and private sectors and also self-employment as technical consultants.*

UNIT I – Data

a) Measurement levels
b) Data types, database file formats
c) Cases and variables
d) Defining variables

UNIT II – Data Entry

a) Data import
b) Data entry
c) Data editing
d) Data manipulation

UNIT III – Data Distribution

a) Preparation of line graphs
b) Preparation of bar diagrams
c) Preparation of histograms
d) Preparation of pie diagrams

UNIT IV – Data Analysis: Computation of Fundamental Descriptive Statistics

a) Mean, median, mode
b) Measures of dispersion – standard deviation, Z-Scores, box plots
c) Measures of symmetry – skewness
d) Kurtosis

UNIT V – Analyzing Relationships

a) Preparation of scatter plot
b) Computation of correlation
c) Computation of regression
d) Output generation and export in different formats

**Exercises will be done in available statistical software – Microsoft Excel and SPSS*

Practical Exam Scheme

Distribution of marks: Total marks (100) = Internal marks (20) + External marks (80)

Internal marks- 20

3. One assignment based on statistical software using valid data – 10 marks.

4. Objective paper – 10 marks (10 objective questions)

External marks - 80

Candidates will be examined by an external examiner in consultation with the internal examiner.

The distribution of 80 marks will be as follow:

A. Test paper - 25 Marks
B. Lab exercise - 30 Marks
C. Record work - 15 Marks
D. Viva-voce - 10 Marks

Faculty of Earth Science

Department of Geology

Courses offered-

- M. Sc.
- M. Sc. Tech.

Department of Geology
Faculty of Earth Sciences
Mohanlal Sukhadia University, Udaipur

Outcome of M. Sc. Geology Programme

After getting M.Sc. degree students get jobs in Central Government Department like Geological survey of India, Indian Bureau of Mines, Central Groundwater Board etc. Public enterprises and MNC like ONGC, Oil India, Cairn Energy etc. They also get jobs in state Government Department like Department of Mines and Geology, Groundwater Department, state government enterprises like RSMM. All mineral, cement and building stone industries employ them as geologist. Also working as private consultants.

Course/Paper Code	Course/Paper Name	Objective of Course	Outcome of Course
M1GEO01-CT01	Tectonics and Geomorphology	It is aimed to learn about the role of tectonics in landscape evolution, the coupling of tectonics and climate, tools and methods used in the investigation of landforms and landscape responses to deformation in different timescales	Outcomes are expected in terms of coupled knowledge of tectonics and geomorphology. It is expected that the students bear the knowledge to understand the processes of geomorphology with the role of tectonics.
M1GEO02-CT02	Mineralogy	The objective of the course is to understand the distribution of minerals in different Earth's spheres and evaluate different processes of the Physico-chemical environment of their formation. The course also includes minerals, which are of economic significance and learn the basic	At the end of the course the successful students able to identify and characterize the common minerals based on their physical, chemical and optical properties. The students will also get the idea of preliminary knowledge on instrumentation techniques used for mineralogical studies.

		principles to identify them.	
M1GEO03-CT03	Palaeontology -I	To explain the origin and evolution of life is intricately linked with the geological history of the Earth. Students explore knowledge about the evolutionary history of organism.	Through the fossil records students will explore topics such as evolutionary diversity, exceptional preservation and palaeoclimates. Through the key groups of invertebrate fossils students will come to know about the major concepts such as the origin of life, patterns of evolution and extinction, the importance of exceptional fossil assemblages, and the relationship between ecology and evolution.
M1GEO04-CT04	Precambrian Stratigraphy	It is aimed to make understand almost 90% of Earth's geological history through this paper by pertaining knowledge of lithology, crustal evolution and geochronology.	Students are expected to carry with them knowledge based upon geochronological sequence of rock layers formed in India and World all over during Precambrian time. The knowledge imparted will bear characterization of Precambrian rocks with respect to lithology, structure, extension, location, age & life preserved in them if any.
M2GEO01-CT05	Structural Geology	The objective of the course is to teach the students how does the Earth respond to applied forces. This course looks at how rocks deform and change shape, and how we can recognise and use structures within rocks to determine ancient magnitudes and orientations of stress fields. Basic concepts of the rheological properties of rocks and their control on the deformation processes.	At the conclusion of this class, students should be able to quantitatively describe the three-dimensional structure of rocks in the earth's crust, using geologic maps and/or outcrop data and reconstruct the deformation history of deformed rocks based on fabrics and geometric relationships.

M2GEO02-CT06	Sedimentary Petrology	Students will understand the nature of sediment formation, transport and deposition as well as different types of sedimentary rocks, their textures and structures in interpretation and reconstruction of sedimentary facies, paleogeography, paleoclimates and depositional histories.	After successful completion of this course the student will be able to classify different sedimentary rocks. Also this course will help them in interpreting different sedimentary depositional environment.
M2GEO03-CT07	Palaeontology – II	Students come to know some important groups of fauna and flora keeping importance in the geologic history of the earth.	Through the key groups of invertebrate fossils students will come to know about the major concepts such as the origin of life, patterns of evolution and extinction, the importance of exceptional fossil assemblages, and the relationship between ecology and evolution. Through the vertebrate's evolution and Gondwana Plants study students will come to know their importance in geological history.
M2GEO04-CT08	Phanerozoic Stratigraphy	Phanerozoic periods exceptionally covers important geological history of evolution of life that stands buried in the rocks but need to be revealed through study of outcrops, fossils, rocks that includes distribution and age components.	It is expected that the outcomes from the study of paper will include stratigraphic sequencing during Phanerozoic time. The knowledge based outcome will include characterization, lithology, structure, extension, location, age and life preserved in these rocks.
M3GEO01-CT09	Economic Geology	The course educates the concepts of Economic Geology in general, starting with details of various ore forming processes, their controls and relation with tectonic processes. The course also enables students to learn about	The students upon successful completion of this course will be well versed with various processes involved in formation of ore deposits. It is expected that student will be able to better appreciate the potential of various

		important metallic and non-metallic minerals, their ore, geologic and geographic distribution. The course further introduces students about fuel minerals including coal and petroleum.	mineral commodities across the country.
M3GEO02-CT10	Igneous Petrology	• To impart knowledge about the magmatic systems • To train the students about the dynamism of the earth in the field of igneous petrology. • To gain an appreciation for how the igneous rocks is controlled by chemical and physical properties of magmas.	Upon successful completion of course the students would be able to • Understand the mantle system and magmatic processes. • Understand the basic principles of phase rule and its relation with binary and ternary systems and origin of different igneous rocks.
M4GEO01-CT11	Metamorphic Petrology	• To impart knowledge on Metamorphism and metasomatism process. • To train the students to understand the different processes of formations of metamorphic rocks and their significance.	Upon successful completion of course the students would be able to • Understand the factors and agents of metamorphism. • Understand the textures and mineral assemblages of different zones of metamorphism. • Understand the processes of metasomatism and their types. • Understand the representation of mineral paragenesis & graphical representation of metamorphic rock.
M4GEO02-CT12	Mineral Exploration & Mining Geology	• To impart knowledge of geological field survey. • To train the students to understand functioning of necessary instruments required during geological field survey.	Upon successful completion of course the students would be able to:- • Understand the basic concept of geological field work and various instruments used in field work. • Learn about the geological

		• To Understand various geological structures found at outcrops. • To Understand fundamentals of geological processes and stratigraphic correlation. • To Understanding observations and recording of important filed information and to classify various types of features procured from field study. • To Understand fundamentals of the geophysical methods of mineral exploration. • To Understand the principles of mineral economics and bore hole logging.	processes that lead to the formation of mineral deposits in nature, and about which minerals and rocks represent important resources for society. At the end of the study period, will be in a position to contribute to the exploitation of known mineral deposits, and to contribute to exploration for new deposits. You will also learn how exploitation of mineral deposits can take place with minimal negative consequences for the environment, and how harmful emissions from mines and mineral deposits can be stopped or limited. • Field work including geological and structural mapping. • Preparation of field report based on the recorded data, mapping data as well as laboratory work on the rock samples collected during the field work
M1GEO05-CP01	Practical – I : Tectonics and Geomorphology & Mineralogy	For Tectonics and Geomorphology To be able to recognize, analyze, and describe landforms, materials of which they are composed, and processes by which they form. Students come to know about to explain the concepts and theories of plate tectonics, mass balance, dynamics and hydrology and will be able to understand the processes by which transportation of earth	For Tectonics and Geomorphology Students will have knowledge of represent relief features of the plateaus, hills, foothills, valleys, plains and flood plains through superimposed, composite, serial or projected profiles. Will be able to demarcate basin with representation of basin relief through profiles and will draw interpretations. Will become able to express slope and

		material occurs through fluvial and gravitational processes. For Mineralogy The student will learn the basic principles behind the arrangement of atoms how these atoms are coordinated and bonded and how this is reflected in the external form and its link with chemical composition. The student will learn how to identify the most common minerals in hand specimen and, by using optical techniques, learn how to identify the common minerals in thin section	gradients from a topographical map, draw longitudinal profiles of rivers from topographical maps, chalk out water discharge curve and calculate the sediment transport and erosion within a landscape. For Mineralogy At the completion of the course student will be able to • Explain why different minerals have distinctly different structures. • Demonstrate how the internal structure of minerals affects the external structureand physical properties of a minerals. • Identify minerals based on megascopic and microscopic observations.
M1GEO06-CP02	Practical – II : Palaeontology I & Precambrian Stratigraphy	For Paleontology I To explore students knowledge with the basic practical approach through the hand specimens of mode of preservation and groups of Foraminifera, Trilobita and Echinodermata. For Precambrian Stratigraphy To make learn students about distribution of Precambrian Stratigraphic units of India along with the palaeogeographic conditions	For Paleontology I Students will be able identify to morphological features through hand specimens of types of fossils. Through specimens of Foraminifera, Trilobita and Echinodermata of organism, practically he/she will be able to study about palaeoenvironment, stratigraphic position, age and correlation with other organism. For Precambrian Stratigraphy Student is expected to come out with

			the knowledge of extension of lithostratigraphic units in relevance to chronostrtaigraphy with sum-toto knowledge of the Indian subcontinent specifically during Precambrian time.
M2GEO05-CP03	Practical – III : Structural Geology & Sedimentary Petrology	For Structural Geology Measurement of various orientation data from the structures, plotting them in suitable diagrams and make a quantitative analysis. For Sedimentary Petrology To give students hands-on practical classes aimed at 1. Developing skill for identifying the different types of sedimentary rocks in hands specimen as well as under microscope 2. Using graphic, mathematical calculations and other means for data analysis and interpretation	For Structural Geology To prepare the students for future research and teaching career in the field of Structural Geology. For Sedimentary Petrology After completion, students will learn 1. How to identify and differentiate between different sedimentary rocks in field as well as thin sections under microscope 2. How to represent data in different ways and to interpret data for paleocurrent analysis and other objectives
M2GEO06-CP04	Practical – IV : Palaeontology II & Phanerozoic Stratigraphy	For Paleontology II To explore students knowledge for the study of fossil groups of Anthozoa, Gastropoda, Bivalvia, Chephalopoda, Brachiopoda, Gondwana plant and some vertebrate fauna. For Phanerozoic Stratigraphy It is intended for students to learn anout distribution of Phanerozoic Stratigraphic units of India along with the changing palaeogeographic	For Paleontology II Students will be able to identify all morphological features of the particular groups of fauna and flora. He/She will be able to find about palaeoenvironment, stratigraphic position, age and correlation with other organism. For Phanerozoic Stratigraphy With respect to outcome it is expected that student should bear the knowledge

		conditions relevant to distribution of landmass, sea and fresh water provinces.	of Phanerozoic lithostratigraphic units in Indian subcontinent, palaeogeographic linkages with the surrounding landmasses and position of India within the various Supercontinents.
M3GEO05-CP05	Practical – V : Economic Geology & Igneous Petrology	For Economic Geology This practical course has following objectives: • To study ore minerals in hand specimen with special focus to its physical properties for identification • To study polished sections of ore specimens under reflected light. • To study the distribution of various important ore minerals across world and India For Igenous Petrology • To impart knowledge about the magmatic systems • To train the students to identify different igneous rocks in hand specimen and further by thin section through optical properties of different minerals. • To train student to classified rocks based on the modal mineralogy.	For Economic Geology The students upon successful completion of this course will be well versed with: • Identification of ore minerals in hand specimen • Identify, describe and understand texture and structures in polished section of ore minerals and appreciate ore genesis. • Distribution of ore important ore minerals in India and World For Igneous Petrology Upon successful completion of course the students would be able to • Identify the common rock forming minerals of igneous rocks in both hand specimen and thin-section. • Identify key textural/micro structural features of igneous rocks appreciate the significance of such features with regard to geological processes that have operated. • Assign a name to igneous rocks on

			the basis of its mineralogical and textural characteristics, and appreciate the environment(s) of formation. • Ability to interpret phase diagrams relevant to igneous systems. • Ability to make detailed and annotated petrographic sketches from thin-section observation and to summarise the salient features and relate the chemistry of the system and environment of formation.
M4GEO05-CP06	Practical – VI : Metamorphic Petrology & Mineral Exploration and Mining Geology	For Metamorphic Petrology • To impart knowledge about metamorphic processes. • To train the students to identify different metamorphic rocks in hand specimen and further by thin section through optical properties of different minerals • To train the students to understand the different processes of formations of metamorphic rocks and their significance in the geodynamic evolution. For Exploration and Mining Geology • To understand the importance of surveying and Levelling in the field	For Metamorphic Petrology Upon successful completion of course the students would be able to 1. Identify the common rock forming minerals of metamorphic rocks in hand specimen and thin-section. 2. Identify key textural/micro structural features of metamorphic rocks and appreciate the significance of such features with regard to geological processes that have operated. 3. Assign a name to metamorphic rock on the basis of its mineralogical and textural characteristics, and appreciate the environment(s) of formation.

		of Geology. • To study the basics of linear/angular measurement methods like, compass and Plane table surveying. • To study the significance of plane table surveying in plan making. • To know the basics of levelling and theodolite survey in elevation and angular measurements. • To understand measurement of horizontal, vertical angles and linear distance from Theodolite. • To Understand how to use and levelling of Theodolite in the field. • To understand process of core logging and its importance in exploration. • To understand applications of GPS and its use in field. • To know the methods of ore reserve estimation and how to calculate ore reserves of a stope and mine.	4. Ability to interpret phase diagrams relevant petrogenic grids relevant to metamorphic systems on the basis of mineral assemblages recorded in the rock. For Exploration and Mining Geology Upon successful completion of course the students would be able to:- • Calculate angles, distances and levels by Theodolite. • Identify data collection methods and prepare field notes. • Understand the working principles of survey instruments. • Estimate measurement errors and apply corrections. • Interpret survey data and compute areas and volumes. • Understand the procedures of plane table and compass survey. • Understand how to work Theodolite in field and its use in surveying and levelling. • Understand Theodolite survey takes vertical and horizontal angles in order to establish controls. • Understand contouring and its importance. • Understand techniques and applications of GPS and its uses in

			field in mapping. • Understand how to do core logging and take visuals of grade from the core. • Understand the methods of ore reserve estimation of a ore body.

Discipline Specific Electives

Course /Paper Code	Course /Paper Name	Objective of Course	Outcome of Course
M3GEO03-ET01	Ground Water Geology	To teach students • The importance of groundwater, its occurrence, distribution and quality • Various hydrological concepts, groundwater flow theories and their applications. • Basic groundwater problems related to different engineering structures.	After completing course, students will be able to • Define the significance of groundwater as an Earth resource • Understand the porous medium properties that control groundwater flow and transport, including porosity, hydraulic conductivity, and compressibility. • Apply groundwater flow equations to confined and unconfined aquifers.
M3GEO04-ET02	Photo geology and Remote Sensing	The objective of the present syllabus of Photo Geology and Remote Sensing is as follows: • To introduce students to concepts and geological applications in remote sensing with an emphasis on aerial photography although other airborne and satellite imagery are also included. • To familiarize students with the fundamentals of both the photo geological interpretation of	The outcome of the syllabus will be helpful for students in the following way: • The students will be able to understand the concepts, methodologies and applications of Remote Sensing Technology. • They will acquire skills in handling instruments, tools, techniques

		air-photo stereo pairs and satellite imagery through laboratory practice. • To encourage the use of large-scale air-photo stereo pairs and satellite imagery in field surveying and site investigations	while using Remote Sensing Technology. • It empowers the students with confidence and leadership qualities.
M4GEO03-ET03	Environmental Geology & Disaster Management	• To impart knowledge of environmental geology, natural hazards and their management. • To understand the Earth's ecosystem and interrelations of various components of the Earth. • To understand geological aspects of various natural hazards and geo-engineering projects	Upon successful completion of course the students would be able to:- • Know the basic fundamentals of earth science as applied to the interaction between human activity and the natural environment. • Understand the occurrence and availability of both surface and subsurface water resources and the role of the hydrologic cycle and pollution. Understand the role of plate tectonics in causing earthquakes and how this understanding can aid the assessment of seismic hazard.
M4GEO04-ET04	Geochemistry	The objective of the syllabus helps the students to understand the chemical principles which are used to explain the mechanisms that control the large geological systems. The course also helps to understand the distribution of elements in different Earth's spheres and evaluate different processes of element migration.	By attending the courses, the students able to understand the evolution of the early earth and its differentiation to the present-day state. The students also have an idea of the chemical composition of the geochemical reservoirs. The knowledge of the radiogenic isotope's signature helps to trace the source of mineral and rock separation from the magma.
M3GEO06-EP01	Elective Practical - I : Groundwater Geology & Photo-	For Groundwater geology To give students hands-on practical classes aimed at giving exercises on various topics covered in theory	For Groundwater geology After completion, students will be able to apply theoretical knowledge and concepts

	geology and Remote Sensing	classes of the subject like water quality, groundwater exploration, yield etc. For Photo-Geology and remote sensing • To introduce students with the interpretation of aerial photographs with the help of stereo pairs and satellite imageries through laboratory practice. • To introduce students with the visual interpretation of satellite imageries. • To introduce students with the various application of GIS software in different field of Earth Sciences viz. geomorphology, structural geology, lithological mapping, environmental geology, hydrogeology etc.	learned during lecture classes by using the data gathered in the field or other source(s). For Photo-Geology and remote sensing The students will be able to interpret aerial photographs and satellite imageries. The students will also be able to apply GIS software in various fields of Earth Sciences geomorphology, structural geology, lithological mapping, environmental geology, hydrogeology etc.
M4GEO06-EP02	Elective Practical – II : Environmental Geology and Disaster Management & Geochemistry	For Environmental Geology and Disaster Management These are the objectives of this course. 1. To analysis of different parameters of air, water and noise. 2. To interpretation of air, water and noise data. 3. To prepare iso-concentration maps of water quality parameters according to WHO data and their limits. 4. To identify the seismic zones and plot them in maps of World, India and Rajasthan. 5. To know how to occur slope failure and landslide in landslide prone zones. For Geochemistry The students will learn how to present analytical data of geochemistry through various graphical	For Environmental Geology and Disaster Management Upon successful completion of course the students would be able to:- 1. Understand the different parameters of air, water and noise. 2. Understand how to interpretation the air, water and noise data. 3. Understand to prepare iso concentration maps of water quality. 4. Understand the seismic zones of India, world and Rajasthan. 5. Understand some exercises of slope failure on sterionet and their field relation. For Geochemistry

		diagrams viz. Multi-Elements spider diagrams and introduction to Geochemical Modelling for interpretation of the petrological processes.	At the completion of the course, the student will, • learn to calculate mineral formulae based on mineral chemistry. • be able to do Bi-variate analysis of data (Regression & Correlation). • learn to present the geochemical data via different multi-elements spider diagrams for the interpretation of various petrological processes.

Skill Papers

Course /Paper Code	Course /Paper Name	Objective of Course	Outcome of Course
M2GEO07-SE01	Application of GIS	The main objective of teaching skill course in M.Sc. is to gain a basic, practical understanding of GIS concepts, techniques and real world applications Class discussions, reading assignments, and class lectures prepare students to develop a mapping project based on the assumptions and interpretations of data selected by the student.	At the completion of the course, students will: • Have a basic, practical understanding of GIS concepts, techniques and real world applications. • Have an understanding of the technical language of GIS. • Know how GIS is utilized in the larger context of business needs and IT strategies. Understand basic GIS data concepts. Have an ability to perform basic GIS analysis of concepts. • Have demonstrated a practical application of GIS. • Have practical experience using basic GIS tools.

			• Have an understanding of GIS and its relationship to mapping software development. • Have an appreciation of GIS career options and how to pursue them.
M4GEO07-SE02	Survey & Leveling	• To understand the importance of surveying and Levelling in the field of Geology. • To study the basics of linear/angular measurement methods like Tape, chain surveying, electronic distance, compass and Plane table surveying. • To study the significance of plane table surveying in plan making. • To know the basics of levelling and theodolite survey in elevation and angular measurements. • To understand measurement of horizontal, vertical angles and linear distance from Theodolite. • To Understand how to use and levelling of Theodolite in the field. • To understand characterising and methods of contouring. • To understand applications of GPS and its use in field.	Upon successful completion of course the students would be able to:- • Calculate angles, distances and levels from theodolite and other equipments. • Identify data collection methods and prepare field notes. • Understand the working principles of survey instruments. • Estimate measurement errors and apply corrections. • Interpret survey data and compute areas and volumes. • Understand the procedures of plane table and compass survey. • Understand how to work Theodolite in field and its use in surveying and levelling. • Understand Theodolite survey takes vertical and horizontal angles in order to establish controls. • Understand contouring and its importance. • Understand techniques and applications of GPS and its uses in field in mapping.

Outcome of M. Sc. Tech Applied Geology Programe

After getting M.Sc. degree students study advance geology in M.Sc.Tech (Applied Geology) course. M.Sc. Tech students get privilege in jobs of all geological organization and industry specially for exploration work. Central Government Department like Geological survey of India, Indian Beauro of Mines, Central Groundwater Board etc. Public enterprises and MNCs like ONGC, Oil India, Cairn Energy etc. They also get jobs in state Government Department like Department of Mines and Geology, Groundwater Department, state government enterprises like RSMM. All mineral, cement and building stone industries employ them as geologist. Also get opportunities in consultancy work.

Course/Paper Code	Course/Paper Name	Objective of Course	Outcome of Course
MT1GEO01-CT01	Structural Geology and Tectonics	Accurate geometric description of the structures observed in natural deformed rocks. Understanding deformation mechanisms at micro- meso- and macroscopic scales.	Students is supposed to learn the techniques of recording and analysing structural data and taught how to map rock sequences in the field and interrogate a region to determine how it formed and what has happened to the area since formation. To come out with the application of structural geology in oil and petroleum sectors.
MT1GEO02-CT02	Micropalaeontology	To know the process/Basics of the study of micropalaeontology. It is aimed to give knowledge about the microfossils role in hydrocarbon exploration and basin analysis.	To explain the role of micropalaeontology in biostratigraphy and hydrocarbon exploration geology. To explain the role of microfossils in palaeoenvironmental interpretation. To describe the morphology and biology of organisms commonly found as microfossils.
MT1GEO03-CT03	Mineral Exploration and Mining Geology	This course is designed to enable students to acquire understanding of the basic concept of mineral exploration, various exploration techniques including ground and	The expected outcome of the course upon successful completion includes development of ability to apply knowledge based approach for mineral exploration and capacity to judge better use of specific tools for mineral

		aero geophysical surveys, geochemical exploration, etc., introduces the basic concepts of mining and gives knowledge of application of ore petrography.	targeting unique to the selected mineral under consideration.
MT1GEO04-CT04	Mineral Technology and Mineral Economics	• To acquire knowledge of basic concept of mineral processing and economics of mineral resources. • To be able to understand how and why different types of mineral deposits are formed. • To understand various government mineral policies, rules and regulations for conservation of minerals.	Upon successful completion of course the students would be able to • Understand the technology of the minerals processing and implication of the mineral resources in different industries • Students gain the knowledge about different government policies and regulations of minerals. • Students able to know how economy generated by various type of minerals
MT2GEO01-CT05	Advance Remote Sensing in Geosciences	The course is designed to fulfil the following objectives • To provide exposure to students in gaining knowledge on concepts and applications leading to modelling of earth resources management using Remote Sensing • To acquire skills in storing, managing digital data for planning and development. • To acquire skills in advance techniques such as hyper spectral, thermal and microwave for mapping, modeling and monitoring.	• The students will be able to get understanding on various concepts and application of remote sensing in the modeling of earth resource management • The student will be able to handle digital data for planning and development • The students will be able to learn skill for processing advance remote sensing datasets such as hyper spectral, thermal and microwave for various applications including natural resources management.

		• To inculcate practical skill for processing advance remote sensing datasets for various applications including natural resources management.	
MT2GEO02-CT06	Engineering and Groundwater Geology	The course aims at teaching the student • Basic knowledge and understanding in the most central part of engineering geology, rock and soil. • Detailed knowledge of groundwater and its exploration, exploitation, wells and salt-water intrusion.	After completion of course, the student • Can give an account of engineering geological investigations, engineering, stability of slopes and protection of underground facilities • Learn about hydrological properties of aquifers, their determination, groundwater occurrence in different rocks, water level fluctuations and their causative factors • Can learn exploration methods, concept of well hydraulics as well as Hydrogeology of India and Rajasthan in detail.
MT2GEO03-CT07	Petroleum, Coal and Radioactive Minerals	The course is divided in three sections namely Petroleum, Coal and Radioactive Minerals which is spread over five units. In the Petroleum part, the course is designed to enable students to acquire understanding of the processes involved in formation of petroleum, its migration, maturation, its distribution, etc. In the second portion of course, the course enables students to learn	The students after completing this course are expected to have fundamental concepts of origin of energy minerals which includes petroleum, coal and radioactive minerals. The students will have knowledge based approach towards exploration and exploitation including background of their distribution across the globe with special focus in India

		details about formation of Coal, fundamental concept of coal petrography, its classification and distribution across globe. In the last part, the course deals with radioactive minerals where student is exposed to processes of formation of various radioactive minerals, their classification and distribution in detail.	
MT2GEO04-CT08	Oceanography and Climatology	This course aims at introducing oceanography and climatology concepts dealing with the physical process and chemical behaviour of ocean and climate as a coupled system. Also this course includes the application of the various proxies for paleoceanographic and paleoclimatic interpretation.	After successful completion of this course student will be able to understand the process responsible for various oceanographic and climatological phenomenon. Also through this course student will be able to interpret and correlate various paleoceanographic and paleoclimatic events.
MT1GEO05-CP01	Practical-I: Structural Geology and Tectonics. Micropalaeontology	For Structural Geology and Tectonics To learn the practice of theoretical knowledge for applying at ground observation in field and to learn essential observational and practical skills. For Micropaleontology To explore students knowledge particularly in micro fossils.	For Structural Geology and Tectonics To train the students for adaptation in field work environment in certain professional and scientific organizations.Students will have knowledge and imparted through field trip. Students are expected to learn different deformational structures. For Micropaleontology Students will be able to identify all morphological features of microfossils by the help of microscope and will learn applications of microfossils in hydrocarbon exploration and correlation with the strata.

MT1GEO06-CP02	Practical-II: Mineral Exploration and Mining Geology. Mineral Technology and Mineral Economics	The practical paper has following objectives: 1. To understand beneficiation of various ore minerals and use of their flow sheets 2. To understand industrial specifications of various minerals specific to different industries 3. To describe and identify various hand specimen of important metallic and non-metallic minerals 4. To understand the importance of surveying and Levelling in the field of Geology. 5. To know the basics of levelling and theodolite survey in elevation and angular measurements. 6. To understand measurement of horizontal, vertical angles and linear distance from Theodolite. 7. To understand process of core logging and its importance in exploration. 8. To understand applications of GPS and its use in field. To understand the methods of ore reserve estimation and calculation of ore reserves	Upon successful completion of course the students would be able to:- 1. Use flow sheet and appreciate ore beneficiation methods specific to various metals 2. Decide use of mineral specification data and categorise it according to various industry 3. Identify and describe various metallic and non-metallic minerals in hand specimen 4. Understand the working principles of survey instruments. 5. Calculate angles, distances and levels by Theodolite. 6. Estimate measurement errors and apply corrections. 7. Understand Theodolite survey takes vertical and horizontal angles in order to establish controls. 8. Understand techniques and applications of GPS and its uses in field in mapping. Understand the methods of ore reserve estimation in a mineral deposit.
MT2GEO05-CP03	Practical-III: Advance	For Advance Remote Sensing in	For Advance Remote Sensing in Geosciences

	Remote Sensing in Geosciences & Engineering and Groundwater Geology	Geosciences To introduce students with the more understanding of the remote sensing with the practical knowledge of the subject. To introduce students with the various analysis viz. geomorphic mapping on aerial photographs, geological and structural mapping using aerial photographs, lineament analysis on satellite imageries as well as Geological and Structural studies using satellite imageries. For Engineering and Groundwater Geology To give students hands-on practical classes aimed at 1. Giving numerical problems/exercises on various topics covered in theory classes of the subject like engineering properties of soil and rock 2. Making maps such as iso-hyetal and groundwater contouring as well as numerical problems on aquifer parameters and pumping tests.	The students will be able to do various analysis viz. geomorphic mapping on aerial photographs, geological and structural mapping using aerial photographs, lineament analysis on satellite imageries as well as Geological and Structural studies using satellite imageries by themselves. They will be able to use this practical knowledge in research purpose too. For Engineering and Groundwater Geology After completion, students will be able to understand and apply theoretical concepts of engineering and groundwater geology in practical aspects like deciding which soil or rock properties are essential for construction of various engineering structures and making maps and interpreting the conditions of an area using available data.
MT2GEO06-CP04	Practical-IV: Petroleum, coal and Radioactive Minerals. Oceanography and Climatology	For Petroleum Coal and Radioactive Minerals This practical course has	For Petroleum Coal and Radioactive Minerals The students upon successful completion of this course will be well versed with:

		following objectives: • Study the distribution of Coal deposits in Rajasthan, India and World • Study the distribution of Petroleum basins in Rajasthan, India and World • Study the distribution of Radioactive Mineral deposits in Rajasthan, India and World • Identification of Coal and Radioactive minerals in hand specimen • Numerical exercises on reservoir volume and yield calculation. • To study coal samples under microscope (Coal Petrography) For Oceanography and Climatology • To emphasize on different climate regimes • To introduce different ocean current and their role on global and regional climate • To introduce major wind patterns on world map • To make them understand use of different proxies for	• Distribution of Coal deposits in Rajasthan, India and World • Distribution of Petroleum basins in Rajasthan, India and World • Distribution of radioactive mineral deposits in Rajasthan, India and World • Identify and describe coal and radioactive minerals in hand specimen. • Calculate and able to solve problems in reservoir volume and yield calculations. • To identify and describe various microlith types of the coal samples under microscope. For Oceanography and Climatology • The students will be able to understand the role of ocean atmosphere coupling and their importance in global climate. • The student will be able to solve numerical exercises related to proxy interpretation and proxy correlation • The students will be able to establish chronology with the help of proxies.

		establishing chronology • To introduce different proxies used for paleoceanographic and paleoclimatic interpretation	

Skill Papers

Course /Paper Code	Course /Paper Name	Outcome of Course
MT2GEO07-SE01	Geological and Mining Consultancy	Students learn about ore reserve estimation and planning of mine

Faculty of Social Science

Department of Journalism and Mass communication

Courses offered-

- M.A.

M.A (Journalism and Mass communication) Scheme of Papers under CBCS Guidelines w.e.f 2017-18

Semester I

Core Course- 1 ***JMC/1/CC/01***

INTRODUCTION TO COMMUNICATION

Objective:

To help students understand the concept, process and functions of Communication with the help of proven models and theories.

Unit I: Communication – Definitions – Elements of Communication – Communication Act – Sender – Message – Channel – Receiver – Effects – Feedback – Communication Process – Communis. .

Unit II: Communication Basic Models – Scope, functions and limitations of communication models; Development of communication models from simple to complex; Powerful, moderate and limited effect models; Models of Aristotle, Dance, Harold Lasswell, Braddock, Shannon and Weaver, Osgood, Wilbur Schramm, George Gerbner, Westley Hellical Dance and MacLean.

Unit III: Various types of Communication – Intrapersonal – Interpersonal -Group – Mass Communication and Mass line Communication – Functions of Communication – Verbal and Non Verbal Communication – Signs – Codes – Proxemics – Kinesics. Effects.

Unit IV: Theories of direct and indirect influences; Bullet theory, Two-step flow theory, Theory of cognitive dissonance, concepts of selective exposure, Selective perception and selective retention; Cultivation theory, Agenda setting theory, Uses and Gratification theory; Mass society theory, Media System : Authoritarian, Libertarian, Social Responsibility Soviet Socialism, Democratic participant theory.

Unit V: Functions of Mass Communication – Mass Society – Socialisation Process – Mass Culture – McLuhan's Global Village Concept – Global Culture.

REFERENCE BOOKS:

1. Bever S.H., et.al., The Sociology of Mass Media Communications, The Social Review, The University of Keele, Staffordshire, 1969.
2. David K. Berlo, The Process of Communication, Holt Rhinehart and Winston, 1960.
3. Denis McQuail, Mass Communication Theory, Third Edition, Sage Publication, 1994.
4. Denis McQuail and Svin Windhal, Communication Models, Longman, London, 1981.
5. James Watson, Dictionary of Communication and Media Studies.
6. John Comer and et. al, Communication Studies, Longman, London, 1981.
7. Keval J.Kumar, Mass Communication in India, Vikas Publication,s New Delhi, 1994.
8. Little John.S.W., Theories of Human Communication, Longman, London.
9. Marshal McLuhan, Understanding Media.
10. Reed H.Blasce and Edwin Haroldsen, A Taxonomy of concepts of Communication, Hasting House, 1975.
11. Warren K. Agee, Introduction to Mass Communication, New York, 1960.
12. Wilbur Schramm, The Process and Effects of Mass Communication.

Core Course –2 ***JMC /1/CC/02***

Media, Culture and Society

Objective:

To help students understand and analyze the role and impact of media in social system in relation to the existing socio, cultural and political scenario.

UNIT I

Media and Society: Contemporary importance of Media in modern society; Media's influence on audiences' thinking and social behavior: Media dependency-Pluralistic media and Indian society.

UNIT II

Media in Democratic Society-Media and social process: Mediated role and social conferment, status conferral, socialization-Politics and Industrial power: Political economy of policy perspectives.

UNIT III

Media, politics and ideology: Market oriented media and social dilemma culture and communication –mass-mediated culture- Communication and social conflicts- Religion and communication. Contemporary relevance of Gandhian model of Communication.

UNIT IV

Communication across cultures – new communication technologies –change andchallenges-trends in mass communication in the Internet era- knowledge society Information rich and information poor.

UNIT V

Mass Communication: Characteristics; Mass media – Growth, New media context, access, control and use. Functions of Mass communication – information, education and entertainment, Social Norm, Status conferral, Privatization, Monopolization, Canalization, Inoculation, Mass society and Mass culture.- Dysfunctions : stereotyping, cultural alienation, impact on children; Regulatory mechanism: government , professional bodies and citizen groups.

REFERENCE BOOKS:

1. Communication and culture – A World View. K.S.Seetharam.MC Graw hill Publishers. New Delhi, 1991.
2. Social Accounting in Communication, Richard Butney, Sage Publications, 1993.
3. Global Information and World Communication, Hamid Mowlana, Sage, 1997.
4. Mass Media and Political Thought (Ed) Sideny Krans and Richards Perlof, Sage 1985
5. The language of Communication, George N Gorden, Hustings Hower, 1969
6. Theory of Information Society, France Webstar, Roultledge, 1997
7. Mass Mediated Culture, Micheal R. Real, Prentice Hall, 1977
8. Communication and Media: Constructing a Cross Discipline –Georage N.Gordon, Hasting House, 1975
9. More than words: An Introduction to Communication, Richard Dimbleby and Greema Buton, Routledge, 1998.
10. Global Communication in Transition: The end of Diversity? Hamid Mowlana, Sage 1996
11. Information Inequality, Hebert T. Shiller, Routelge, 1996
12. Introduction to Communication studies, John Fisk, Routledge, 1998
13. Television Audience and Cultural Studies, David morley, Routledge, 1998

Core Course – 3 ***JMC /1/CC/03***

ADVERTISING AND PUBLIC RELATIONS

OBJECTIVE:

This paper is to expose the students to functions, strategies and techniques of advertisement as well as social and economic effects of advertising and to learn the fundamentals of PR for practical application to build up of an image of any corporate entity.

UNIT I

Introduction to advertising – relevance of advertising in markets today; Evolution and history of advertising; Advertising and the Marketing process. Constituents of advertising. Advertising as Communication, Status of Advertising industry in India, Socioeconomic effects of Advertising, Advertising in Global marketing context; Advertising theories: Hierarchy of needs, Stimulus- Response theory.

UNIT II

Types of Advertising; Critical analysis of ads; `Campaign Planning; cycle, models, Strategy, Types. Advertising Agency: Structure, functions, Types, selection:, Media relationship, Global marketing and advertising; implications professional bodies; advertising agencies association Advertising standards Council, professional ethics, challenges and requirements.

UNIT III

Advertising forms; ad production Copy: copy platform, copy format, elements, appeals, Visuals and other creative elements. Techniques of print Ad. Production. Audiovisual commercials: procedure and techniques. Media: Print, electronic, outdoor and new media: characteristics, cost and effectiveness. Media Planning Process, Strategy and methods - Media buying & placement. Professional Ethics, issues and problems; Global marketing and advertising in future.

UNIT IV

Public Relations: Evolution of Public Relations, Four basic elements of public relations PR as amanagement concept, PR as a profession, PR Functions: public opinion, propaganda, and publicity, PR firms in India: status and growth. Public Opinion -formation and publicity-types.

UNIT V

Organization; Public relations department, Committees; The Public relation Counsel; Tools of PR: Advertising, (house journal) Periodicals, Films, Employee Relation, shareholders, special events, PR publics, consumers, community, government, media. PR in private and public sectors; Evaluation and Research; measuring advertising effectiveness.

REFERENCE BOOKS:

1. Fundamentals of Advertising', Otto Kleppner, Prentice Hall, New Jersey.
2. 'Ogilvy on advertising'. David Ogilvy. 3. PR principles, cases and problems', Moor and Canfield.
4. The Practice of Advertising' 3rd Fdn. Norman Hart, Heinemann Pub. London.
5. Global Marketing and advertising: Understanding Cultural paradoxes' Marieke de Mooij,Sage, New Delhi.
6. Effective Public Relations'. Cutlip et al., Prentice Hall, New Jersey.

Core course 4 ***JMC /1/CC/04***
Communication Research

Unit I
Communication Research Definition, Elements, Role, Ethics, Function
Unit II
Research Types Basic, Applied, Quantitative, Qualitative

Unit III
Research Design Components, Importance, Sampling Design

Unit IV
Data Collection Tools Primary Sources, Secondary Sources, Measurement and Scaling Techniques
Unit V
Statistical Methods Mean, Median, Mode, Correlation, Standard Deviation, ANOVA Technique, Chi- Square Test, Report Writing

Reading List
1. Wimmer & Dominick: Mass Media Research. Cengage Learning.2013
2. Berger A: Media Research Techniques. Sage.1998
3. Priest S.H: Doing Media Research .Sage.2009
4. Rubin R. B. etal: Communication Research Measures, Guilford Press2010
5. Singh. Kultar: Quantitative Social Research Methods, New Delhi: Sage.2007
6. Babbie. Earl: The Practice of Social Research, California, Belmont: Wadsworth Publishing Company.2013
7. Kothari CR: Research Methodology: Methods and Technique, New Age International 2004
8. Bhattacharya, D.K. Research Methodology, New Delhi: Excel Book2003
9. Berelson B:Content Analysis in Communication Research, Free Press New York1952
10. Ackoff, RL: The Design of Social Research, University of Chicago Press Chicago 1956
11. Ghosh B N: Scientific Methods and Social Research, Sterling Pub New Delhi 1982
12. Tandon BC: Research Methodology in Social Sciences, Chaitanya Pub Allahabad 1979

Core Course –5, Practical- 1 *JMC /1/CC/05*
EDITORIAL PRACTICE (Practical)

OBJECTIVE:

This practical paper enables students to work in actual newsroom conditions to explore the general principles of newspaper in news collection, selection and publication. Also writing headlines leads and body, building feature stories, reporting skills, editorial policy, and judgments in processing materials for publication." The students are expected to stay abreast of local, regional, state, national and world events by reading a local daily each day. Students should also be familiar with a national newsweekly. This activity is to ensure that students maintain broad news awareness and develop a world perspective. Writing letter to editor, Preparing press releases, Taking interviews, News writing on different beats, Organizing press conferences, Editing different types of news, Writing headlines, Writing features and articles. News translation and other related activities. Use of computer in news writing or other practical, activities as directed and guided by teachers.

Core Practical/ 6 Practical- 2 *JMC /1/CC/06*
Audio-Visual Project

1. Evaluation of persuasion /Screening

Should consider

- Camera
- Editing
- Coordination/direction
- Concept

1. Scripting- 20

(1 Copy) (Including Computer, Shooting & Editing)

2. Viva – the group can appear together, but evaluated on individual performance by the examiner.

Evaluation to be done by 2 external examiners

Semester II
Core Course- 7 ***JMC /2/CC/07***

REPORTING AND EDITING
OBJECTIVE:
This subject develops skills in reporting and editing for print media. Students extend their abilities as reporters by developing more advanced reporting interviewing and writing techniques appropriate for the production of longer stories. Students are introduced to basic skills and strategies for the editing and publishing of stories for publication.

UNIT I
News: Definition, concept, elements, types of news, news values, news sources, reporters, types, responsibilities and qualities, changing pattern of news coverage, style and approach.
UNIT II
General Assignments, Covering a Beat, Nature, Incident and Spot News, Press Conference, Investigative reporting, Interpretative reporting, Feature Writing, Human Interest stories, Reviews, Music, Book, Cinema, Drama, Exhibitions etc. Interviews, handling of scoops and Exclusives, Concept of Photo Journalism, Caption writing.
UNIT III
Areas: Political, legislative, civic and social life, crime and corruption, court, economic ,business and industry, development, sports and fashion, science, environment and ecology, health.
UNIT IV
Organization, structure and operation of the newsroom of a daily newspaper and news agency, Need for editing, tools of editing; qualities and responsibilities of sub-editor, chief sub-editor, news editor and editor, Concept of reader's editor and Ombudsmen.
UNIT V
Editing: Knowledge of Typography, Headlines, Dummy Page Make Up, Proof –reading, layout, Photo Display , Editing of news from News agencies , Graphics , Magazine editing, symbols, tools, Lead, Body and Paragraphing.

REFERENCE BOOKS:
1. Melvin Mencher's News Reporting and Writing, McGraw Hill.
2. The Associated Press Style Book.
3. Kamath, M.V., Professional Journalism. Vikas Publishing House, New Delhi.
4. A Manual for News Agency Reporters, Indian Institute of Mass Communication, New Delhi, Allied Publishers Pvt. Ltd., New Delhi.
5. News Editing, Bruce H Westley
6. Modern News Editing, Mark D. Ludwig, Gene Gilmore

Core Course- 8 ***JMC /2/CC/08***

Mass Communication

Unit I

Mass Media Communication Definition, elements, types,barriers

SMCR, Laswell, Shannon& Weaver, Osgood, Westley & Mclean, Gerbner, Schramm, Dance, Roger& Kinciad etc

Unit II

barriers SMCR, Laswell, Shannon& Weaver, Osgood, Westley & Mclean, Gerbner

Unit III

Schramm, Dance, Roger& Kinciad etc

Unit IV

Personal Influence, Normative ,Sociological , two step & multi step etc
Definition types functions different

Unit V: systems in India & abroad types, recent trends, impact on society different forms in India, importance in development communication, relevance with popularity of modern media

REFERENCE BOOKS:

1. Everett. R M. : A History of Communication Study, Free Press, 1997
2. McQuail D: Mass Communication Theory: An introduction, Sage Publication2005
3. Andal. N: Communication Theory and Models, Himalay Publishing House 2004
4. Kumar K. J: Mass Communication in India, Jaico Publishing house1994
5. Vivian J: The Media of Mass Communication Pearson Boston, New York.2012
6. Dominick J. R: The Dynamics of Mass Communication Mcgraw Hill 1999
7. Stanley D & Baran J: Mass Communication Theory & Practice, Maffield Publishing
8. Parmar S: Folk Media in India
9. Joshi U:Text book of Mass Communication Anmol 1999
10. Dey P. K: Perspectives in Mass Communication, Kalyani Publishers1997
11. Bharti S: Mass Communication and Society, Avishkar Pub New Delhi2008
12. Puri M :Outlines of Mass communication, Pragun Pub New Delhi2006
13. Gaur S: Mass Media and Communication, Book Enclave Kolkata
14. Ojha N: Mass Media and Communication, ABD Pub

Paper -9/ Elective Course 9- *JMC /2/SC/09*

Corporate Social Responsibility

Unit I

Introduction to Corporate Communication Evolution of corporate communication Planning of corporate communication Identification and understanding corporate goals Corporate strategy and corporate niche

Unit II

Corporate Planning Corporate identity – importance and viability, Human resource development and management Brand Identity and positioning management , Corporate Social Responsibility- issues & Ideas, Concept of CSR Emergence of CSR - A Global Perspective Overview of CSR in India

Unit III

Corporate Social Responsibility – theoretical foundation, Debate and discussion of CSR – Different thoughts of baseness and social schools Theories of CSR – Triple bottom line theory and others

Unit IV

Corporate Social Responsibility – practical experiences, CSR – In public and private sectors CSR – selected case studies, Promotional Strategies of Corporate Social Responsibility

Unit V

Promotion of Public relations through CSR Image building capacity of CSR Interdependence between CSR and the stakeholder- Community people, shareholder and consumer relations The CSR provision in the Companies Act 2013

REFERENCE BOOKS:

1. Asha Kaul, Avani Desai Corporate Reputation Decoded : Building, Managing and Strategising for Corporate Excellence, Rawat Publication 2014

2. Joep Cornelissen Corporate Communication : A Guide to Theory and Practice, 4th ed, , Rawat Publication

3 Robert R. Ulmer, Timothy L. Sellnow, Matthew W. Seeger , Effective Crisis Communication: Moving From Crisis to Opportunity, 3rd Ed, Sage publication 2009

4 Prithi Nambiar, Media Construction of Environment and Sustainability in India, Sage , 2011

5 J V Vilanilam, Public Relations in India : New Tasks and Responsibilities, Sage publication 2009

6 . W. Timothy Coombs , 2Applied Crisis Communication and Crisis Management : Cases and Exercises, Rawat Publication 2013

7. Seitel, P. Fraser. The Practice of Public Relations, 6th ed, Prentice Hall, New Jersey, 1995.

8. Balan, R.K. Corporate Public Relations, Sterling Punishers Pvt. Ltd, New Delhi, 1992.

Paper 10/ Elective Course- 10 ***JMC /2/SC/10***

Photo Journalism

Unit I

Photography in historical perspective-role- i. Basic concept of Photography-history and expedition. ii. Function and role of photography in Communication. iii. Importance of Photograph in journalism.

Unit II

Technical know- i. How of camera, lenses, films and accessories. ii. Technological changes-impact and changes in photo journalism.

Unit III

Role and responsibilities of photo journalist- i. Role and responsibilities of photo journalist.

ii. Qualities of a good photojournalist.iii. Challenges faced by photojournalist.

Unit IV

Photo editing -i. selection of photograph ii. Cropping iii. Editing iv. caption writing

Unit V

Photo feature on topical issues, Practical assignment on Important Issues. (portrait, wildlife, landscape, sports, war, fashion, entertainment and advertising)

REFERENCE BOOKS:

i. Ron Reeder Brad Hinke: Digital Negatives, Focal Press, 2007
ii. Steve Heath: Multimedia and Communications Technology, Elsevier,2003
iii. James A. Folts,Ronald P. Lovell & Fred C. Zwahlen Jr. : Handbook of Photography,2002
iv. Michael Langford: Basic Photography, Focal Press, 2003
v. O.P. Sharma: Practical Photography, Hind Pocket Books, 2001
vi. Zaheer Husain Khan: A Guide to Photography, School of Foto Film and Television, Delhi – 35, 2006
vii. Newnes: Basic Photography,2009
viii. Hamlyn :The Hanlyn Basic Guide to Photography ,2003
ix. Cyernshem G R :History of Photography ,2001
x. Rothsteline :Photo Journalism ,20011
xi. Milten Feinberg :Techniques of Photo Journalism,2010
xii. Bergin :Photo Journalism Manual ,2003

Elective Course 11 ***JMC /2/OE/11***

WRITING FOR MEDIA

OBJECTIVE:

This subject will give an understanding of mass media and of how to report and write media stories appropriate for publication in print, broadcast and online journalism. More generally, you will be able to write effectively in any professional environment.

UNIT I

Print Journalism: elements of writing, types of writing, style book: attribution, language, style and grammar; accuracy and precision issues; purposes, sources, styles, techniques. columns – development, criticism, reviews, feature writing, editorials, news analysis, backgrounding, morality in writing for print.

UNIT II

Spoken language writing – writing for programmes – writing for radio commercials – illustrating copy with sound effects; news writing – structuring radio-copy; editing agency copy, reporter's copy-compiling radio news programmes; radio news formats- program formats- radio scripts writing intro to bytes – writing headlines, teasers and promos.

UNIT III

Writing for television: writing to still, writing for video, reference visuals to words. TV news writing; marking copy in production language; writing for television programmes – research, visualization and production script; basics of broadcast news writing; rewriting wire copy, script writing- types of scripts, headlines writing, teasers and promos.

UNIT IV

Characteristics of a digital story; the journalist as a digital or multimedia storyteller; writing for the web; online reporting and research; convergence and multimedia; procedures for creating a podcast; blog; video blog or vlog, flash journalism; social media as reporting tools.

UNIT V

Writing for regional press; style and format of popular news papers, tabloid journalism, magazines, status of investigative and development reporting in news media; reporting and writing skills for news papers and magazines; skills for writing complex issues and multiple source story.

REFERENCE BOOKS:

1. Anura Goonasekera and Paul Lee T.V. Without Borders AMIC, Singpour.
2. While T. Broadcast, News writing MacMillian New York.
3. Rivers Wlliams and work Alison Writing for the Media.
4. Wills Edgar and Holt, Writing TV and radio programmes R & W Publication.
5. Journalism Online, Mike Ward, Focal Press.

Elective Course 12 ***JMC /2/OE/12***

ONLINE JOURNALISM

OBJECTIVE:

The course intends to introduce the students to internet and online journalism. The course will also trace history and growth of Online Journalism in India, reporting, editing and production techniques of web pages of online editions of newspapers, use of Internet as a tool for journalists.

UNIT I

Online Journalism: Definition and Concept, Internet as a medium of communication Internet, Intranet, www, online, e-mail, blog, social media, Web 2.0 and 3.0, news group, Web servers, Cyberspace: Meaning, Information Super Highway, Internet and Information Revolution

UNIT II

Distinctive Features of Online Media, Online Journalism V/s Other News Mediums, New roles of Journalists in the Internet age, Trends in online Journalism, Online Journalism: Issues and Challenges, Web Blogs, Citizen Journalism

UNIT III

Digital Divide- Writing for the screen vs. writing for print, Linear vs. nonlinear form Styles of web writing: The art of lateral thinking and layering, Features and Articles on the Web, Interviewing on the Web, Do's and Don'ts

UNIT IV

Web page development, inserting, linking; editing and publishing, On-line editions of newspapers- Content management and economics, Conducting online searches and research, Online searching techniques, Citing Internet sources, Archiving, Photo Essays.

UNIT V

Comparative Analysis of E editions v/s print editions of national dailies, Analysis of News websites, Create a weblog and update regularly. How to start an online magazine (basics).

REFERENCE BOOKS:

1. Online Journalism: A Basic Text, Tapas Ray, Cambridge University Press
2. The New Media Handbook – Andrew Dewdney and Peter Ride
3. Andrew Bonim Writing for New Media: The Essential Guide to Writing for Interactive
4. Media, CDROM, and the Web.
5. Journalism to Online Journalism: Publishing News and Information by Roland De Wolk
6. (Allyn&Bacon,2001)
7. Introduction Digital Journalism: Emerging Media and the Changing Horizons of
a. Journalism, Edited by Kevin Kawamoto(Rowman and Lilltlefield Publishers,2003)

Skill Course -1 JMC /2/Skill-01
Radio

Unit I

Development of Radio, Radio as a medium of communication public and private radio systems Characteristics of FM and Ham Radio

Unit II

All India Radio, AIR and its role as a medium of mass communication News Service Division, Radio news, Types of radio news bulletins and their structures Style and presentation of Radio news News reader – qualities and duties Radio newsroom – structure and function

Unit III

Radio Programme, Radio Interview, Radio Drama, Radio documentary, voice dispatch Art of scripting for radio news, FM Broadcasting, Emergences of Public & Private FM Format of FM programme Popularity and acceptance of FM

Unit IV

Radio Production, Phases of radio production Acoustic treatment of audio studio Concept of OB van production Types of tape recorders – Analog and Digital Digital Editing consoles, dubbing system. Mixing techniques Cues,

Unit V

commands and signals of studio Editor & Editing – dos and don'ts Software application of Radio editing**,** Radio in world, BBC radio model Community radio in Bangladesh.

REFERENCE BOOKS:

1. Chatterjee, P.C., Broadcasting in India, Sage, 1987
2. Luthra, H.R., Indian Broadcasting. Publications Division, Govt. of India , 1986
3. Bhatt, S.C., Broadcast Journalism: Basic Principles , Har Anand Publications (June 30, 2007)
4. Baruah, U.L., This is All India Radio, Publications Division, Government of India, 1983 ,New Delhi.
5. Shrivastava, K.M., Radio and TV Journalism, Sterling Publishers Pvt. Ltd.,2005, New Delhi
6. Masani, Mehra :Broadcasting and People - National Book Trust, NewDelhi,1997
7. Akash Bharti National Broadcast Trust : Publication Division, New Delhi, 1987
8. Hellard Robert -, Writing for Television and Radio, Sage 2000
9. Mitchell Stephen, Holt - Broadcast News, Radio Journalism and an introduction to Television., Rinehart & Winston, rawat publication, 2010

III Semester
Core Course –13 ***JMC /3/CC/13***
Broadcast Journalism

OBJECTIVE:
Broadcast Journalism paper is aimed at applicants wishing to pursue a career in journalism within the broadcasting sector and equips you to become a critical practitioner with ournalistic skills. Broadcast Journalism adopts real-world working and industry emulation strategies ensuring that graduates are fully prepared for a career in broadcast journalism.

UNIT I
Origins and characteristics of radio and TV - characteristics of the aural faculty of humans - cultural meanings of sounds and visuals in India/Rajasthan - the contributions of Second World War to radio's growth - a brief history of broadcasting in India, Nature and characteristics of the medium, Broadcasting policy, Objectives, Role of radio in development, Recommendations of Committees and Working groups – Vidyalankar, Chanda, Joshi and Verghese Committees. PrasarBharathi Bill, Autonomy and Future of Radio.

UNIT II
Radio station – structure and functioning, Personnel – responsibilities, Radio programme production process – studio facilities, tapes. Writing for radio – principles and guidelines. Recording, Editing – methods and techniques. Programme formats for general and special audiences, production of news, interviews, features and documentaries, Listener ship surveys.

UNIT III
Television: Nature and Characteristics of the medium, Development of TV network in India, TV as a social and cultural force, TV and national development – SITE, INSAT; Policies and Programmes of Doordarshan, Satellite TV and Cable networks; Committees and recommendations.

UNIT IV
Television station – structure and functioning; Planning and production of TV programmes: pre production process – camera, film formats, lenses, shots, lighting principles and techniques, types of sound, audio control, writing for TV; Post production process: sequence, structure, types of transition, film editing methods and techniques, sound and graphics; Production of news, features, interviews and other programmes; Sponsored programmes, commercials, educational broadcast.

UNIT V
Social and cultural impact of foreign TV networks, need for policy frame work , factors influencing media environment, future of public broadcasting in India, audience research, research methods and techniques, trends in audience research.

REFERENCE BOOKS:
1. Barua U.L. This is All India Radio, Publication Division, New Delhi
2. Chatterji. P.C. Broadcasting in India, Sage, New Delhi
3. Berg, Jerry. Broadcasting on the Short Waves, 1945 to Today, McFarland, Jefferson
4. World Radio TV Handbook 2013: The Directory of Global Broadcasting, WRTH, London.
5. White, Ted. Broadcast news writing, Reporting and producing, Focal Press, Oxford,
6. Alan Armer. Directing Television and Film, Wadsworth Pub., California,
7. Bignell, Jonathan and Orlebar. Television Handbook, Routledge, London.

Core Course –14 ***JMC /3/CC/14***
FILM STUDIES

OBJECTIVE:
To enable the students explore films historically, culturally, theoretically and critically. This provides a scope to compare the world films and understand them in the above context.

UNIT I
Critical introduction to the origins of film studies as an academic discipline – Characteristics, functions, limitations of film media, elements/genres of cinema - Defining narrative- diegetic and non-diegetic elements – Narrative structure – Alternatives to narrative fiction film- documentary, ethnographic and experimental (avant-garde) films

UNIT II
Histories of pre-cinema, cinema and early cinema - Social context and film style- German Expressionism, Italian neorealism, French new wave, Hollywood, ,cinema verite, parallel cinema, Bollywood – Film authorship and the auteur – Independent documentary films.

UNIT III
Basic aspects of film language and film aesthetics: Mis-en-scene – Cinematography, Editing, Sound, Production, Stages and element of production.

UNIT IV
Film as a medium: Characteristic - Film perception: levels of understanding - Film theory and semiotics - formalism and neo formalism - film language - film and psycho - analysis - film and cultural identity: hermeneutics, reception aesthetics and film interpretation. Theorising Indian cinema with particular reference to the cultural studies and political economy approaches

UNIT V
An approach to film analysis- understanding audience expectations – The goal of film analysisthe importance of developing interpretive claims - economics of film production.

REFERENCE BOOKS:
1. Adorno,Theodor (2002) The Culture Industry, Routledge.
2. Baskaran, Theodore (1981)The Message Bearers:The Nationalist Politics and the Entertainment Media in South India, Cre-A.
3. David Bordwell and Kristin Thompson (2010), Film Art: An Introduction, McGraw Hill.
4. John Hill and Pamela Church Gibson (1998), The Oxford Guide to Film Studies, Oxford,1998.
5. Hayward,Susan (1996) Key Concepts in Cinema Studies, Routledge.

Soft Course- 15A ***JMC /3/SC/15A***
BASIC PHOTOGRAPHY

OBJECTIVE:
This course aims to train students in the basics of photography to begin with and later provide them a firm grounding in the various areas of news photography. This course is strongly recommended for those who are endowed with a passion for visual narratives and a drive to capture news personalities and events.

UNIT I
Photography-Meaning, Definition & History of Photography, Tools of Photography,Camera-Parts of a Camera (Shutter, Apertures, Lens, Films),Types of Camera.

UNIT II
Composition: Need for composing a picture, rules / conventions of composition, elements of composition and their role / relevance in communicating a message;

UNIT III
Lighting: Properties of light, diffused light; Light sources artificial and natural; Basic lighting set-up,lighting for different situations, products, Indoor and outdoor lighting, controlling light, flash light.

UNIT IV
Photographing people, portrait and still, wildlife, environment, sports, landscape,industrial disasters, photography for advertising, conflicts war political and socialphotography.

UNIT V
News values for pictures, photo essays – photo features; qualities essential forphoto journalism, picture magazines – colour photography, impact of technology,practical, field assignments and their evaluation.

REFERENCE BOOKS:
1. The encyclopedia of photography (3rd edn.) (1993) by Richard Zakia, LeatieStroebel, Focal Press, London.
2. The Manual of Photography (2000) by Ralph E Jacobson/Geoffrey G Attridge/Sidney F Ray, Focal Press, Ninth Edition.
13
3. Understanding Digital Photography by Joseph A .Ippolito, Thomson Press, New Delhi, 2005.
4. The Manual of Photography (2000) by Ralph E Jacobson/Geoffrey G Attridge/Sidney F Ray, Focal Press, Ninth Edition.
5. The Photographer's Handbook. 1999 by John Hedgecoe. Alfred A.Knopf Publisher,

Soft Course 16A ***JMC /3/SC/16A***

Internet and Computer Application in Media

Unit I

Introduction to Computer Application Concept of software and hardware. • Concept of data and information.

Unit II

Elementary concepts of DOS commands and Windows. Text editing using MS WORD. Environment of Computer application in media.

Unit III

Details of a presentation software like Power Point. Advanced Concepts of Operating Systems like Dos and Windows. Software Word Processing.

Unit IV

Photosho
Corel Draw
Quark
Xpress/Design

Unit V

Introduction to Web Design. HTML. Multimedia concepts and applications.
• The concept of Desk Top Publishing using Page make up. • Elementary concepts of networking. • Internet : Dial up access, shell vs TCP/IP account. Introduction to domains & address, IP addresses. Introduction to www. Searching information from www. Communication using E mail.

Elective Course 17 ***JMC /3/OE/17***
MEDIA MANAGEMENT

OBJECTIVE:
This paper has three main objectives: First is to introduce you to the managerial aspects of print and electronic media industries. Second is to delineate the Major management functions within industries and describe the important issues that confront individual managers. In addition, the final is to explore management career opportunities in media industries.

UNIT I
Introduction to management, Review of broad theories of management. Management in Print and Broadcast Media. Case studies, management strategies and current media industries. Differences in managing print and electronic media. Nuances in managing and marketing media products.

UNIT II
Organizational Structure - Nature of the Business – What makes a Manager – The Manager's Duties and Responsibilities — Building a Radio Station & TV Station. Communication System,Edition Planning, Printing Schedules, Time Management. Different Type of Problem like Labour etc. Human Resource Development.

UNIT III
Newsprint Policy, Management, Costing, Supplies, Inventory Control and Quality Management,Ownership Patterns. Broadcast Media management issues - The industry special – Managing media personnel - The manager's role. - Ethical issues associated with the electronic media - Theorganization of electronic media units - Department head positions - Middle managers -Women and minorities in management.

UNIT IV
Newspaper finance and control – newspaper registration – R N I –Recruitment policy – training – wage policy – wage boards – readership surveys – ABC. Discussion of current industry issues - Participatory management - Financial management of Broadcast Media - Human resource management of Broadcast Media - The role of research in the management of the Broadcast Media - Audience research.

UNIT V
Media Economy – Nature and Scope of the Media as business entity – key media Economic concepts – markets, industries – macro, micro media economic principles – time and trends, demographic changes, expected marginal utility issues in TV and film Economics.

REFERENCE BOOKS:
1. Stephen P. Robbins & Mary Coulter, Management, Prentice Hall of India.
2. Anna Bhattacharyajee, The Indian Press – Profession to Industry.
3. M. V. Desai & Sewanti, Beyond Those Headlines: Insiders on the Indian Press.
4. Ashok V. Desai, Economic Aspect of Indian Press.
5. Jane Willis, Surviving in the Newspaper Business.
6. Conard C Fink, Strategic Newspaper Management.
7. Bittner, John R. Broadcasting and Telecommunication (Englewood, NJ: Prentice-Hall, Inc., 1985).

Elective Course 18 ***JMC /3/OE/18***

NEW MEDIA STUDIES

OBJECTIVE:

The course discusses developments in Communication and Media technologies, convergence of media, Information Society and legal, ethical and cultural issues arising out of the worldwide expansion of the new technologies.

UNIT I

New media Technology – characteristics: Information Superhighway, Convergence, Structure and Functions; - social and cultural consequences: fragmentation and digital Isolation; Social Control and Democracy – Privatization and Competition – New media access and control – Digital Divide: - E-governance – process, social and legal frameworks – Policy initiatives.

UNIT II

Information and Knowledge society – Definitions and characteristics of Information Society, Post-industrial society – Information Society Theories: Daniel Bell, Machlup, Webster, Schiller – Evolution of New media audiences: Elite, Mass, Specialized and Interactive – New media uses and gratifications – Influencing factors.

UNIT III

Social and Cultural effects of New Media: Social Networking, Information Overload, Information Rich and Information Poor, Knowledge Gap and Cultural Alienation New media impact on old media – ICTs for Development – Empowerment, right to information.

UNIT IV

New Media Theory – Perspectives, Technological Determinism, Constructivism, Functionalism, Postmodernism, Characteristics of New Media – Uses, Adoption ICT and Social Transformation– socio-technical paradigm, Information commodification new consumption norms – knowledge gap.

UNIT V

New media issues: Invasion of Privacy, Piracy, Cybercrimes and Pornography IT policies, Information Act and Regulations.

REFERENCE BOOKS:

1. New media – By Ronald Rice, Sage Publications, 1984
2. Global Information and World Communication (2nd edition)– by Hamid Mowlana Sage Publications, New Delhi, 1997
3. Theories of Information Society – by Frank Webster, Routledge Publications, London, 1995
4. New Media Technology – Cultural and Commercial Perspectives – by John V. Pavlik, Allyn and
Bacon Publications
5. Media performance – By Denis McQuail, Sage Publications London, 1992
6. Media Policy – Ed. By Denis McQuail, Sage Publications, London, 1998
7. Internationalizing media theory: Transition, Power, Culture – By John DH Downing, Sage Publications, New York 1997

Semester 4
Core Course 19 ***JMC /4/CC/19***

TELEVISION PRODUCTION
OBJECTIVE:
The paper offers the basic concepts of television production an understanding of the operation of TV production equipment and will provide the fundamentals of development of the script for different genres.

UNIT I
Introduction to Video Camera, Working principle of a video camera, Different types of video cameras, CCD, Components of video camera, Types of lenses, White balance process and need, Camera control unit, Basic shots and their composition, Concept of looking space, head room and walking space

UNIT II
Introduction to Television Production, Video production: meaning and scope, Video production process: pre-production, production, post production, Production personnel and their duties and responsibilities, Types of video programmes production, Television studio and ENG production,

UNIT III
Types of Lighting- indoor and outdoor; lighting for Television, Importance of lighting in television, Lighting equipment and control, Lighting techniques and problems.

UNIT IV
Editing Concepts and Fundamentals, Editing - meaning and significance, Grammar of editing Grammar of Picture, Grammar of Audio, eye line, point of view and continuity type- Match cut, jump cut, tempo, transition, special effects, Importance of cut away and cut in shots, Editing problems and ethics

UNIT V
Planning a news Survey package, ENG – visualizing, sources, and elements of television news; Planning a news story, research and execution; Television interview-need and types, piece to camera – need and types Writing for television; writing to visuals, marking copy in production language.

REFERENCE BOOKS:
1. Zettl, Hebert, Television Production Handbook. Wadsworth. Thompson Learning.
2. Zettl, Hebert; Video Basics. Wadsworth. Thompson Learning.
3. Video Editing- A post production primer by Steven E. Browne
4. Television Production by Allan Wurtzel
5. The Television lighting technique by Gerald Millerson
6. Video Camera techniques by Gerald Millerson
7. Basics of Video Production by Der Lyur& Graham

Elective Course 20 ***JMC /4/CC/20***

Media Ethics and Laws

OBJECTIVE:
To enable the students understand the legal and ethical aspects of the Indian media and the existing regulatory mechanisms.

UNIT I
Introduction to Indian constitution – overview - salient features - preamble - constitution - fundamental rights –Article 19 1 (a) – various freedoms reasonable restrictions - freedom of speech and expression and their limits – Freedom of the press - Brief view of directive principles

UNIT II
Defamation& contempt of court – intellectual property rights- trademark - patents & copy righmedia-related Acts: parliamentary privileges; books and registration Act; Working journalist Act, press council of India; official secrets Act, cinematograph Act - Introduction to cyber laws, cyber crimes; ICANN, issues related to social networking

UNIT III
Introduction to media ethics – Philosophical background in ethics – Nature of media ethics – Personal ethics and group ethics – Consequences of personal choices – Moral judgment - Standards of taste – Gender and sexual orientation – Stereotyping – Mythmaking by the media –Obscenity and pornography – Violence and brutality – Reporting during Special – sensitive situations — Ethical concerns in investigative journalism

UNIT IV
Media and diversity – Ethnic, racial and cultural identities – Social responsibility of media in presenting a representative picture of all constituent groups in society – The role of media during conflicts and wars- conflict-reduction journalism, conflict-resolution journalism – coverage of state security issues and information access – The limits of the right to know - journalism ethics and patriotism — Ethics and cheque-book journalism – New roles for journalism and public opinion.

UNIT V
International instruments – Access to information laws and procedures – Right of reply provisions – and case studies right to information Act 2005 major judgements relating to media.Protection of whistleblowers –Laws regulating blasphemy hate speech, and racism – The law and professional standards relating to privacy – Free speech on the web.

REFERENCE BOOKS:
1. Basu, DD (2010) *Law of the Press in India*. Prentice-Hall India.
2. Basu DD (2012) *Introduction to Indian Constitution*, Prentice Hall Indi
3. Media Communication Ethics: Louis Alvin Day, Wadsworth, 2006.
4. Practicing Journalism– Values, Constraints, Implications: Nalini Ranjan, Sage, 2005
5. Rape of the Family– Sexual Violence in Indian TV Soaps: Centre for Advocacy and Research, New Delhi, 2006.

Elective Course 21 ***JMC /4/CC/21***

DEVELOPMENT COMMUNICATION

OBJECTIVE:
This paper will introduce development communication theories and the Significant development communication experiments in India. It will also touch upon the need for human rights reporting and development reporting.

UNIT I
Development- concept, processes and models of development – Indicators of development Characteristics of developing and developed societies – Gap between developed and developing societies – Development Communication- concept, strategies and barriers.

UNIT II
Development communication issues- health, education, poverty and hunger, agriculture, environment, sustainable development, gender equality, Millennium Development Goals (MDG) – Development Support Communication – Information Education Communication (IEC) and Behavioral Change Communication (BCC) – Case studies.

UNIT III
Research for development communication – Identifying stakeholders – Field techniques for data collection – Participatory development – Participatory Rural Appraisal (PRA) techniques Computer- assisted reporting and research.

UNIT IV
Human communication and traditional media – Inter-personal and group communication – Origin, concept and characteristics of traditional media- relevance in contemporary society – Case studies of traditional media forms in India- folk songs, folk dances, folk theatre, folk tales, puppetry, folk games and street theatre.

UNIT V
Mass communication and modern media- internet, radio, TV, films and animation Development journalism and communication through grassroots comics, cartoons and posters – Choosing appropriate media, planning and producing communication for developing societies.

REFERENCE BOOKS:
1. Communication for Development in the Third World: Srinivas R. Melkote & H. Leslie Steeves, Sage, 2008.
2. Communication of Innovations– A Journey with Everett Rogers: edsArvindSinghal& James W.Dearing, Sage, 2006.
3. Communication Technology and Human Development– Recent Experiences in the Indian Social Sector: AvikGhosh, Sage, 2006.
4. Communications Development and Civil Society: V.S. Gupta, Concept, 2004.
5. Development Communications and Media Debate: MridulaMenon, Kanishka, 2007.

Core course 22 JMC /4/CC/22

Total 100 marks

Dissertation – 80 Marks

Structure of the dissertation: Introduction. Objective, Methodology, Review of Literature, Research analysis Findings, Conclusion, Bibliography

Mode of Evolution: Dissertation, Presentation and Viva Voce

1. Introduction/ Review of literature/ Objectives- 10

2. Methodology- 10 3. Research Analysis- 10

4. /Conclusion-10 5. Bibliography/ References- 10

Presentation- 20 Marks

Evaluation to be done by two Internal/ external examiners

Best dissertations can be encouraged for publication

Core course 23 / JMC /4/CC/23

Total 100 marks

Mode of Evolution: Report writing/ Visual Presentation/ and Viva Voce

Industry/ Educational Tour Report

1. **Written Report of Industry Visit/Tour- 40 Marks**
2. **PPT/ Visual Presentation of Tour -40 Marks**
3. **Viva – 20 Marks**

Evaluation to be done by two Internal/ external examiners

Core course 24 / JMC /4/CC/24

Total 100 marks

Mode of Evolution: Report writing/ Visual Presentation/ and Viva Voce

Media Internship

1. **Training/Experience Report of Media Internship- 40 Marks**
2. **PPT/ Visual Presentation of work done during Internship -40 Marks**
3. **Viva/ Internship Report – 20 Marks**

Evaluation to be done by two Internal/ external examiners

Social Media/ Skill Course **JMC/4/Skill-02**

Unit I

General Introduction to Social Media, Social Media: Feedback and Features.

The importance of social media in democracy,Mainstream media relation and differences

Unit II

Types of Social Media

Wikipedia, Blogs, microblogs, Social networking sites

Twitter, YouTube, Instagram, Facebook,

Unit III

Business Use of Social Media, Social Media & Advertising Social Media & Censorship Social media management Social media and public relations

Unit IV

Social media and society, Social media impact on society, Social media and various movements, Social Media and Creative Writing,

Unit V

practical work:

1. Creating and Writing Blog
2. Preparing a report on news made through social media
3. Analysis of the impacts and popularity of social media (on the basis of public opinion) and its presentation
4. Presentation of report on the role of social media in a movement special

Reference Books:

1. Hypertext Virtual Reality and Internet, Jagadishwar Chaturvedi
2. New Media: Linguistic Challenges of the Internet, No. R. Anuradha
3. A to Z Blagging, Irshad Ali
4. Free society's grapefruit, namely Chomsky
5. Hindi Blagging: New Revolution of Expression, Avinash Balspati, Ravindra Prabhat
6. Globalization and Media, Kumud Sharma

Faculty of Law

Courses offered-

- LL.B.
- B.A.LL.B.
- LL.M.

Program Outcomes

Program Specific Outcomes

PROGRAM OUTCOMES (POs) of LL.B., B.A.LL.B. and LL.M.

PO1. Legal Knowledge : To acquire & apply legal knowledge to the complex Socio-legal problems.

PO2. Professional Practice: to make students eligible to practice in Courts, Industries, Companies as legal practitioner.

PO3. Professional Skills: To possess professional skills required for legal practice such as Argument, Pleading, drafting, conveyancing etc.

PO4. Professional Ethics: To understand and apply principles of professional ethics of legal profession.

PO5. Developing Analytical Skills: Develop the ability to perform legal analysis and reasoning, legal research, problem solving, written and oral communication in the legal context and apply it in legal practice and real life situation.

PO6. Lawyering skills: Every graduate will become skilled in legal research, written and oral communication, teamwork, advocacy, and problem-solving.

PO7. Self-employability: To provide a platform of self-employability by developing professional skills in legal industry.

PO8. Leadership skills: To develop leadership qualities amongst students.

PO9. Lifelong Learning: To make awareness about Constitutional legislative & societal transformation in society & to develop clinical abilities.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1.Should be able to Demonstrate understanding of substantive and procedural law sufficient to enterthe legal profession and professions in which legal knowledge is an advantage.

PSO2. Understand the interdisciplinary nature of law and relate it with other disciplines like humanities, social sciences and management.

PSO4. Should be able to Gather and interpret relevant facts and conduct legal research.

PSO5. Should have the capability to understand the laws at national and global level and to solve theclient's problem.

PSO6. Should posses the skills to communicate in both oral and written forms and ability to formulatelegal problems and using appropriate concepts and methods to solve them.

PSO7 Demonstrate the professional skills of pleading, argument, drafting and conveyancing, collaboration, counselling and negotiation required for legal practice.

PSO8 Develop the ability of analyzing the law in relation to contemporary developments at national and international level.

Faculty of Social Science

Department of Library and Info. Science

Courses offered-

- B. LISc.
- M. LISc.
- Diploma

Program Outcomes

BLISc, MLISc and Diploma

The student will be able to manage the libraries in the ICT environment. The students will be equipped with the advanced skills of literature searching, networks, database management and related areas. The student will have necessary analytical skills to solve the problems in managing the libraries in the traditional system and in ICT enabled library services. The students are introduced to the basic areas of research, style manuals and will be able to scientifically communicate the research results with the peers.

MOHANLAL SUKHADIA UNIVERSITY

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

Faculty of Social Sciences

SYLLABUS

B.Lib.I.Sc

(Under Choice Based Credit System)

2019-20 onwards

1406

Librarianship as a Career

Libraries are now universally recognized as important social institutions, no community is considered complete without a library. The rapid increase in production of recorded knowledge, have led to the expansion of libraries and the development of their services. A library is an important element of a community; an academic library is an essential part of an educational institution school, college or university; a business and industrial organization.

Librarianship is a growing field, which has by now attained the status of a separate discipline in the universe of knowledge. It presents challenges and interesting situations to library personnel. The management of these libraries needs personnel with good academic and professional qualifications; proficiency in one the natural sciences, social sciences or the humanities is helpful in the professional development of a Librarian. Library work is primarily a social service, and therefore, needs young men and women with a sense of dedication and a spirit of service. Those intending to enter the library profession should satisfy themselves that they possess the academic qualification and the sense of vocation that would enable them to work successfully as librarians.

Librarianship as a profession provides a variety of employment opportunities. In Fact, it is possible to choose the kind of library to suit one's interest and background. Persons with a superior record high qualification can achieve high position. The salaries in college, university libraries are comparable to those of teachers.

The Department of Library and Information Science, University College of Social Sciences and Humanities, is organized under the Faculty of Social Sciences. It conducts one-year (two semesters) fulltime course leading to the Degree in Bachelor of Library and Information Science.

Objectives:

- To give the students an understanding of the basic principles and fundamental laws of Library and Information Science and to enable him/her to understand and appreciate the functions and purposes of the Library in the changing social and academic environment.
- To train the students in the techniques of librarianship and management of libraries.
- To acquaint the students with the organizations and development of the universe of knowledge and research methods.
- To make the students proficient in the theory and methods involved in information storage and retrieval.

Learning Outcomes:

The student will be able to manage the libraries in the ICT environment. The students will be equipped with the advanced skills of literature searching, networks, database management and related areas. The student will have necessary analytical skills to solve the problems in managing the libraries in the traditional system and in ICT enabled library services. The students are introduced to the basic areas of research, style manuals and will be able to scientifically communicate the research results with the peers.

Course Name:

- Bachelor of Library and Information Science (**B.Lib.I.Sc**)

  Nature: Professional Course

  Admission: Bachelor of Library and Information Science

  Duration: One Year (Two Semesters**)**

  Eligibility: Graduation or Post Graduation in any discipline with minimum of 45% Marks or equivalent grade.

  No. of Seats: 40 (Regular mode) + 20(Self finance/Payment mode). Reservation as per university norms.

  Medium of instruction: The medium of instruction is English, however, students may opt examination in Hindi medium.

Note:

- He/She must fulfill other conditions as may be laid down by the University/Admission Committee from time to time.
- 10% of the seats will be available for deputed/In-service candidates and working librarians. (In case of non-availability of eligible candidates in the in-service/deputed category, the seats will be filled up by fresh candidates).
- Reservation of seats belonging to Scheduled Castes and Scheduled Tribes shall be as per policy laid down by the University.
- Result will be prepared as per the CBCS rules of the university.

- Grade system will be applicable as per the rules of other subject of Social Science faculty.
- Failed/supplementary candidates will be governed by the Ordinances as applicable to other Post-Graduate students (CBCS) of the University.

Fees Structure:

B.Lib.&Inf. Sc (Regular Mode)	
Ist Semester	Rs. 3,000/- and Local Fund
IInd Semester	Rs. 3,000/-
Self-finance/Payment mode	
Ist Semester	Rs. 5,000/- and Local Fund
IInd Semester	Rs. 5,000/-

B.Lib.I.Sc (CBCS) Semester – I

Course No.	Course Code	Type	Title of the Course	Credits	L-T-P	Internal Marks	University Exam Marks	Total Marks
1.	BLIS/1/CT/01	CC	Foundation of Library and Information Science	4	3-1-0	20	80	100
2.	BLIS/1/CT/02	CC	Basics of Information and Communication Technology	4	3-1-0	20	80	100
3.	BLIS/1/CT/03	CC	Knowledge Organization: Classification Theory	4	3-1-0	20	80	100
4.	BLIS/1/CT/04	CC	Management of Library and Information Centres	4	3-1-0	20	80	100
5.	BLIS/1/CT/05	CC	Knowledge Organization: Colon Classification Practice	4	0-0-6	20	80	100
6.	BLIS/1/CP/01	CC	Basics of IT Practice (PR)	4	0-0-8	20	80	100

B.Lib.I.Sc (CBCS) Semester – II

Course No.	Course Code	Type	Title of the Course	Credits	L-T-P	Internal Marks	University Exam Marks	Total Marks
1.	BLIS/2/CT/07	CC	Information Sources and Services	4	3-1-0	20	80	100
2.	BLIS/2/CT/08	CC	Internet and Its Applications	4	3-1-0	20	80	100
3.	BLIS/2/CT/09	CC	Knowledge Organization: Cataloguing Theory	4	3-1-0	20	80	100
4.	BLIS/2/CT/10	CC	Knowledge Organization: Dewey Decimal Classification Practice	4	0-0-8	20	80	100
	Elective-Choose any one group A or B **Group –A**							
5.	BLIS/2/ET/11-A	EC	Documentation and Information Services	4	3-1-0	20	80	100
	BLIS/2/ET/11-B	EC	Information Retrieval and Academic Libraries	4	3-1-0	20	80	100
	Group –B							
6.	BLIS/2/ET/12-A	EC	Community Information Service	4	3-1-0	20	80	100
	BLIS/2/ET/12-B	EC	E-Resources and Technical Writing	4	3-1-0	20	80	100
7.	BLIS/2/Skill/01	Skill	Training and Report Writing	2	0-0-2	20	80	100

BLISc. First Semester

Paper Code: **BLIS/1/CT/01**

Paper Name: **Foundation of Library and Information Science**

Unit 1: Libraries, Concepts, Role and Types

- Definition, Types of Libraries: Public, Academic (School, College and University Libraries) Special, their Functions and Services.
- National Library of India
- Five Laws of Library Science and their Implications

Unit 2: Modern Libraries

- Library Extension Services: Need, Objectives, Function and Methods.
- Library Public Relation: Purpose, Need and Types
- Information Society: Definition, Evolution and Impact
- Knowledge Society: Concept, Definition and Characteristics

Unit 3: Library Development

- Growth and Development of Libraries in India
- Library Education in India
- Library Legislation: Need, Purpose and Objectives
- Press and Registration of Book Act, Delivery of Books and Newspapers Act

Unit4: Library Profession and Associations

- Library Profession: Characteristics and Functions
- Transformation of LIS Profession: Stages and Categories
- Library Associations: Qualities, Objectives and Activities
- National Associations: ILA and IASLIC

Unit 5: Library and Information Organizations

- International Associations: ALA and CILIP
- Information Organizations: UNESCO, IFLA, ASLIB,
- Professional Ethics: Definition, Objectives and Importance

RECOMMENDED BOOKS

Amudhavalli, A. & Singh, Jasmer (2000). Challenges and Changes in Librarianship, New Delhi: B. R. Publishing Corporation.

Baker, David. (2011). Libraries and Society: Role, Social Responsibility, and Future Challenges. Oxford: Chandos Publishing.

Batt, Chris. (1998). Information Technology in Public Libraries. London: Library Association.

Feather, John. (2004). The Information Society: A study of continuity and changes. Landon: Facet Publishing.

Grag, R.G. and Tamrakar, Amit (2011). Modern Library Management. Medallion Press, Ludhiana.

Khanna, J. K. (2003). Library and Society. New Delhi: Ess Ess Publications.

Krishna Kumar (1987). Library Administration and Management. Delhi, Vikas.

Kumar, P.S.G. (2003). Foundations of Library and Information Science. New Delhi: B. R. Publishing.

Kumar, S. & Sah, Leena. (2000). Public Library Act in India, New Delhi: Ess Ess Publications.

M. Esperanza A. C. (2004). Perspective of Library Movement in India. New Delhi: B R Publishing Corporation.

Mahapatra, P. (1997). Library Management. Calcutta, World Press.

Mittal, R.L. (1984). Library Administration: Theory and Practice. New Delhi, Metropolitan.

Paliwal, P.K. (2000). Compendium of Library Administration. New Delhi, ESS ESS.

Prasher, R.G. (1993). Developing Library Collection. New Delhi, Tata McGraw-Hill.

Ranganathan, S. R. (1988). The Five Laws of Library Science. New Delhi: Sarada Ranganathan Endowment for Library Science.

Ranganathan, S.R. (1954). Library Administration. Bangalore: Sharada Ranganathan Endowment for Library Science.

Paper Code: **BLIS/1/CT/02**

Paper Name: **Basics of Information and Communication Technology**

Unit 1: Introduction of Computers

- Computer: Definition, Historical development, Characteristics, Limitations and Applications of computers
- Computer system: Component/Block diagram of computer and Generations of computer

Unit 2: Basics of Computer

- Types of Computers: Analog, Digital and Hybrid computers
- Input and Output devices
- Computer Memory: Characteristics, Primary and Secondary

Unit 3: Operating Systems

- Operating Systems: Definition, Classification, Function and Types.
- MS-DOS: Types and Functions
- Features of UNIX, LINUX and Ubuntu
- Windows Operating Systems: Features, Desktop components and Basic terms in Windows

Unit 4: Programming Languages

- Programming Languages: Meaning and Types
- Language Processor: Translator, Assembler, Compiler and Interpreter
- Computerware: Software, Hardware and Firmware
- Types of software: System software and Application software

Unit 5: Introduction of IT

- Information Technology: Definition, Need, Objectives and Scope
- Network: Network Topologies and their features
- Types of Network: LAN, MAN and WAN
- Virus: Concept, Types, Virus Symptoms and Preventing Techniques

RECOMMENDED BOOKS

Arora, Ashok & Bansal, Shefali. (2000). Computer Fundamentals. New Delhi: Excel Books.

Basandra, Suresh K. (1999). Computer Today. New Delhi : Galgotia Publications.

Matthew, Neil & Stones, Richard. (2008). Beginning Linux Programming. New Delhi : Wiley, India.

Sinha, Pradeep Kumar & Sinha, Priti. (2007). Computer Fundamentals. New Delhi : BPB Publication.

Stallings, William. (2007). Computer Networking with Internet Protocols and Technology. Delhi : Pearson Education.

Paper Code: **BLIS/1/CT/03**

Paper Name: **Knowledge Organization: Classification Theory**

Unit 1: Knowledge Organization

- Knowledge: Definition and Types
- Universe of Subject: Nature and Attributes
- Modes of Formation of Subjects
- Simple, Compound and Complex Subjects

Unit 2: Library Classification Theory

- Library Classification: Definition, Need, Purpose and Functions
- Canons: Idea Plane, Verbal Plane and Notational Plane
- Fundamental Categories

Unit 3: Notational Techniques and Facet Sequence

- Notation: Definition, Types, Functions, Qualities and Techniques
- Facet and Facet Analysis: Meaning and Definition, Principles of facet sequence
- Round and Levels

Unit 4: Classification Schemes

- Mapping and Structure of Subjects in DDC and CC
- Species of Library Classification Schemes
- Salient Features of DDC and CC

Unit 5: General Features of Classification Schemes

- Phase Relation in CC
- Mnemonics: Meaning and Types
- Isolate: Definition, Common and Special isolate in CC and DDC
- Devices in CC and DDC

RECOMMENDED BOOKS

Broughton, Vanda. (2004). Essential Classification. London: Facet Publishing.

Dhiman, A. K. & Yashoda Rani. (2005). Learn Library Classification. New Delhi: Ess Ess.

Husain, Sabahat. (2004). Library Classification: Facets and Analysis. Delhi: B. R. Publishing.

Jennex, Murray E. (2008). Knowledge Management: Concepts, Methodologies, Tools and Applications. New York: Information Science Reference.

Kao, Mary L. (2003). Cataloguing and Classification for Library Personnel. Mumbai: Jaico.

Kumar, P. S. G. (2003). Knowledge Organization, Information Processing and Retrieval Theory. Delhi: B. R. Publishing.

Pathak, L. P. (2000). Sociological Terminology and Classification Schemes. New Delhi: Mittal Publications.

Ranganathan, S. R. (2006). Philosophy of Library Classification. Bangalore: Ess Ess. Singh, Singh, Sonal. (1998). Universe of Knowledge: Structure & Development. Jaipur: Raj Publishing. Sood, S. P. (1998). Universe of Knowledge and Universe of Subjects. Jaipur: G. Star Printers.

Taylor, A. G. (2007). Introduction to Cataloguing and Classification (10^{th} ed.). New Delhi: Atlantic.

Paper Code: **BLIS/1/CT/04**

Paper Name: **Management of Library & Information Centres**

Unit 1: Management: Concept and Principles

- Definition, Need and Scope of Management
- Scientific Principles of Management and their Applications to Libraries and Information Centers
- Function/Elements of Management (POSDCORB)
- Change Management: Concept, Types, Major factors and Steps for change management in libraries and information centres.

Unit 2: Human Resource Development

- Job Description
- Job Analysis
- Job Evaluation
- Human Resource Planning

Unit 3: Financial Management

- Budgeting: Definition, Purpose, Functions and Techniques
- Methods of Financial estimation
- Annual Report: Objectives and Contents
- TQM: Methods of measuring the quality, Requirements and implementation of TQM in libraries and information centres.

Unit 4: Library Sections and their work

- Routines and Work Flow of Different Sections: Acquisition, Serial Control (Periodical Section), Circulation (Register system, One card, Newark and Brown system), Maintenance Section, and Technical Section.

Unit 5: Physical Management and Library Operations

- Stock Verification: Methods, Write-off Policy and Procedures
- Weeding Out: Definition, Aims, Criteria and Weeding process
- Library Building: Steps in Planning and Planning principles
- Space Allocation

RECOMMENDED BOOKS

Bryson Jo. (1996). Effective Library and Information Management. Bombay: Jaico Pub. House

Beardwell, Ian and Holden, Len (1996). Human Resource Management: A contemporary perspectives. London: Longman.

Chabhra, T N et. al. (2000). Management and Organisation. New Delhi: Vikas.

Drucker Peter F. (2002). Management Challenges for the 21st century. Oxford; Butterworth Heineman.

Kotler, Philip (2003). Marketing Management. 11th ed. New Delhi: Pearson.

Paton, Robert A. (2000). Change Management. New York: Response Books.

Rowley, Jennifer (2001). Information Marketing. Aldershot: Ashgate Publishing

Stoner, James A F (et.al). (1996). Management: Global Perspectives. 10th ed. New York: MC Graw Hill Inc.

Paper Code: **BLIS/1/CT/05**

Paper Name: **Knowledge Organization: Colon Classification Practice**

Assigning Class Numbers representing Simple, Compound and Complex Subjects according to Colon Classification Rev 6th Ed.

Note: Paper will be divided into three Parts. Part-A consists 10 Compulsory Simple titles of 20 Marks. In Part–B, Ten titles of 40 Marks are to be classified (out of twelve). Part–C consists Four Complex subject titles (out of five) of 20 Marks.

RECOMMENDED BOOKS

Ranganathan, S.R. (1963). Colon Classification. Sarada Ranganathan Endowment, Bangalore.

Paper Code: **BLIS/1/CP/01**

Paper Name: **Basics of IT Practice (PR)**

Unit 1: Hands on experience of Windows Operating System

- Windows Desktop: Taskbar, Start menu, Files, Folder, Drives, My Computer.

Unit 2: Hands on experience of MS-Word with following menu

- Home, Insert, Page Layout, Mailings, Review and View

Unit 3: Hands on experience of MS-Excel

- Preparation of Accession Register (with MS-Excel)
- Create graphs

Unit 4: Hands on experience of MS-Power Point

- Preparation of Power Pont Presentation

Unit 5: Hands-on experience of Internet

- E-Mail creation, Sending and attachment
- Searching of information on Internet.

RECOMMENDED BOOKS

Courter, G. and Marquis, A. (2005). Mastering Microsoft Excel 2002. New Delhi: BPB Publishers.

Cusumano, M. A. and Selby, R. W. (2003). Microsoft Secrets. London: Profile. Haag, Stephen. (2002). Microsoft Office XP. Boston: McGraw-Hill.

Johnson, O. and Hanson, R. (2003). Microsoft Word 2002 manual for Gregg College keyboard & document processing. New York: McGraw-Hill.

Levine, John R. and Young, Margaret Levine. (2007). Windows Vista: the complete reference. New Delhi: Tata McGraw-Hill.

BLISc Second Semester

Paper Code: **BLIS/2/CT/07**

Paper Name: **Information Sources and Services**

Unit 1: Information Sources

- Documentary and Non-Documentary Source (Human & Institutional Resources)
- Print, Non-Print, Published and Unpublished resources.
- Categorization of sources by Ranganathan and Grogan

Unit 2: Information Services

- Library & Information Services: Responsive and Anticipatory Services
- Web based services and Value added services
- CAS and SDI Services

Unit 3: Information Delivery Services

- DDS: Definition and Process of Document Delivery Service
- Digest Service: Definition, Types and Component of a Digest
- Document Supply Centres: BLDSC, INSCAIR, INFLIBNET

Unit 4: New Information Services

- Database Services: Chemical Abstract Service database, MEDLINE, Science Direct, SCOPUS and database Aggregators
- Translation Services and Machine Translation Research in India
- E-Publishing: Meaning and Kinds

Unit 5: Reference Services

- Reference Services: Origin, Definition and Objectives
- Types of Reference Services (Ready and Long Range)
- Methods of Orientation of a Freshman
- Kind and Evaluation of Reference Sources
- Reference Service in Internet Era: RSS, Blogs, Chat Referencing and Instant messaging

RECOMMENDED BOOKS

Choudhury, G. G. (2001). Information Sources and Searching on the World Wide Web. London: Facet Publishing.

Choudhury, G. G. (2001). Searching CD-ROM and Online Information Sources. London: Facet Publishing.

Ghenney, F. N. (1980). Fundamentals of Reference Sources. New York: Mc Graw Hill.

Guha, B. (1999). Documentation and Information Services (2nd ed.). Calcutta: World Press.

Higgens, C. (Ed.). (1980). Printed Reference Materials. London: Library Association.

Krishan Kumar. (1984). Reference Service. New Delhi: Vikash Publication.

Lancaster, F. W. (1998). Indexing and Abstracting in Theory and Practice. Illinois: University of Illinois.

Mohapatra, M. et al. (1997). Access to Electronic Information. Bhubaneshwar: SIS Chapter.

Padhi, Pitambar. (1994). Reference Sources in Modern Indian Languages: Bhubaneshwar: Gangotri Devi.

Panda, K. C. and Gautam, J. N. (1999). Information Technology on the Cross Road from Abacus to Internet. Agra: Y K Publishers.

Panley, E. P. C. (1979). Technical Paper Writing Today. Boston: Houghton.

Ranganathan, S. R. (1991). Reference Service. Bangalore: Sarada Ranganathan Endowment.

Seetharama, S. (1997). Information Consolidation and Repackaging Framework, Methodology, Planning. New Delhi: Ess Ess Publications.

Walford, A. J. (1968-70). Guide to Reference Materials (3 Vols). London: Library Association.

Paper Code: **BLIS/2/CT/08**

Paper Name: **Internet and Its Applications**

Unit 1: Internet: An Overview

- Internet: Evolution, Applications, advantages and disadvantages of Internet.
- Internet Addressing: IP Addresses, Domain Name address, E-mail address and URL address
- WWW: Features, Applications, Web Server, Web site and Web Browsers
- ISO-OSI Reference model

Unit 2: Internet Protocols

- Network Protocols: TCP/IP, HTTP, FTP, SMPT, NNTP.
- Importance of Search engines and Meta search engines
- Search Techniques
- Types of Internet Connectivity
- Connectivity Devices: Modem, Repeater, Hub, Bridge, Router, Switch, Brouter, Gateway

Unit 3: Internet Communications Media

- Computer based Communication: Benefits, Communication Channel and types.
- Transmission Media: Characteristics, Cable media and Wireless media.
- Technology Convergence: Meaning, E-activities, Access Convergence and Service Convergence

Unit 4: Internet Technologies

- Interactive Learning: Distributed and Interactive distributed services
- Wireless Technology
- E-mail: Types, Structure, Features and Netiquette for e-mail
- Internet Resources for LIS Professionals

Unit 5: Intranet & Internet Security

- Intranet: Definition, Features, advantages, disadvantages and Services
- Extranet: Features, advantages, disadvantages and Services
- Information Security: Need, Areas of security and Types of attacks
- Methods for Information Security: Backups, Antivirus Software, Cryptography, Biometrics, Honey pots, Firewalls, Burglar alarms

RECOMMENDED BOOKS

Bates, Chris. (2006). Web Programming: Building Internet Applications. 3rd ed. New Delhi: Wiley-India.

Crumlish, Christian. (2007). The ABCs of the Internet. New Delhi : BPB Publications.

Hartl, Michael and Prochazka, Aurelius. (2007). RailsSpace: Building a Social Networking Website with Ruby on Rails. Addison-Wesley Professional.

Kalbach, James. (2007). Designing Web Navigation: Optimizing the User Experience. Sebastopol: O'Reilly Media.

Miller, Joseph B. (2008). Internet Technologies and Information Services (Library and Information Science Text Series). Libraries Unlimited.

Morville, Peter and Rosenfeld, Louis. (2006). Information Architecture for the World Wide Web: Designing Large-Scale Web Sites. 3rd ed. Sebastopol: O'Reilly Media.

Nair, R. Raman. (2002). Internet for Information Services. New Delhi : Ess Ess Publications.

Robbins, Jennifer Niederst. (2012). Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics. 4th ed. Sebastopol: O'Reilly Media.

Sehgal, R. L. (2000). Internet and Internet for Librarians. New Delhi : Ess Ess Publications.

Russell, Jesse and Cohn, Ronald (eds.). (2012). Web Browser. Book on Demand Ltd.

Stallings, William. (2007). Computer Networking with Internet Protocols and Technology. Delhi : Pearson Education.

Weinberg, Tamar. (2009). The New Community Rules: Marketing on the Social Web. Sebastopol: O'Reilly Media.

Paper Code: **BLIS/2/CT/09**

Paper Name: **Knowledge Organization: Cataloguing Theory**

Unit 1: Cataloguing Principles

- Catalogue: Origin, Definition, Need and Purpose
- Types of Catalogue and Physical Forms
- Laws and Canons of cataloguing
- Origin and Features of CCC and AACR-IIR catalogue code

Unit 2: Entry Elements, Filing Rules & Subject Headings

- Structure of Main entry in CCC and AARC-II
- Kinds of Entries in CCC and AACR-II
- Lists of Subject Heading: Types, Uses and Limitations
- Sear's List & LCSH: Objectives, Structure and Format

Unit 3: Subject Cataloguing, Union Catalogue & NBM

- Subject Cataloguing: Definition, Aims and Types
- Various Sources of Information for Cataloguing
- Forms of Centralized and Cooperative Cataloguing
- Union Catalogue: Definition, Need, Functions and Compilation
- Non-Book Materials: Nature, Characteristics and problems in cataloguing

Unit 4: Standards of Bibliographic Description

- FRAD: Objectives and Scope and Model
- GARR: Purpose and Structure
- RDA (Resource Description and Access): Features and Sections
- ISO 2709: Structure, Z39.50: Data areas, Z39.71: Principles
- ISBD: Objectives and Types

Unit 5: Bibliographic Record Formats & Other Aspects

- Bibliographic Records Format – MARC and MARC-21
- CCF: Purpose, Uses and Structure
- Metadata Standards (Dublin Core): Elements and Types
- Chain Procedure

RECOMMENDED BOOKS

Aswal, R. S. (2004). MARC 21: Cataloging Format for 21st Century. New Delhi: Ess Ess.

Dhawan, K. S. (1997). Online Cataloguing Systems. New Delhi: Commonwealth Publication.

Girija Kumar & Krishan Kumar. (2004). Theory of Cataloguing. New Delhi: Vikas

Gredley, Ellen & Hopkinson, Alan (1990). Exchanging Bibliographic Data: MARC and other International Formats. Ottawa: ALA.

Hagler, Ronald & Simmons, Peter. (1991). The Bibliographic Record and Information.

Kao, Mary L. (2003). Cataloguing and Classification for Library Personnel. Mumbai: Jaico.

Leigh, Gernert. (2003). A Text Book of Cataloguing. New Delhi: Dominant Publishers.

Mitchell, Anne M. & Surratt, Brian E. (2005). Cataloguing and Organizing Digital Sources. London: Facet Publishing.

Pandey S. K. (2001). Library Cataloguing Theory. New Delhi: Sahitya Prakashan

Singh, S. N. & Prasad, H. N. (1985). Cataloguing Manual AACR-II. New Delhi: B. R. Publishers.

Sood, S. P. (1999). Theory of Library Cataloguing. Jaipur: Raj Publishing House.

Taylor, A. G. (2007). Introduction to Cataloguing and Classification (10th ed.). New Delhi: Atlantic.

Viswanathan, C. G. (2008). Cataloguing Theory and Practice. New Delhi: Ess Ess.

Paper Code: **BLIS/2/CT/10**

Paper Name: **Knowledge Organization: Dewey Decimal Classification Practice**

Assigning Class Numbers representing Simple, Compound and Complex Subjects according to DDC 19th Ed.

Note: Paper will be divided into three Parts. Part-A consists 10 Compulsory Simple titles of 20 Marks. In Part–B, Ten titles of 40 Marks are to be classified (out of twelve). Part–C consists Four Complex subject titles (out of five) of 20 Marks.

RECOMMENDED BOOKS

Comaromi, J. P., Warren, M. J. & Dewey, Melvil. (1982). Manual on the Use of the Dewey Decimal Classification. Forest Press.

Dewey Decimal Classification. (2011). 23rd edition. Ohio: OCLC.

Dhyani, Pushpa. (2006). Classifying with Dewey Decimal Classification. New Delhi: Ess Ess.

Khan, M. T. M. (2005). Dewey Decimal Classification. New Delhi : Shree Publishers

Mary, Mortimer. (2007). Learn Dewey Decimal Classification (Edition 22). Friendswood, US: Total Recall Publications.

Paper Code: **BLIS/2/ET/11-A**

Paper Name: **Documentation and Information Services**

Unit 1: Documentation Process and Facets

- Documentation: Meaning, Definition, Need, Documentation Works and Services
- Information: Definition, Need, Types and Characteristics
- Information Communication: Definition, Kinds, Elements and Problems

Unit 2: Indexing Systems

- POPSI
- PRECIS
- Uniterm Indexing System
- KWIC and KWOC

Unit 3: Abstracting and Indexing Services

- Abstracting Services: Abstract: Definition, Need and Types
- Abstracting Services and Process
- Indexing: Purpose, Process and Indexing Languages
- Indexing Services: ICI and Web of Science
- Reprography Services: Definition, Importance and Micro Reproduction

Unit 4: Information System

- International Information System: UNISIST and INIS
- National Information System: NISCAIR, DESIDOC and NASSDOC

Unit 5: Information Activities and Services

- National Knowledge Commission ((NKC) and RRRLF
- Thesaurus: Definition, Step to Construction of Thesaurus
- ISBN
- ISSN

RECOMMENDED BOOKS

Guha, B. (1999). Documentation and Information Services (2nd ed.). Calcutta: World Press.

Keith R. McCloy. (1995). Resource management information systems: process and practice. Bristol, PA : Taylor & Francis. London.

Kenneth C. Laudon, Jane Price Laudon. (2002). Management information systems: managing the digital firm. Prentice-Hall. New Jersey, USA

Margaret C. Harrell [et al.]. (2011). Information systems technician rating stakeholders: implications for effective performance. Santa Monica, CA : RAND National Defense Research Institute

Mcnurlin. (2003). Information Systems Management in Practice. Pearson Education India. Delhi.

Okon.E. Ani & Blessing Ahiauzu. (2008). Towards effective development of electronic information resources in Nigerian university libraries. Emerald Group Publishing Ltd.

Prasher, R. G. (2003). Information and its Communication. Ludhiana : Medallion Press.

Ramesh Babu, B. & Gopalakrishnan, S. (2004). Information, Communication, Library and Community Development. Delhi : B. R. Publishing.

Smith, Abby. (2001). Strategies for building digitized collections. Washington, D.C. : Digital Library Federation, Council on Library and Information Resources

Tariq Ashraf and Puja Anand Gulati. (2012). Design, Development, and Management of Resources for Digital Library Service.

William G. Smith & Associates. (1991). Information resource management policies. Database Research Group. Boston

Paper Code: **BLIS/2/ET/11-B**

Paper Name: **Information Retrieval and Academic Libraries**

Unit 1: Information Retrieval

- Information Storage & Retrieval System: Overview, Objectives and Types
- Evaluation of ISAR System
- Steps in Development of ISAR Systems
- Components of ISAR Systems

Unit 2: Databases and Searching Tools

- Database: Definition, Characteristics and Types
- Hardware related threats and Security Measures
- Literature Search: Definition, Manual and Computer based search process
- SWOT Analysis

Unit 3: Collection Development and its Tools

- Collection Development: Meaning, Nature and Selection Criteria
- Drury's, Dewey's, McColvin's and Ranganathan's Principle
- Book Selection Tools: Current List, Bibliographies/Catalogues and Periodical Selection Tools.

Unit 4: Academic Libraries

- Definition, Types, Objectives and Functions
- Major Commissions and Committees
- Important Programmes of the UGC for Developing Academic Libraries
- Staff formula

Unit 5: Library Cooperation and Consortia

- Library Co-operation: Definition, Need, Areas. Problems and Prospects
- Library Consortia in India: INDEST, FORSA, N-LIST, NKRC, IIM Consortia, and ICMR e-Consortia

RECOMMENDED BOOKS

Khanna, J K (1987). Library and Society. Kurukshetra: Research Publications.

Kalia, D R. (1990).Guidelines for Public Library Services and Systems. Culcutta: RRRLF

Murison, W J. (1988). The Public Library: Its origin, purpose and significance. London: Clive Bingley.

Ranganathan, S R. (1959). Library Administration. Bangalore: SRELS.

Paper Code: **BLIS/2/ET/12-A**

Paper Name: **Community Information Service**

Unit 1: Community Information: Overview

- Community Information: Definition, Scope and Origin
- Need, Purpose and sources
- Community Information in Society
- Role of Libraries in Community Information
- Community Information in UK, USA and India

Unit 2: Community Information Services

- Community Information Services : Meaning, Types and Target Users
- Community Information Centres: Planning and Role of Information Services
- Community Information Services

Unit 3: Specific Communities

- Rural
- Urban
- Metropolitan Communities
- Industrial, Business Communities

Unit 4: Areas of Community Information Services

- Metropolitan Academic
- Research
- Institutional
- R & D Communities

Unit 5: Expansion of Community Information Services

- Physically, Mentally Disadvantaged Communities
- Children, Old People and Illiterate

RECOMMENDED BOOKS

Babu, B. Ramesh and Gopalakrishnan, S. (2004). Information, Communication, Library and Community Development/edited by Delhi, B.R. Publishing.

Bunch, A. (1982) Community Information Services : Their Origin, Scope and Development. London, Clive Bingley.

Chandrasekhara Rao. (1996) V. Library Services for Tribal Community. Delhi : Delta Publishing House.

Childers, Thomas and Post, Jyoce A (1975). The Information Poor in America. Metuchen N.J : Scarecrow Press.

Durnance, J.C. (1984). Armed for action : Library Response to Citizen Information needs. New York : Neal- Schuman.

Kahn, A.J et al. (1996). Neighborhood Information Centers: A study and Some Proposals. New York : Columbia University School of Social Works.

Sarada, K. (1986). Rural Library Services in India. New Delhi: ESS ESS Publications.

Vashishth, C.P. (ed.) (1995). Libraries as Rural Community Resource Centers. New Delhi, B.R. Publishing Corporation.

Vos, H. (1969). Information Needs in Urban Areas : A summary of Research in Methodology. New Bruswisck, N.J: Rutgens University Press.

Warner, E. S., Murray, A. D. and Palmor, V. E. (1973). Information Needs of Urban Residents. Baltimore: MD, Regional Planing Council, 1973.

Paper Code: **BLIS/2/ET/12-B**

Paper Name: **E-Resources and Technical Writing**

Unit 1: Types of e- Resources

- E-Resources, Definition, Need and Purpose
- E-books
- E-Journals
- Consortia based e-resources
- E-reports

Unit 2: Internet Resources

- Science & Technology
- Humanities
- Social Science
- Evaluation of Internet Resources

Unit 3: Communication and Linguistics

- Communication Process
- Technical Writing: Characteristic Features
- Written Communication, Reader-Writer Relationship
- Language Communication, Readability and Text, Abbreviations in Technical Writing

Unit 4: Technical Communication and Editorial Tools

- Structure, Characteristics and Functions
- Collection, Organisation and Presentation of Data including Illustrations
- Editor, Editorial Process and Editorial Tools

Unit 5: Emerging E-Resources

- ETD
- Internet resources
- Open Access
- Web Portals
- Infoport

RECOMMENDED BOOKS

Aitchison, J. (1988). Teach Yourself Linguistics. Hodder and Stoughton.

Chandler, B. E. (1983). Technical Writer's Handbook. Ohio: American Society for Metals.

Chandra, A. and Saxena, T. P. (1979). Style Manual. New Delhi: Metropolitan Books.

Cooper, B. M. (1986). Writing Technical Reports. New York: Penguin.

Frank Rennie & Robin Mason. (2011). e-Learning and Social Networking Handbook: Resources for Higher Education. Amazon.com

Gerson, S. J. and Gerson, S. M. (1992). Technical Writing, Process and Product. Englewood Cliff's: Prentice Hall.

Harrison, C. (1980). Readability in the Classroom. Cambridge: Cambridge University Press.

Huckin, T. N. and Olsen, L. A. (1991). Technical Writing and Professional Communication for Non-Native Speakers of English. 2nd ed. New York: McGraw-Hill.

Michael W. Allen. (2011). Michael Allen's Online Learning Library: Successful e-Learning Interface: Making Learning Technology Polite, Effective, and Fun (Michael Allen's E- Learning Library). Amazon.com

Peter Clayton and G. E. Gorman. (2001). Managing Information Resources in Libraries: Collection Management in Theory and Practice. Amazon.com

Ruth C. Clark & Richard E. Mayer. (2011). e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning (Essential Knowledge Resource). Amazon.com

Sherman, T. A. and Johnson, S. S. (1990). Modern Technical Writing. 5th ed. Englewood Cliff's: Prentice Hall.

Siemens, Raymond George, & Schreibman, Susan. (2007). A companion to digital literary studies. Malden, MA: Blackwell Pub.

Van Alstyne J. S. (1986). Professional and Technical Writing Strategies. Englewood Cliffs, New Jersey: Prentice-Hall Inc.

Weisman, H. M. (1980). Basic Technical Writing. Columbus: Charles Orenill Publishing.

Paper Code: **BLIS/2/Skill/01**

Paper Name: **Training and Report Writing**

Note: Students are required to join one month training programme and prepare a report on working systems and management of selected libraries/information centers of any place/outside the city/state etc. The objectives of this training programme are to:

- acquaint the organization and management of established libraries and information centers at national level;
- expose themselves to automated and networked libraries on-site;
- understand the services provided by these libraries and information centers;
- make a comparative and critical study of libraries; and
- get an overview of latest trends and development on library and information services provided.

Note: The Training Report is to be submitted by each candidate at the end of the semester. The Report is to be evaluated by the concern faculty and Head.

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MOHANLAL SUKHADIA UNIVERSITY

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

Faculty of Social Sciences

SYLLABUS

M.Lib.I.Sc

(Under Choice Based Credit System)

2019-20 onwards

Librarianship as a Career

Libraries are now universally recognized as important social institutions, no community is considered complete without a library. The rapid increase in production of recorded knowledge, have led to the expansion of libraries and the development of their services. A library is an important element of a community; an academic library is an essential part of an educational institution school, college or university; a business and industrial organization.

Librarianship is a growing field, which has by now attained the status of a separate discipline in the universe of knowledge. It presents challenges and interesting situations to library personnel. The management of these libraries needs personnel with good academic and professional qualifications; proficiency in one the natural sciences, social sciences or the humanities is helpful in the professional development of a Librarian. Library work is primarily a social service, and therefore, needs young men and women with a sense of dedication and a spirit of service. Those intending to enter the library profession should satisfy themselves that they possess the academic qualification and the sense of vocation that would enable them to work successfully as librarians.

Librarianship as a profession provides a variety of employment opportunities. In Fact, it is possible to choose the kind of library to suit one's interest and background. Persons with a superior record high qualification can achieve high position. The salaries in college, university libraries are comparable to those of teachers.

The Department of Library and Information Science, University College of Social Sciences and Humanities, is organized under the Faculty of Social Sciences. It conducts one-year (two semesters) fulltime course leading to the Degree in Master of Library and Information Science.

Objectives:

- To enable the student to understand and appreciate the functions and purpose of library in changing social and academic environment.
- To train the student in the techniques and management of Libraries of the 21st century.
- To train the students in the skills of information knowledge processing, organization and retrieval using modern technologies.
- To develop the skills to manage the Electronic Libraries in digital environment and to provide the advanced skills in computer and its application in library and information activities.

Learning Outcomes:

The student will be able to manage the libraries in the ICT environment. The students will be equipped with the advanced skills of literature searching, networks, database management and related areas. The student will have necessary analytical skills to solve the problems in managing the libraries in the traditional system and in ICT enabled library services. The students are introduced to the basic areas of research, style manuals and will be able to scientifically communicate the research results with the peers.

Course Name:

- Master of Library and Information Science (**M.Lib.I.Sc**)

  Nature: Professional Course

  Admission: Master of Library and Information Science (**M. Lib. I. Sc**)

  Duration: One Year (Two Semesters)

  Eligibility: B.Lib.I.Sc with minimum of 45% Marks or equivalent grade.

  No. of Seats: 20 (Regular mode) + 20 (Self finance/Payment mode). Reservation as per university norms.

  Medium of instruction: The medium of instruction is English, however, students may opt examination in Hindi medium.

Note:

- He/She must fulfill other conditions as may be laid down by the University/Admission Committee from time to time.
- 10% of the seats will be available for deputed/In-service candidates and working librarians. (In case of non-availability of eligible candidates in the in-service/deputed category, the seats will be filled up by fresh candidates).
- Reservation of seats belonging to Scheduled Castes and Scheduled Tribes shall be as per policy laid down by the University.
- Result will be prepared as per the CBCS rules of the university.

- Grade system will be applicable as per the rules of other subject of Social Science faculty.
- Failed/supplementary candidates will be governed by the Ordinances as applicable to other Post-Graduate students (CBCS) of the University.

Fees Structure:

M.Lib.&Inf. Sc (Regular Mode)	
Ist Semester	Rs. 5,000/- and Local Fund
IInd Semester	Rs. 5,000/-
Self-finance/Payment mode	
Ist Semester	Rs. 8,000/- and Local Fund
IInd Semester	Rs. 8,000/-

M.Lib.I.Sc (CBCS) Semester – I

Course No.	Course Code	Type	Title of the Course	Credits	L-T-P	Internal Marks	University Exam Marks	Total Marks
1.	MLIS/1/CT/01	CC	ICT Application in Library Services	4	3-1-0	20	80	100
2.	MLIS/1/CT/02	CC	Preservation and Conservation of Library Materials	4	3-1-0	20	80	100
3.	MLIS/1/CT/03	CC	Information Products and Services	4	3-1-0	20	80	100
4.	MLIS/1/CT/04	CC	Information and Digital Literacy	4	3-1-0	20	80	100
5.	MLIS/1/CT/05	CC	Knowledge Organization: Cataloguing Practice	4	0-0-6	20	80	100
6.	MLIS/1/CP/01	CC	ICT Practice (PR)	4	0-0-8	20	80	100

M.Lib.I.Sc (CBCS) Semester – II

Course No.	Course Code	Type	Title of the Course	Credits	L-T-P	Internal Marks	University Exam Marks	Total Marks
1.	MLIS/2/CT/07	CC	Information Systems and Networks	4	3-1-0	20	80	100
2.	MLIS/2/CT/08	CC	Research Methodology	4	3-1-0	20	80	100
3.	MLIS/2/CT/09	CC	Information Communication and Society	4	3-1-0	20	80	100
4.	MLIS/2/CT/10	CC	Advance Knowledge Organization: Cataloguing Practice	4	0-0-6	20	80	100
Elective-Choose any one group A or B								
Group –A								
5.	MLIS/2/ET/11-A	EC	Print and E-Resources in Humanities	4	3-1-0	20	80	100
	MLIS/2/ET/11-B	EC	Print and E-Resources in Social Sciences	4	3-1-0	20	80	100
Group –B								
6.	MLIS/2/ET/12-A	EC	Digital Library System	4	3-1-0	20	80	100
	MLIS/2/ET/12-B	EC	Agricultural Library and Information System	4	3-1-0	20	80	100
7.	MLIS/2/Skill/01	Skill	Library Internship	2	0-0-4	20	80	100

MLISc First Semester

Paper Code: **MLIS/1/CT/01**

Paper Name: **ICT Application in Library Services**

Unit 1: Library Automation

- Definition, Need, Purpose and Problems
- Steps in Planning
- Process of Implementation
- Basic requirements for Library Automation

Unit 2: Automated Operations

- Areas of Library Automation
- Automation of Housekeeping Operations: Acquisition, Circulation, Cataloguing and Serial Control
- Barcode: Need, Requirements, Benefits and Utility

Unit 3: Consortia & Library Networks

- Consortia: Need, Objectives and Advantages
- Library Consortia: Shodh Sindhu
- Major Library Networks: INFLIBNET, DELNET and OCLC

Unit 4: Library Security Technology

- RFID: Advantages, Components and Areas of Applications
- CCTV: Meaning, Components, Types and Uses
- Biometrics: Definition, Types, Features and Process of Biometrics
- Smartcard: Types, Steps to Construct Smart Cards, Advantages and Its applications

Unit 5: Automation Softwares

- Library Automation Software: Types and General Functions
- Process of Implementation of Library Automation Software
- Criteria of Evaluation of Automation Software
- SOUL 2.0 (Features and Modules) and E-Granthalaya

RECOMMENDED BOOKS

Chidrupananda, Swami. (2006). Making Sense of Library Automation: A Hands on Guide. Kolkata : Meteor.

Forney, Mathew. (2003). Digital Reference Services. New Delhi : Dominant Publishing.

Gopal, Krishan. (2005). Modern Library Automation. New Delhi : Authors Press.

Grewal, Gagandeep. (2004). Handbook of Library Security. New Delhi : Dominant.

Laxman Rao, N.; Vishwa Mohan, V.; Sudarshan Rao, S. & Yadagiri Reddy, J. (2004). Library Consortia: Papers - National Seminar on Library Consortia, 22-23 March, 2004, Hyderabad. Indian Association of Teachers of Library & Information Science.

Pandey, S. K. (2000). Organisation of Library Automation. New Delhi : Anmol Publications.

Reddy, Satyanarayana. (2001). Automated Management of Library Collections. New Delhi : Ess Ess.

Siwatch, Ajit S. et al. (2006). Approaches to Modern Librarianship. Delhi : Sanjay.

Sujatha, G. (1999). Resource Sharing and Networking of University Libraries. New Delhi : Ess Ess.

Tripathi, Aditya et al. (eds.). (2010). Open Source Library Solutions. New Delhi : Ess Ess.

Paper Code: **MLIS/1/CT/02**

Paper Name: **Preservation and Conservation of Library Materials**

Unit 1: Preservation and Conservation: Overview

- Preservation and Conservation: Meaning, Definition, Historical Development, Need and Purpose
- General Approach of Preservation
- Preservation of Print Materials: Definition and categories/Types
- Problems in Preservation and Conservation

Unit 2: Preservation of Non-Print Materials

- Palm Leaves, Manuscripts
- Magnetic Materials: Tape, Discs
- Plastics Materials: Transparents plastics, Vinyl Discs, Optical Storage System

Unit 3: Hazards to Library Materials and Control Measures

- Environmental Factor (Temperature, Humidity, Water, Light, Air Pollution, Smoke, Dust, etc)
- Biological Factors
- Chemical Factors
- Disaster Management

Unit 4: Binding

- Objectives and Types of Binding
- Binding Material and their Varieties
- Binding Process
- Standards for Library Binding

Unit 5: Process

- Microfilming: Process, Formats and Advantages and Disadvantages
- Digitization: Meaning, Archive of heritage material and their creation
- Merits and demerits of Digitization
- Digitization project for Archive of heritage in India

RECOMMENDED BOOKS

Burkett, J. and Morgan, T.S., Eds (1963). Special Materials in the Library. London: Library Association.

Casey, J. P. (1982). Paper making. New York : Interscience Publishers

Corduroy, John. (1978). Book binding for beginners. London : Thomas and Hudson Dasgupta, Kalpana, ed. (1988). Conservation of library materials. Calcutta : National Library Durean, J. M. & Clements, D. W. G. (1986). Principles of the preservation of library materials. Hague : IFLA

Feather, John (1996). Preservation and the Management of Library Collections. 2ndEd. London: Library Association Publishing.

Feather, John (1996). Preservation and the Management of Library Collections. 2nd Ed.London: Library Association Publishing.

Fothergill, Richard and Butchart, Ian (1990). Non-book Materials in Libraries. APractical Guide. London: Clive Bingley.

Gabriel, M. & Ladd, D. (1980). The microfilm revolution in libraries. Greenwich : JAI Press

Hans, K. J. (1958). Sign, symbol and script. London : George Allen & Unwin

Harvey, Poss. (1993). Preservation in libraries: a reader. London : R R Bowker

Harvey, Ross (1993). Preservation in Libraries, A Reader London: Bowker.

Harvey, Ross. (1994). Preservation in libraries: principles, strategies and practices for librarians. London : Bowker Saur.

Hendersen, Kathryn Luther and Henderson, William T. (ed) (1983). Conserving and Preserving Library Materials. Urbana Champaign: University of Illinois.

Prajapati, C.L. (1997). Archivo-Library Materials – Their Enemies and Need of First Phase Conservation. New Delhi: Mittal Publications.

Sharma, R. G. (1979). Pandulipi sampadan kala. Delhi : Prabhat Prakashan

Singh, R. S. (1993). Conservation of documents in libraries, archives and museums. Delhi

Paper Code: **MLIS/1/CT/03**

Paper Name: **Information Products and Services**

Unit 1: Data and Information Centres

- Information Centers: Origin and Definition, Types and their Organization
- Data Centres: Meaning, Structure, Functions and Services
- International and National Data Centres
- Referral Centres: Definition, Meaning, Need, Purpose and Functions

Unit 2: Information Products

- Information Products: History, Type/Categories and Bibliographical Control
- Newsletters, House Journals, Trade & Product Bulletins
- State-of-the-Art Report
- Trend Report: Need and Preparation
- Technical Digests: Need, Function and Categories

Unit 3: Information Services

- Bibliography Services
- Electronic Document Delivery Services
- CAS and SDI in Digital environment
- Web Marketing: Concept, Marketing Mix and Plan

Unit 4: Information Analysis

- Citation Analysis: Definition, Purpose, Benefits and Applications
- Content Analysis: Concept, Objectives, Types and Process
- Information Intermediaries: Characteristics, Functions and Types
- Information Intermediaries in the Post-Industrial Society

Unit 5: Consolidation and Repacking

- Information Analysis: Need, Definition, Process and Steps
- National and International Centers on Information Analysis
- Consolidation and Repacking: Evolution, Process in Information Consolidation
- Repacking of Information

RECOMMENDED BOOKS

Albert, Walker. (1974). House Journals. In Kent, A. et al. (eds.). Encyclopaedia of Library and Information Science. New York: Marcel Dekker. Vol. 11, pp. 61-64.

Atherton, Pauline (1977). Handbook for Information Systems and Services. Paris: UNESCO.

Borowick, J. N. (1996). Technical Communication and its Applications. 2nd ed. New Jersey, Ohio: Prentice Hall.

Chowdhury, G. G. and Chowdhury, Sudatta. (2001). Searching CD-ROM and Online Information Sources. London: Library Association Publishing.

Eleaner, Mitchell and Walters, Sheila A. (1995). Document Delivery Services: Issues and Encyclopaedia of Library and Information Science. New York: Marcel Dekker.

Hutchins, John. (1998). Translation Technology and Translator. Machine Translation Review.

Khanna, J.K. (1996). Handbook of Information Systems and Services. New Delhi: Beacon Books.

Seetharama, S. (1997). Information Consolidation and Repackaging. New Delhi: Ess Ess Publication.

Sharma, C.D. and Vyas, Kailash (1983). Developing Horizones in Library and Information Science. Jaipur: Printwell Publisher.

Subramanyam, K. (1980). Trade Catalogues: Technical Literature. In Kent, A. et al. (eds.).

Paper Code: **MLIS/1/CT/04**

Paper Name: **Information and Digital Literacy**

Unit 1: Library and Information Literacy

- Information Literacy: Definition, Skills and Competencies
- Methods of Implementation IL Programs
- Stages of Library Literacy
- Qualities of Information Literate

Unit 2: Digital Literacy

- Models of Information Literacy: Empowering 8^{TM} IL, The Big6 and SCONUL (Seven Pillars) model
- Digital Literacy: Definition, Categories, Process and Elements
- Digital Divide: Definition, Major Digital Initiatives in India, Role of Library and Information Centres and Challenges

Unit 3: ICT Literacy

- Computer Literacy: Meaning, Need, Skills, and Benefits
- E-Information Literacy: Meaning, Components and Challenges
- Media Literacy: Definition, Purpose, Importance, Competencies and Profile of a Media literate person

Unit 4: Policies and Approaches in Literacy

- Policies and Guidelines: UNESCO and IFLA
- E-Learning: Definition, Objectives, Need, Types, Advantage and Challenges
- Changing role of Librarians: Meaning, Professional Competencies and Qualities

Unit 5: IPR in Digital Era

- IPR & Copyrights: Concept, Type, Objectives and Ethics
- Migration of IPR in Internet Era
- Challenges in IPR
- Ethical Issues

RECOMMENDED BOOKS

Australian Library and Information Association, Information Literacy Forum. (2006). Statement on Information Literacy for all Australians. Kingston: Australian Library and Information Association. http://www.alia.org.au/policies/information.literacy.html

Bawden, David. (2001). Information and Digital Literacies: a review of concepts. Journal of Documentation, V57(2), pp. 218-259.

Bruce, Christine. (1997). The Seven Faces of Information Literacy. Adelaide: Auslib Press. Council of Australian University Librarians. (2001). Information Literacy Standards.

Canberra: Council of Australian University Librarians.

Society of College, National and University Libraries (SCONUL). (1999). Information skills in higher education: a SCONUL Position Paper. London: SCONUL. http://www.sconul.ac.uk/activities/inf_lit/papers/Seven_pillars.html

Torras, M. C. & Saetre, T. P. (2009). Information Literacy Education. Oxford: Chandos Publishing.

Paper Code: **MLIS/1/CT/05**

Paper Name: **Knowledge Organization: Cataloguing Practice**

Preparation of Main and Added Entries of Documents according to CCC 5th Ed. having the following items

Unit –I: Single Author, Joint Authors

Unit –II: Collaborators

Unit –III: Pseudonyms Author

Unit –IV: Multi-Volumes

Unit –V: Serial (Simple entries)

Note: One title from each unit (without any choice/option) is compulsorily to be attended in examination.

RECOMMENDED BOOKS

Gautam, J.N. (1996). Practical Manual of AACR-II. Agra, Y.K. Publisher.

Ranganathan, S.R. (1963). Colon Classification. Sarada Ranganathan Endowment, Bangalore.

Ranganathan, S.R. Classified catalogue code with additional rules for dictionary catalogue code. Ed. 5 (with amendments). 1989. Sarada Ranganathan Endowment for Library Science, Bangalore.

Paper Code: **MLIS/1/CP/01**

Paper Name: **ICT Practice (PR)**

Unit 1: Hands-on experience on Library Software

- Integrated Library Software: Koha/SOUL

Unit 2: Hands-on experience on OPAC

- OPAC
- Web OPAC

Unit 3: Hands-on experience on SUNET

- IP based e-resources on SUNET

Unit 4: Hands-on experience on ETD

- INFLIBNET: ShodhGanga and Shodhgangotri

Unit 5: Hands-on experience on Services/Resources available on following Institutions

- NISCAIR-IR
- NDL
- SWAYAM
- NPTEL

MLISc Second Semester

Paper Code: **MLIS/2/CT/07**

Paper Name: **Information Systems and Networks**

Unit 1: Information Systems

- Information Systems: Types and Characteristics
- Planning and Designing of Information System
- Evaluation of Information System
- OPAC, Web OPAC (WorldCat)

Unit 2: National Information Systems

- ENVIS
- BIS
- PIS
- SENDOC

Unit 3: Global Information Systems

- INIS
- INSPEC
- MEDLARS
- NISSAT

Unit 4: Networks

- Network: Definition, Need and Functions
- Features and Characteristics of Library Networks
- Data Networks: NICNET and ERNET

Unit 5: Resource Sharing

- Resource Sharing: Definition, Need and Objectives
- Salient Features of Resource Sharing
- Areas of Resource Sharing
- Problems and Prospects

RECOMMENDED BOOKS

Kaul, H. K. (1999). Library Resource Sharing Networks. New Delhi : Virgo Publications.

Lithikar, Shalini R. (2012). Information Systems and Networks in India. New Delhi: Today and Tomorrow's Printers and Publishers.

Lucy A. Tedd and Andrew Large. (2004). Digital Libraries : Principles and Practice in a Global Environment. Munchen : G.G. Saur.

Neelameghan, A. and Prasad, K. N. (1998). Information Systems, Networks and Services in India: Developments and Trends. 2 vols. New Delhi: Indian Bibliographic Center.

Rowley, J. E. (1996). The Basics of Information Systems. London : Facet Publishing.

Shuman, Bruce A. (2004). Issues for Libraries and Information Science in the Internet Age. Englewood. Libraries Unlimited Inc.

Paper Code: **MLIS/2/CT/08**

Paper Name: **Research Methodology**

Unit 1: Research and Research Design

- Meaning, Definition, Need and Types of Research
- Steps of Research Process
- Research Design: Definition, Characteristics and Components
- Formulation of Research Problems

Unit 2: Research Methods

- Scientific Method
- Spiral of Scientific Method
- Historical Method
- Survey and Case Study Method

Unit 3: Data Collection Techniques

- Questionnaire: Definition, Types and Nature of questionnaire
- Observation: Types and Characteristics
- Sampling
- Interview
- Schedule

Unit 4: Hypothesis, Data Collection & Report Writing

- Hypothesis: Definition, Types and Utility
- Data Collection: Methods and Analysis
- Tabulation: Objectives, Advantages, Structure and Types
- Report Writing: Steps, Format and Rules

Unit 5: Bibliometric Methods and Plagiarism

- Bibiometrics: Concept, Definition, Objectives and Types of Bibiometric Studies
- Bibliometric Laws: Bradford, Lotka and Zipf's
- Plagiarism: Definition, Types and Methods to avoid plagiarism
- Violation of Research Ethics

RECOMMENDED BOOKS

Booth, W. C., Williams, J. M. and Colomb, G. G. (2003). The Craft of Research. University of Chicago Press.

Brady, John. (1997). The Craft of Interviewing. New York: Vintage. Gillham, Bill. (2000). The Research Interview. London: Continuum Press. Kish, Leslie. (1995). Survey Sampling. New York: Wiley.

Gupta, Santosh: Research Methodology and Statistical Techniques. Delhi: Deep and Deep Publications, 1999.

Kothari, C. R. Research Methodology: Methods and Techniques. Delhi, New Age International, 2004.

Raju, Nemani Govinda. (2009). Bibliometric Applications: Study Of Literature Use Patterns

Rea, Louis M and Parker , Richard A. (2005). Designing and Conducting Survey Research, San Francisco: Jossey-Bass.

Rowntree , Derek. (2003). Statistics without Tears: A Primer for Non-Mathematicians. London: Penguin.

Rubin, Herbert and Irene (2004). Qualitative Interviewing: The Art of Hearing Data. Sage, USA.

Sudman, Seymour (1976). Applied Sampling. New York: Academic Press.

Wadsworth, Yoland . (1998). Everyday Evaluation on the Run: A collection of simple methods for evaluating the success of any project. Australia: Allen and Unwin.

Williams, Frederick and Monge, Peter. (2001). Reasoning with Statistics. Harcourt, USA.

Willis, Gordon B. (2004). Cognitive Interviewing: A Tool for Improving Questionnaire Design. Sage USA.

Paper Code: **MLIS/2/CT/09**

Paper Name: **Information Communication and Society**

Unit 1: Data and Information

- Data: Definition, Types, Properties, Nature and Scope
- Information: Origin, Definition, Need, Types and Parameters
- Forms of Information

Unit 2: Information and Knowledge

- Modes of Information Generation
- Information as an Economic Resources
- Knowledge: Definition, Nature and Types
- Data, Information and Knowledge conceptual difference

Unit 3: Information Society

- Information Society: Definition, Historical development and Social implication of information
- Impact of Information on Society
- Knowledge and Societal Survival
- Impact of Information on Information System and Services

Unit 4: Communication Process

- Communication: Meaning, Definition, Types and Channels
- Elements of Communication Process
- Promoting agencies of Information Communication
- Barriers in Communication Process

Unit 5: Communication and Information Technology

- Model's of Communication: Shannon & Weavers' and Lasswell's model
- IT: Need, Components, Characteristics
- Application of IT in Library and Information Centres
- Impact of Internet on Libraries

RECOMMENDED BOOKS

Aitchison, Jean, Gilchrist, Alan; and Bawdown, David. (1990). Thesaurus Construction and Use: A practical manual. 4th Ed. ASLIB.

Becker, Joseph and Robert M Hayes. (1967). Information Storage and Retrieval tools Elemants & Theories. New York: John Wiley.

Choudhury, G.G. (1993). Introduction to Modern Retrieval System. Calcutta: IASLIC, 1993

Convey, John. (1992). Online Information Retrieval: An Introductory Manual to Principles and Practice. 4th ed. London.

Elis, David(1996). Progress and Problems in Information Retrieval. London: Library Association.

Fosket, A.C.(1992) Subject Approach to Information. London: Clive Bingley.

Fugman, Robert(1993). Subject Indexing and Analysis Theoretical Foundations & Practical Advice. Frankfurt: Index Verlag.

Grolier, Eric de. (1962). A Study of general Categories Applicable to Classification and Coding in Documentation UNESCO.

Kumar, P.S.G.(2004). Information and Communication. Kumar's curriculum Series in Library and information Science, 8. Delhi: B.R. Publishing Corporation.

Lancaster, F.W. (1977). The Measurement and Evaluation of Library Science. Information Sources Press.

Losee, Robert M. (1998). Text retrieval and Filtering: Analytical Models of Performance. London: Kluwer.

Meadow, Charles T. (2000). Text Information retrieval system. Academic Press.

Sharp, Harold S. (1964). Readings in Information Retrieval. London: The Scarecrow Press.

Soergel, Dagobert. (1974). Indexing Languages & Thesaurus Construction & Maintenance. Los Angeles: Melville Pub. House.

Soergel, Dagobert. (1985). Organizing Information. Principles of Database & Retrieval Systems, Academic Press.

Ubhad, Vilas P. (2017). Library science and Information Technology. Kanpur: Gaurav Books.

Aadhavan, Omesh (2010). Management of Digital Library. New Delhi: Oxford Book Company

Paper Code: **MLIS/2/CT/10**

Paper Name: **Advance Knowledge Organization: Cataloguing Practice**

Preparation of Main and Added Entries of Documents according to AACR-II having the following items and assigning Subject Heading according to Sear's List of Subject Heading.

Unit –I: Single Author, Joint Authors

Unit –II: Collaborators

Unit –III: Pseudonyms Author

Unit –IV: Multi-Volumes

Unit –V: Serial (Simple entries)

Note: One title from each unit is compulsory without any choice in examination.

RECOMMENDED BOOKS

American Library Association. (1978). Anglo-American cataloguing rules. 2nd Ed, 2002 revision, 2005 update. Chicago: American Library Association.

Gautam, J.N. (1996). Practical Manual of AACR-II. Agra, Y.K. Publisher.

Khan, M. T. M. (2005). Anglo-American cataloguing rules. New Delhi: Shree Publishers.

Krishan Kumar. (1986). An introduction to cataloguing practice. 3rd Rev. Ed. New Delhi: Vikas Publishing.

Ranganathan, S. R. (1988). Classified Catalogue Code with additional rules for dictionary catalogue. Bangalore: Sarada Ranganathan Endowment for Library Science.

Sears, M. E. (2010). Sears List of Subject Headings. 20th Ed. New York: H. W. Wilson.

Singh, S. N. & Prasad, H. N. (1985). Cataloguing Manual AACR-II. Delhi: B. R. Publishing Corporation.

Paper Code: **MLIS/2/ET/11-A**

Paper Name: **Print and E-Resources in Humanities**

UNIT – I: Historical Development

- Scope of the Discipline and its Development
- Research Trends in Humanities: Religion, Philosophy, Fine Arts and Literature

UNIT – II: User Studies and Information Seeking Behaviour

- Information Needs of Users
- Information Seeking Behaviour
- User Studies: Importance, Objectives and Types
- Planning User Survey

UNIT – III: Information Sources and Evaluation

- Primary, Secondary and Tertiary Sources
- Evaluation of Secondary Sources: Print and Electronic Resources

UNIT – IV: Databases and Internet Services

- Networked and Distributed Databases
- Consortia and Subject Gateways
- Internet Resources and Services

UNIT – V: Role of Contributors and Institutions

- Activities of Research Institutions and Professional Organisations: Growth and Development of Humanities with Particular Reference to India, UK and USA
- Contributions made by the Prominent Thinkers in the field of Religion, Philosophy, Fine Arts and Literature

RECOMMENDED BOOKS

Asheim (Lester), et al. Humanities and the library: problem in the interpretation, evaluation and use of library materials. 1970. ALA, Chicago.

Balay (Robert), Ed. Guide to reference books. Ed.11. 1996. ALA, Chicago.

Chandler (G). How to find out about literature. Rev. Ed. 5. 1982. Pergamon Press, Oxford.

Crane (R S). Idea of the humanities. V. 1. 1967. University of Chicago Press, Chicago.

Jones (W T). Sciences and the humanities: conflict and reconciliation. 1965. University of California Press, Berkeley.

Kenna (Stephanie) and Ross (Seamus), Ed. Networking in the humanities: Proceeding. 1995. Bowker-Saur, London.

Paper Code: **MLIS/2/ET/11-B**

Paper Name: **Print and E-Resources in Social Sciences**

UNIT – I: Historical Development

- Scope of the Discipline and its Development
- Research Trends in Social Sciences: History, Political Science, Economics and Sociology

UNIT – II: User Studies and Information Seeking Behaviour

- Information Needs of Users
- Information Seeking Behaviour
- User Studies: Importance, Objectives and Types
- Planning User Survey
- Methods of User Service

UNIT – III: Information Sources and Evaluation

- Primary, Secondary and Tertiary Sources
- Evaluation of Secondary Sources: Print and Electronic Resources

UNIT – IV: Databases and Internet Services

- Networked and Distributed Databases
- Consortia and Subject Gateways
- Internet Resources and Services

UNIT – V: Role of Contributors and Institutions

- Activities of Research Institutions and Professional Organisations: Growth and Development of Social Sciences with Particular Reference to India, UK and USA
- Contributions made by the Prominent Social Scientists in the field of History, Political Science, Economics and Sociology

RECOMMENDED BOOKS

Deutcher (C G), et al. Guide to historical literature. 1951. Macmillan, New York.

Hoselitz (Bert F). Reader's guide to the social sciences. Rev. Ed. 1972. Free Press, Glencoe.

Majumdar (R C). Historiography in modern India. 1970. Asia Publishing House, Bombay.

Mann (Peter H). Methods of sociological enquiry. 1968. Schocken Books, New York.

Mckenzie (W J M), Ed. Guide to the social sciences. 1966. Weidenfied and Nicolson, London.

Unnithan (T K N), Ed. Sociology for India. 1967. Prentice Hall, New Delhi.

Paper Code: **MLIS/2/ET/12-A**

Paper Name: **Digital Library System**

Unit 1: Digital Library

- Definition, Evolution, Need, Objects and Functions
- Advantages of Digital Library
- Technologies requirement for Creating DL
- Hardware and Software for creating DL

Unit 2: Digital Library Creation

- Digitization: Process, Problems and Prospects
- Digital File Formats
- Digital Library Initiatives in India and abroad

Unit 3: Digital Repositories

- Digital/Institutional Repositories: Definition, Functions and Objectives
- Advantages, IR Contents and Problems in creation
- Open Source Software: Koha and DSpace

Unit 4: Digitization

- OCR: Types, Process, Advantages, Disadvantages and Evaluation of OCR
- Meta Data: Definition, Need, Types and Functions
- Cloud Computing: Meaning, Types, Cloud Services and Advantages

Unit 5: Emerging Technologies

- Data Mining: Meaning, Importance, Steps of DM and Problems
- Multimedia Technology: Definition, Need, Objectives and its use in library and information centres
- Artificial Intelligent: Definition, Need, Application areas and Significance.
- QR: Definition, Need, Application in Libraries and Information Centers

RECOMMENDED BOOKS

Amjad, Ali. (2004). Reference Service and the Digital Sources of Information. New Delhi : Ess Ess.

Bishop, A. P. et al. (eds.). (2005). Digital Library Use: Social Practice in Design and Evaluation. Delhi : Ane Books.

Chowdhury, G. G. & Chowdhury, Sudatta. (2003). Introduction to Digital Libraries. London : Facet.

Deegan, Marilyn & Tanner, S. (2006). Digital Preservation. London : Facet Publishing. Jones, Richard et al. (2006). The Institutional Repository. Oxford : Chandos Publishing. Judith, Andrews & Derek, Law. (2004). Digital Libraries. Hants : Ashgate.

Krishan Gopal. (2005). Intellectual Freedom in Digital Libraries. Delhi : Authors Press. Lakshmi, Vijay & Jindal, S. C. (eds.). (2004). Digital Libraries. Delhi : Isha Books.

Mitchell, Anne M. & Surratt, Brian E. (2005). Cataloguing and Organizing Digital Sources. London : Facet.

Pandey, V. C. (2004). Digital Technologies and Teaching Strategies. Delhi : Isha Books.

Rajagopalan, A. (2006). Library of the Digital Age: Issues and Challenges. Delhi : SBS Publishers.

Paper Code: **MLIS/2/ET/12-B**

Paper Name: **Agricultural Library and Information System**

UNIT – I: Growth and Development

- History and Development of Agricultural research in India
- Needs of agricultural scientists
- Role of ICAR for the development of Agricultural research and Libraries
- Problems and Prospects of Agricultural library networks in India

UNIT – II: Agriculture Information

- National Centers: IARI
- IASRI
- NDRI
- IVRI and CIFE

UNIT – III: Systems and Networks

- AGRIS
- INAGRIS
- ARISNET
- E-Agriculture
- Krishi Prabha

UNIT – IV: Information Services and Databases

- AGRICOLA
- CAB
- CeRA
- Professional Associations: AALDI, IAALD

UNIT – V: Collection Development

- Periodicals
- Grey literature, Patent, Standards/Government Publication, Non book materials
- E-Resources: Definition, Need, Types and Utilities
- Online databases

RECOMMENDED BOOKS

Atherton (Pauline). Information center.1984. Berkshire: Pergamon Infotech Ltd.

Bhatt (V S). Information resources in agricultural research in 40 years of agricultural research in India. 1989. ICAR, New Delhi.

Chotey Lal (C). Agricultural libraries and information systems: a handbook for users. 1998.

Daymath (Y) and Ruttan (V W). Agricultural development: an international perspective. 1979. John Hopkins, Baltimore.

Deshmukh (P P). Standardization of library and information services with special reference to scientific and agricultural libraries. 1990. ABC, New Delhi.

Khanna (J.K.). Documentation and Information Services, Systems andTechniques. 2000. Agra: Y.K. Publishers.

Khanna(J.K). Handbook of Information Systems and Services. 1996.New Delhi: Beacon Books.

Kumar (P S G). Agricultural librarianship: MLISc elective paper. 2008. B.R. Publication, New Delhi.

Kumar (P S G). Library movement and library development in Delhi and Chandigarh (Library in India series-8).2010. B.R. Publication, New Delhi

Sharma (R D). The agricultural information network for India. 1989. Society for Information Science, New Delhi.

Singh (Hoshiar). Agriculture administration in India.1986.Printwell Publisher: Jaipur

Subbaiha (R). Agricultural librarianship in India: an overview. 1988. Metropolitan, New Delhi.

Swaminathan (M S). Report of the working group on agricultural research and education for the formulation of the eighth plan. 1989. Planning Commission, ICAR, New Delhi.

Paper Code: **MLIS/2/Skill/01**

Paper Name: **Library Internship**

Library Internship Report:

Candidates are required to prepare a detail report by working in the University Library or any other library specified by the Department to have hands on experiences in every possible unit/section of a library at a regular basis. The Library Internship Report is to be submitted by each candidate at the end of the semester. The Report is to be evaluated the concern faculty and Head of the Department. The duration of the internship would be four weeks.

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Faculty of Management Studies

Management Studies

Courses offered-

- DIPLOMA IN RETAIL MARKETING MANAGEMENT
- CERTIFICATE DIGITAL MARKETING
- MBA
- MBA E-Commerce
- MBA-FSM

DIPLOMA IN RETAIL MARKETING MANAGEMENT

Objective of the programme:

With an emphasis on retail management and marketing topics, the diploma explores key developments and trends in this area. The course is job oriented targeting the growing retail industry. The students will be able to deliver the expected skill set required by the industry after completion of the programme. This course aims at providing a comprehensive view of retailing, and an analysis of the retail environment and exposure to issues and developments in the industry. The students, who are pursuing the course of retail management are taught about the introduction and concept of retail management, retailing trends, pricing and merchandising, segmentation, relationship marketing and information technology in retailing.

Subject specific outcomes are as follows:

Subject Code	Subject Name	Course Outcome
Paper 1: (FMS/DRMM101)	Basics of Marketing and Retailing	This subject provides a comprehensive view of retailing, and an analysis of the retail environment and exposure to issues and developments in the industry
Paper 2: (FMS/DRMM102	Marketing and Communication in Retailing	This subject gives introduction and concept of retail management, retailing trends, pricing and merchandising, segmentation, relationship marketing and information technology in retailing
Paper 3: (FMS/DRMM103)	Retention in Retail Marketing	This subject provides a comprehensive view of customer relationship management in retail industry, an overview of the Indian rural market & opportunities and benefits of going global
Paper 4: (FMS/DRMM104)	Training with Dissertation	A project dissertation/report based on the internship/training will have to be submitted in the

		fifth month from the commencement. The written part for project study FMS/DRMM104 shall account for 50% of marks and the viva-voce to be conducted by a duly constituted examination board for the remaining 50% of marks.

CERTIFICATE DIGITAL MARKETING

S.No.	Subject Name	Course Outcome
1	Functional Management:	Functional Management: The idea is to enhance the managerial skills of students so that they can lead in the best possible way.
2	Computer Skills and Internet Proficiency:	Computer Skills and Internet Proficiency: Looking at the digitalization in the routine life, the outcome of this course is to make students able to handle the internet and other web components.
3	Social media and search marketing	Social media and search marketing: Knowledge of digital marketing platforms, SEOs etc. has been indulged among the students.
4	Email Marketing & Affiliate Marketing:	Email Marketing & Affiliate Marketing: The present scenario calls for content writers and this course is contributing towards the same by engaging topics like related Tools and techniques and strategies.
5	Practical Project:	Practical Project: The students got an aid in applying the knowledge in the practical world and students engaged in hands-on of the applications and their implementation.

THE PROGRAMME MBA EXECUTIVE

The Master of Business Administration- Executive (MBA-Executive) is a two-year full-time programme. The program shall run in hybrid mode or as per the UGC guidelines. The course structure and programme administration are as follows:

COURSE STRUCTURE

The programme has been organized in two years-First Year and Second Year, each year comprising two semesters. The list of papers offered during First Year and Second Year of the programme shall be as follows:

FIRST YEAR-

MBAEX-101 Management Process and Organizational Behavior –

The Study of organizational behavior includes areas of research dedicated to Improving job performance, increasing job satisfaction, promoting innovation and encouraging leadership , promoting team building and states various ways of stress management.

MBAEX102- STATISTICS AND RESEARCH METHODOLOGY

The aim of statistics is to draw a conclusion from data…performing descriptive data analysis.

Using appropriate statistical methods to solve the research problem and application of various tests such as - Z-Test, T-Test, F- Annova Test, Chi-Square Test.

MBAEX103: MANAGERIAL ECONOMICS

The Objectives of this

MBAEX-104 ENVIRONMENT MANAGEMENT

The objectives of this course is to consider the relationship between human beings and the world, from air pollution to the depletion of natural resources. It covers the importance of sustainability and started studying the moral and ethical relationship between humans and the environment.

It covers pollution and waste management and various standards such as ISO 14000,9000,20000.

MBAEX-105: MANAGERIAL SKILL DEVELOPMENT

The course is aimed at equipping the students with the necessary & techniques and skills of communication to inform others, inspire them and enlist their activity and willing cooperation in the performance of their jobs.

MBAEX-106: INDIAN ETHOS AND VALUES

Indian Ethos in Management refers to the values and practices that the culture of India (Bharatheeya Sanskriti) can contribute to service, leadership and management. These values and practices are rooted in Sanathana Dharma (the eternal essence), and have been influenced by various strands of Indian philosophy

MBAEX- 107: ACCOUNTING FOR MANAGERS

Objectives

The basic purpose of this course is to develop an insight of postulates, principles and techniques of accounting and utilisation of financial and accounting information for planning, decision-making and control.

MBAEX-108: COMPUTER APPLICATIONS IN MANAGEMENT

Objectives:
The objectives of this course include developing an appreciation of different software and hardware systems available in the industry among the participants and build up the experience of computer usage in business organizations with specific reference to commercial data processing systems

MBAEX-201: ORGANIZATION EFFECTIVENESS AND CHANGE

Objectives

To familiarize the students with basic organizational processes to bring about organizational effectiveness and change.

MBAEX – 202: MANAGEMENT SCIENCE

Course Objectives:
The real world problems are complex problems; they require finding of an optimum solution subject to a large number of constraints and decision variables. Handling them so as to achieve OPTIMUM SOLUTIONS is one of the biggest challenges among the players of the real world. Keeping this in mind, the whole Course is targeted to equip the students with necessary quantitative techniques (especially mathematical optimization methods) so

that they become capable of solving managerial and financial decision problems in an objective and a scientific manner.

MBAEX-203: HUMAN RESOURCE MANAGEMENT

Objectives

In a complex world of industry and business, organisational efficiency is largely dependent on the contribution made by the members of the Organisation. The Objectives of this course is to sensitize students to the various facets of managing people and to create an understanding of the various policies and practices of human resource management.

MBAEX-204: FINANCIAL MANAGEMENT

Objectives:
The purpose of this course is to acquaint the students with the broad framework of financial decision making in a business unit.

MBAEX-205: MARKETING MANAGEMENT

Objectives

The purpose of this course is to develop and understanding of the underlying concepts, strategies and issues involved in the marketing of products and services

MBAEX- 206: PRODUCTION AND OPERATIONS MANAGEMENT

Objectives
The Course is designed to acquaint the students with decision making in: Planning, scheduling and control of Production and Operation functions in both manufacturing and services; Productivity improvement in operations through layout engineering and quality management e tc.; Effective and efficient flow, replenishment and control of materials with reference to both manufacturing and services organizations.

MBAEX-207 E- COMMERCE

This course provides an introduction to information systems for business and management. It is designed to familiarize students with organizational and managerial foundations of systems, the technical foundation for understanding information systems
After Completion of the subject student should able to
• Understand the basic concepts and technologies used in the field of management information
systems

• Have the knowledge of the different types of management information systems
• Understand the processes of developing and implementing information systems
• Be aware of the ethical, social, and security issues of information systems.

MBAEX-208: INTERNATIONAL BUSINESS ENVIRONMENT AND MANAGEMENT

Objectives
The primary Objectives of this course is to acquaint the students to emerging global trends in business environment

MBAEX-301: BUSINESS POLICY & STRATEGIC MANAGEMENT

Objectives
The Objectives of this course is to develop understanding about strategic processes and their impact on a firm.

MBAEX-302: DECISION SUPPORT SYSTEMS AND MANAGEMENT INFORMATION SYSTEM

Objective
The objective of the course is to develop the basic understanding of the decision support system of the Artificial Intelligence for Business Organization

MBAEX-303: BUSINESS LEGISLATION

Objectives
The course is designed to assist the students in understanding basic laws affecting the operations of a business enterprise.

MBAEX-304: SUMMER TRAINING PROJECT

At the end of second semester, all students will have to undergo summer and training of 8-10 weeks with industrial, business or service organization by taking up a project study.

This helps the students in developing practical understanding about the industries and about their world culture.

MBAEX 401- BUSINESS ANALYTICS
Objective-

This course aims to devlop overall anatytical skills of the students and to help them to apply analytical techniques to business decision making.

FM-3102: SECURITY ANALYSIS AND INVESTMENT MANAGEMENT

Objectives
The objective of this course is to impart knowledge to students regarding the theory and practice of Security Analysis and Investment Decision Making Process

FM-3103: PORTFOLIO MANAGEMENT

Objectives
The objective of this course is to give the students an in-depth knowledge of the theory and practice of Portfolio Management.

FM-3105: MANAGEMENT OF FINANCIAL SERVICES

Objectives

The main objective of this course is to help students to learn the various financial services and their role in the overall financial system.

FM-3109: FINANCIAL DERIVATIVES

Objectives
The objective of this course is to give an in depth knowledge of the functioning of derivative securities market.

FM-3110: PROJECTS PLANNING, ANALYSIS AND MANAGEMENT

Objectives
The basic purpose of this course is to understand the framework for evaluating capital expenditure proposals, their planning and management in the review of the projects undertaken.

FM-3114: FOREIGN EXCHANGE MANAGEMENT

Objectives
To acquaint the participants with the mechanism of the foreign exchange markets, measurement of the foreign exchange exposure, and hedging against exposure risk.

MBA EX-3201: CONSUMER BEHAVIOUR

OBJECTIVES:
To understand the conceptual foundations of consumer buying behavior. To equip the learner to apply the principles and prepare for a career in Product and Brand Management in the FMCG and consumer durables industry

MBA EX-3202: ADVERTISING AND SALES PROMOTION MANAGEMENT

OBJECTIVES: To equip students for a career in Product and Brand Management, Advertising – with special reference to Client servicing, Media planning and research.

MBA EX-3203: STRATEGIC MARKETING

Objectives

The basic objective of this course is to develop skills for analysing market competition and design appropriate competitive marketing strategies for higher market share.

MBA EX-3205: SALES AND DISTRIBUTION MANAGEMENT

Objectives

The purpose of this paper is to acquaint the student with the concepts which are helpful in developing a sound sales and distribution policy and in organising and managing sales force and marketing channels.

MBA EX-3208: MARKETING OF SERVICES

Objective: To differentiate between product and service businesses and equip for a career in marketing in the service industry.

MBA EX-3211: BRAND MANAGEMENT

Objective:
The objective of this course is to impart in-depth knowledge to the students regarding the theory and practice of Brand Management

MBA EX - 3213 PLANNING AND MANAGING RETAIL BUSINESS

Objectives :
The Course will focus manufacturers' perspective on retailers and understanding of the retail business

MBA EX 3215: LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Objectives:

To introduce process and functions of physical distribution system. To introduce the major building blocks, functions, business process, performance metrics and decision making in supply chain network. To provide an insight

into the role of Internet Technologies and electronics commerce in supply chain management

MBA EX3216- Digital Marketing

Objectives

The objective of this paper is to create awareness about Digital Marketing and educate the learner about use of electronics in marketing management.

MBAEX-3301: MANAGEMENT OF INDUSTRIAL RELATIONS

Objectives

Organisational efficiency and performance are intricately interlinked with industrial relations. This course is an attempt to appreciate the conceptual and practical aspects of industrial relations at the macro and micro levels.

MBAEX- 3305: LEGAL FRAMEWORK GOVERNING HUMAN RELATIONS

Objectives

Understanding of the legal framework is important for the efficient decision making relating to man management and industrial relations. The course aims to provide an understanding, application and interpretation of the various labour laws and their implications for industrial relations and labour issues.

MBAEX-3306: MANAGEMENT TRAINING AND DEVELOPMENT

Objectives

The purpose of this paper is to provide an in-depth understanding of the role of Training in the HRD, and to enable the course participants to manage the Training systems and processes.

MBAEX-3308: ORGANIZATIONAL CHANGE AND INTERVENTION STRATEGIES

Objectives

The objective of this paper is to prepare students as organizational change facilitators using the knowledge and techniques of behavioural science.

MBAEX-3310: HUMAN RESOURCE DEVELOPMENT: STRATEGIES AND SYSTEMS

Objectives

The purpose of this course is to facilitate an understanding of the concepts, methods and strategies for HRD.

MBAEX-3311: HUMAN RESOURCE PLANNING AND DEVELOPMENT

Objectives

The objective of this paper is to develop a conceptual as well as a practical understanding of Human Resource Planning, Deployment and Development in organizations

MBAEX-3311: Hospital Planning

Course Objectives:

The objectives of the course are to enable the participants to - develop a basic understanding of the hospital planning and designing process; enable them to understand functional requirements; layout parameters in planning of the departments of the hospital; to learn new concepts in designing of healthcare facilities; and, to understand safety issues in hospital buildings and legal.

Describe the functional requirements and layout of various departments of the hospital.

• Have adequate knowledge of space and equipment planning for the departments of the hospital.

• Evaluate the legal compliances for hospital buildings

• Develop understanding of safety issues in hospital buildings

• Understand the modern and emerging trends in hospital architecture.

• To develop an understanding for efficient and economic hospital designs.

MBAEX-3412: Analytics for Health Care Management

Course Objectives:

In an environment where complexity is growing, decision makers in healthcare systems need to use data to make pertinent and accurate decisions. Their practices and policies should be supported and strengthened by data. Tools of analytics provide the capability to identify patterns in data and to implement this knowledge in developing strategies and improving performance. The objectives of this course are to enable the participants to develop an understanding of basic principles of data analysis and familiarize them with key tools and techniques that would enable them to take data-driven decisions in a hospital/healthcare delivery setting.

Course Learning Outcomes:

After the course, participants should be able to:

• Identify sources of data, suggest methods for collecting, sharing and analyzing data

• Understanding the issues involved in data quality and their management

• Discuss the difference between descriptive, predictive and prescriptive analytics

• Able to use basic data presentation and visualization tools and manipulate simple data-sets

• Discuss the basics of big-data, machine learning and artificial intelligence

• Able to identify decision problems amenable for analytics-based solutions. Understand how data analytics can provide potential solutions to improve quality and lower cost

• Able to lead team comprising of data scientists

MBAEX-3413: Health Care Ethics, Governance and Society

Course Objective:

The aim of the course is to help students gain understanding of how healthcare needs and delivery systems depend on the socio- cultural context of recipients of the society. The course contents focus on developing a People Centered Approach in health care professionals and creating health care delivery systems aligned with its principles. Finally, the course will sensitize participants towards ethics and regulation involved in private or public health care practice and engages in critical thinking to solve ethical dilemmas.

Course Learning Outcomes:

• To understand changing global trends with respect to disease and planning for the health care of the future in a progressively global, aging and urbanized context.

• Understanding what is culture and examining the elements of landmark and successful culture centered health interventions

To become familiar with elements of People Centered health care systems so that effective and equitable preventive, secondary and tertiary health care is available to all sections of the society.

• Special needs of marginalized sections of society like women, street children, those from war and disaster ravaged environments and others.

• Ethics involved in issues like surrogacy, organ donation, clinical trials, euthanasia and others.

• Governance, regulation and ethical protocols during practice for doctors and health practitioners and learning how to solve ethical dilemmas.

MBAEX-3414: Total Quality Management and Accreditation for Health Care

Course Objectives:

The key objective of this course is to acquaint the students with the conceptualization of Total Quality (TQ) from design assurance to processes' assurance to service assurance. TQM is to be linked with business excellence through management frameworks and award criteria. Additional objective is to give focus on Quality Management Systems (QMS) like 1SO-9001.The course would also aim to closely link management of quality with that of reliability and maintainability for total product assurance. Integration of operations systems like ISO 14001 (EMS) and occupational safety and health (OSH) and total productive maintenance (TPM) is also to be analyzed. The dimensions of quality in services in the contemporary environment are also to be focused. Course Learning Outcomes:

• Appreciate the nature, need and scope of total quality management and its relationship with operational and then business excellence.

• Appreciate the quality of design, off-line control, losses and costs of quality.

• Develop and analyses tools for hazard analysis

• Understand conceptual framework of TPM and study concept of OEE.

• Build knowledge about statistical process control through process capability studies.

• Deploy total quality principles in supply and vendor management

• Develop knowledge and skills about quality improvement tools.

• Develop total quality relationship with environment and safety systems.

MBAEX-3416: Innovations in Health Care and Health Care Entrepreneurship

Course Objectives:

The objectives of this are to introduce the participants to a wide range of advances and innovations that are happening in healthcare services. The innovations relate to use of technology, information technology, business and service delivery models. The objective of this course is to help the executives develop an entrepreneurial mind set and gain an understanding of the entire entrepreneurial process through analysis of various situations in health care organizations. Additionally, the purpose of the course is also to gain insights about the critical role of creativity and innovation to the development of new products and services in entrepreneurial start-ups in the health care sector.

Course Learning Outcomes:

• Familiarization with innovations in healthcare technology – diagnostics, medical devices, etc., their impact on future of healthcare and their relevance to the Indian healthcare industry

• Introduction to the concepts of advances in Healthcare Information Technology like mHealth, Big Data, Artificial Intelligence, Genomics, etc.

• Introduction to newer models of service delivery like – telemedicine, remote health monitoring, home healthcare, etc., understanding opportunities and challenges posed by these models

• Introduction to newer business models in healthcare – mobile health apps, doctor discovery and networking platforms, understanding opportunities and challenges posed by these models

• Critically analyze issues involved in utilizing these advances in current and anticipated healthcare delivery models.

MBAEX-3417: Regulation and Laws in Health Sector and International Health Systems

Course Objectives:

The objective of this course is to make the participants familiar with the laws that govern health care services in the country. The course is aimed at enabling the participant in understanding the rationale behind existing legal framework and its tenets in India to safeguard the interests of the health care service providers (organizations and individuals) and consumers.

The objectives of this course is to enable the participants to - develop an understanding of basic healthcare delivery models of various developed and developing countries; to understand in detail about different approaches to the organization, financing and delivery of health services in these countries; to understand the health care reform programs and perform a strengths, weaknesses, opportunities, and threats (SWOT analysis) of healthcare delivery system of a country; and, to develop and understanding of healthcare reform strategies in different countries.

Course Learning Outcomes:

• Understand the existing legal framework in India that governs health care delivery

• Understand expected standards of ethical behavior and promote standards of ethical

behavior
• Analyze role of legal system in health policy and health care delivery
• Contribute to legal reasoning in running of a healthcare organization
• Understand the rationale of legal system in the country
• Interpret legal provisions under various laws related to health care system
• Have adequate knowledge of all the laws that are currently in force in matters related to health care delivery
• Critically evaluate the legal provisions and interpret the laws and byelaws
• Develop skills to judiciously exercise powers, responsibilities and protect one's own rights as health care provider
• Understanding of the concept of various healthcare delivery models of countries both in developed and developing economics.
• Understanding demographic and macroeconomic indicators of various countries.
• Ability to evaluate health system performance of different countries in terms of efficiency and equity.
• Ability to identify specific health system strengths, weaknesses, opportunities, and threats
(SWOT analysis) employing comparative analysis as a research tool.
• To compare the health system performance of the one country with other economically similar and different country.
• Understanding health care reform programs of several countries and to apply these reforms for betterment of healthcare delivery in India.
• Discussion on newer initiatives and strategies of Govt. of India in healthcare delivery.

MBAEX-3418: Management of Hospital Support Services

Course Objectives:
The objective of this course is to familiarize the participants with support services in the hospitals. It is aimed at enabling the participants to understand the framework of support services in hospital and their role in assisting clinical departments in the hospital to achieve clinical and service excellence. Support services under the purview of this course include Biomedical engineering department, Engineering department, clinical nutrition and dietetics, administration, human resource department, Front Office (OPD+IPD), laundry & housekeeping department, security department, food and beverages department, commercial department, medical records and Information technology department, etc.

Course Learning Outcomes:
At the end of the course, the learner should be able to know and understand:
• Major support services in the hospitals.
• Their contribution in achieving service excellence in hospital along with clinical excellence.
• Impact of support services on patient care.
• Impact of support services on the business of a hospital.
• Rationale of the support services- policies and procedures

- Roles and responsibilities of the managers and other functionaries in support services.
- Coordination among all the support services departments.

MASTER OF BUSINESS ADMINISTRATION

(E-COMMERCE)

SYLLABUS

2022-2024

Faculty of Management Studies

Mohanlal Sukhadia University

UDAIPUR (RAJ.)

THE PROGRAMME

The Master of Business Administration (E Commerce) is a two-year full-time program. The course structure and program administration are as follows:

COURSE STRUCTURE

The programme has been organized in two years-First Year and Second Year, each year comprising two semesters. The list of papers offered during First Year and Second Year of the programme shall be as follows:

<table>
<tr><th>FIRST YEAR</th><th>SECOND YEAR</th></tr>
<tr><td>(I- SEMESTER)</td><td>(III – SEMESTER)</td></tr>
<tr><td>MEC -101 Management Process and Organizational Behavior</td><td>MEC-301 E-Commerce Progression</td></tr>
<tr><td>MEC -102 Quantitative Methods</td><td>MEC-302 Digital Marketing</td></tr>
<tr><td rowspan="6">MEC-103 Managerial Economics</td><td>MEC-303 E-advertising</td></tr>
<tr><td>MEC-304 Managing E Channels</td></tr>
<tr><td>MEC-305 Logistics and Supply Chain Management</td></tr>
<tr><td>MEC -306 Marketing Research</td></tr>
<tr><td>MEC -311 Entrepreneurship Development</td></tr>
<tr><td>MEC- 312 Summer Training Project Report</td></tr>
<tr><td>MEC-104 Environment and Management</td><td rowspan="5">Summer Training: At the end of second semester, all students will have to undergo summer training of probably 6 to 8 weeks with an organization by taking up a project study.</td></tr>
<tr><td>MEC -105 Business Communication</td></tr>
<tr><td>MEC- 106 Business Legislation and Ethics</td></tr>
<tr><td>MEC- 107 Accounting for Managers</td></tr>
<tr><td>MEC-108 Computers and MIS</td></tr>
<tr><td>(II- SEMESTER)</td><td>(IV SEMESTER)</td></tr>
<tr><td>MEC -201 Fundamentals of E-Commerce</td><td></td></tr>
<tr><td rowspan="4">MEC -202 Business Policy and Strategic Analysis</td><td>MEC – 401 E- Business Philosophy</td></tr>
<tr><td>MEC – 402 Business Technologies & Trends</td></tr>
<tr><td>MEC – 403 Warehouse Management & Data Mining</td></tr>
<tr><td>MEC – 404 Business Analytics</td></tr>
<tr><td></td><td>MEC -411 Major Research Project</td></tr>
<tr><td>MEC -203 Human Resource Management</td><td rowspan="7">Major Research Project: Major Research Project study shall commence in the beginning of fourth semester and will have two papers weight. It may be Industry oriented internship cum project or departmentally allocated research project.</td></tr>
<tr><td>MEC-204 Financial Management</td></tr>
<tr><td>MEC -205 Marketing Management</td></tr>
<tr><td>MEC-206 Production and Operations Management</td></tr>
<tr><td>MEC-207 Research Methodology</td></tr>
<tr><td>MEC-208 International Environment and Management</td></tr>
</table>

*** A choice of 18 specialization papers is available but 10 specialization papers to be offered in final year will be announced by Course Director looking at concurrent**

demand of industry. No further choice of papers will be offered in addition to specialization papers announced.

PROGRAMME ADMINISTRATION *(SUGGESTED GUIDELINES)*

Evaluation

(i) Each paper will carry 100 marks (except MEC- 411) of which minimum of 20% of marks should be for internal assessment and remaining percentage of marks is for written examination. The duration of written examination for each paper shall be three hours.

(ii) The internal assessment marks shall be based on factors such as: Participation in seminars, case discussions and group work activities

* Class tests, quizzes, individual and group oral presentations
* Submission of written assignments, term papers and viva-voce
* Class-room participation and attendance

There will be one midterm class test which will carry 10 marks. If any candidate does not appear in any of the midterm tests on medical or other valid grounds, he may appear in the defaulter test by depositing a fee of Rs. 150/- per course.

The course for the midterm test will be first three units but the defaulter test coverage will be entire course.

Home Assignment will carry 05 marks while individual and group presentation and attendance will carry 05 marks.

(iii) The scheme of evaluation of project studies shall be as follows:

(a) For Paper MEC-312, a project report based on the summer training will have to be submitted within five weeks from the commencement of third semester. The viva-voce to be conducted by a duly constituted examination board shall account for 80% of marks and the remaining 20% of marks of internal evaluation are to be awarded by faculty members which will account for the written portion of the project report.

(b) Paper MEC-411, final Major Research project study shall commence in the beginning of fourth semester and the report should be submitted towards the end of fourth semester. This research project will carry 200 marks weight. The candidate has to approach specialization related industry and in joint supervision of Industry representative and Faculty members of FMS, the Project is to be completed. The project may even be in form of major research project in relevant field which can be completed either in the campus or in the relevant industry. The written part and the viva-voce to be conducted by a duly constituted examination board for the specialization-oriented project studies shall account for 80% of marks and the remaining 20% of marks of internal evaluation are to be awarded by faculty members which will account for the written portion of the project.

Promotion and Span Period

(i) The span period of the programme is four years from the date of registration in the programme.

(ii) The minimum marks for passing the examination for each semester shall be 40% in each paper and 50% in aggregate for all the courses of the semester.

(iii) To be eligible for promotion to the second year of the programme, a student must clear successfully at least 12 papers out of the 16 papers offered during first year of the programme.

(iv) The degree shall be awarded to successful students on the basis of the combined results of first year and second year examinations as follows:

- Securing 60% and above : Ist Division -
- All other : IInd Division

(v) A student to be eligible for award of degree has to clear all the papers offered during two-year programme within the span period.

(vi) The candidates will be required to pass in the external examination of 80 marks.

The Institute/University may evolve their own Grading System for evaluation.

Re-examination

A candidate who has secured minimum marks to pass in each paper but has not secured the minimum marks required to pass in aggregate for the semester concerned may take re-examination in not more than two papers to obtain the aggregate percentage required to pass the semester.

A regular student will be allowed to re-appear in any paper in any semester. However, the total number of attempts for a paper shall not exceed four during the span period of the programme. As regards the ex-students, they will be allowed to re-appear in papers only in the semester examination when held, subject to total number of attempts for a paper not exceeding four years during the span period of the programme.

Attendance

No candidate shall be considered to have pursued a regular course of study unless he/she is certified by the Head/Dean of the Department/Faculty to have attended the three-fourths of the total number of classroom sessions conducted in each semester during his/her course of study. Any student not complying with this requirement will not be allowed to appear in the semester examination. However, the Head/Dean may condone the required percentage of attendance by not more than 10 per cent during a semester.

A student not allowed to appear in the preceding semester examination due to shortage of attendance, may appear in the papers of the proceeding semester along with the papers of current semester after making up the attendance shortfall. Remedial classes, however, will not be arranged by the Department/ Faculty for the purpose.

Semester - I
MEC-101 to MEC-108

MEC-101: Management Process and Organizational Behavior

Objectives

The objective of this paper is to familiarize the student with basic management concepts and behavioral processes in the organization.

Course Contents

I. Evolution of management thought, Systems and contingency approach for understanding organizations, managerial processes, functions, skills and roles in an organization; Social Responsibility of Business; Leadership: Concept, Nature, Importance, Attributes of a leader, developing leaders across the organization, Leadership Grid. Decision making: Concept, Nature, Importance, and Process. Types of decisions. Problems in decision making.

II. Introduction to Organizational Behavior: Definition, Importance, Scope, Fundamental Concepts of OB, Different models of OB - autocratic, custodial, supportive, collegial and SOBC. Personality & Attitudes: Meaning of personality, attitude - Development of personality – Attributes of personality- Transactional Analysis – Ego states – Johari window - Nature and dimensions of attitude – Developing the right attitude

III. Motivation: Definition, Importance, Motives – Characteristics, Classification of motives - Primary & Secondary motives. Theories of Motivation – content and process theories. Morale - Definition and relationship with productivity - Morale Indicators.

IV. Group Dynamics and Team building: Concept of Group & Team. Theories of Group Formation - Formal and Informal Groups. Importance of Team building. Conflict Management: Definition. Traditional vis-à-vis Modern view of conflict – Types of conflict – Intrapersonal, Interpersonal, and Organizational. Constructive and Destructive conflict. Conflict management.

V. Stress management: Definition, Causes, Managing stress, Stress as a motivator. Work life balance. Applications of emotional intelligence in organizations, communication, group decision making, Understanding and Managing organizational system - Organizational design and structure, Change management: Concept of change, change as a natural process, Importance & Causes of change – social, economic, technological, organizational. Learning – unlearning, Concept of learning organizations.

Suggested Readings

1. *Koontz, H. and Wechrich, H. Management. 10th ed., New York, McGraw Hill, 1995.*
2. *Luthans, F. Organizational Behaviour. 7th ed., New York, McGraw Hill, 1995.*
3. *Robbins, S P. Management. 5th ed., New Jersey, Englewood Cliffs, Prentice Hall Inc., 1996.*
4. *Robbins, S P. Organizational Behaviour. 7th ed., New Delhi, Prentice Hall of India, 1996.*
5. *Singh, Dalip Emotional Intelligence at Work, Response Books, Sage Publications, Delhi,2001*
6. *Staw, B M. Psychological Dimensions of Organizational Behaviour. 2nd Ed., Englowed Cliffs, New Jersey, Prentice Hall Inc., 1995.*
7. *Stoner, J. etc. Management.6th ed., New Delhi, Prentice Hall of India, 1996.*
8. Sundar, K. *Elements of Organisational Behaviour.* Vijay Nicole Imprints Private Limited, Chennai.
9. Sundar, K. *Principles of Management.* Vijay Nicole Imprints Private Limited, Chennai.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-102: Quantitative Methods

Objectives

The objective of the course is to make the students familiar with some basic statistical and linear programming techniques. The main focus, however, is in their applications in business decision making.

Course Contents

I. Matrices and their Application, Markov's Analysis, Functions and Progressing of Business applications.

II. Frequency Distribution and their Analysis; Measures of Central Tendency, Standard Deviation, Variance.

III. Correlation and Regression Analysis, Time Series Analysis and Forecasting.

IV. Probability Theory and Probability Distributions - Binomial, Poisson, Normal and Exponential.

V. Evolution of Management Science, Linear Programming - Basic concepts, Model Formulation, Solution Methods, Duality, Transportation and Assignment, Decision Theory and Decision Trees, Quantitative Methods Packages.

Suggested Readings

1. *Chadha, N. K. Statistics for Behavioral and Social Scientists, Reliance Publishing House, Delhi,1996*
2. *Gupta, S P and Gupta M P. Business Statistics. New Delhi, Sultan Chand, 1997.*
3. *Kazmier, L J and Pohl, N F. Basic Statistics for Business and Economics. New York, McGraw Hill, 1988.*
4. *Levin Richard I and Rubin David S. Statistics for Management. New Jersey, Prentice Hall Inc., 1995.*
5. *Narag, A S. Linear Programming and Decision Making. New Delhi, Sultan Chand, 1995.*
6. *Sharma, J.K. Fundamentals of Operations Research, Macmillan, New Delhi,2001*
7. *Terry, Sineich. Business Statistics by Examples. London, Collier Mac Millian Publishers, 1990*
8. *N.D Vora*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-103: Managerial Economics

Objectives

The Objectives of this course is to acquaint the participants with concepts and techniques used in Micro-Economic Theory and to enable them to apply this knowledge in business decision-making. Emphasis is given to changes in the nature of business firms in the context of globalization.

Course Contents

1. Nature and Scope of Managerial Economics, Application of Economics in managerial decision-making, macro vs micro economics, basic principles of managerial economics. Demand functions, Law of Demand - Utility Concept, Cardinal and Ordinal Approach, Income and substitution effects.
2. Elasticity of Demand - Price Elasticity, Income Elasticity, Cross Elasticity Advertising Elasticity, Demand forecasting, concept of consumer surplus.
3. Production Function- Concept, Isoquants, Equilibrium, Law of Variable Proportions, Law of Returns to Scale, economies of scale, Cost Function- Types of Costs, theory of firm – profit maximization, sales maximization, revenue curves- TR, AR, MR, Long run and short run.
4. Market Structure: Concept of Equilibrium, Perfect Competitions, Monopoly, Monopolistic, Oligopoly: Kinked demand curve, Game theory, Price leadership model, Full cost pricing, Baumol's theory of sales revenue maximization, Williamsons' Managerial discretionary Theory, Cyert & March behavioral Theory. Theoretical Concept of Pricing, Pricing Polices in Practices, Non-Price Competition.
5. Macro Economics: Aggregates and Concepts, Aggregate Consumption- Aggregate Demand, Concept and Measurement of National Income; Determinant of National Income, Money multiplier Effect & Accelerator, GNP and GDP, Balance of Payments, Monetary Policy Fiscal Policy; Business cycle.

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Suggested Readings

1. *Adhikary, M. Business Economics., New Delhi, Excel Books, 2000.*
2. *Baumol, W J. Economic Theory and Operations Analysis. 3rd ed., New Delhi, Prentice Hall Inc., 1996.*
3. *Chopra, 0.P. Managerial Economics. New Delhi Tata McGraw Hill 1985.*
4. *Keat, Paul G & Philips K. Y. Young, Managerial Economics, Prentice Hail, New Jersey, 1996.*
5. *Koutsoyiannis, A. Modem Micro Economics. New York, Macmillan, 1991.*
6. *Milgrom, P and Roberts J. Economics, Organization and Management. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1992.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-104 Environment Management

Course Contents

1. Environmental Management: Fundamentals-Sustainable Development, Implications of human population growth, Limits to growth, Environment and Business Schools; Energy Management: Fundamentals -Fossil Fuels use, Energy production and trade, Energy Balance.
2. Ecosystem Concepts: Basic Concepts and their application in Business, Industrial Ecology and Recycling Industry; Environmental Management System: EMS Standards, ISO 14000.
3. Environmental Management & valuation: Environmental Auditing. Clearance/Permissions for establishing industry Environmental Accounting, Economics - Environmental Taxes Shifts, Green Funding, Corporate Mergers.
4. Environmental Management Trade and Environmental Managemental, Debt and Environment, GATT / WTO Provisions, Green funding, Environmental Laws: Acts, Patents, IPRS, Role of NGO'S, PIL.
5. Pollution & Waste Management - Air, Water, Land Pollution, Trade in Wastes; Water, Forest & Biodiversity Management: Water Resources, Dams and their role; Forest products and Trade. Role of Biodiversity in International Trade; Approaches to Corporate Ethics; Bio-ethics, Environmental ethics.

Suggested Readings

1. *Uberoi, N.K.; Environmental Management, Excel Books, A-45, Naraina Phase-1, New Delhi, 2000*
2. *Pandey,G.N.: Environmental Management, Vikas Publishing House New Delhi,1997*
3. *Gupta, N. Dass: Environmental Accounting, Wheeler Publishing, 19, K.G. Marg, New Delhi, 1997*
4. *Mohanty, S.K.: Environment & Pollution Law Manual, Universal Law Publishing, G.T. Karnal Road, New Delhi,1996*
5. *Harley, Nick : Environmental Economics, MacMillan India Ltd., Ansari Road, New Delhi,1997*
6. *Kolstad, Charles D.: Environmental Economics, Oxford University Press, 2000*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-105: Business Communication

Objectives

The course is aimed at equipping the students with the necessary & techniques and skills of communication to inform others inspire them and enlist their activity and willing cooperation in the performance of their jobs.

Course Contents

I.. Importance and nature of business communication; Effective Communication skill; Process of communication; Barriers and gateways in communication; Intra personal communication and body language; Inter personal communication and relationship; Leadership skills; Team building and public speaking; Presentation skills; Case study and situational analysis

II. Dos and Don'ts of Business writing; Commercial letters; Writing Business reports; Written communication - 7'c of written business communication, Approaches to written communication - deductive and inductive; Writing for enquiries , Claims, invitation, reservations and orders, refusal and collection letters, sales letters, resume writing and recommendation letters; Report writing- long and short business reports and business proposal.

III. Feelings- types and steps to deal with complex feelings; Assertiveness and confidence building; Body language- role of different parts of the body in communication; Non-verbal behavior; Emotions- emotional empathy and emotional intelligence.

IV. Techniques for personality development (a) self confidence (b) mnemonics (c) goal settings (d) time management (e) effective planning (f) stress management.

V. Developing an understanding of social etiquettes; Dressing for interview- do's and don'ts for men and women; Dressing for office-do's and don'ts for men and women; Dining etiquettes; Telephone and email etiquettes; Ethical dilemmas-code of conduct.

Suggested Readings

1 . Bowman, Joel P and Branchaw, Bernadine P. "Business Communication: From Process to Product". 1987. Dryden Press, Chicago.

2. Hatch, Richard. "Communicating in Business". 1977 Science Research Associates, Chicago.

3. Murphy, Herta A and Peck, Charrles E. "Effective Business Communications". 2nd ed. 1976. Tata McGraw Hill, New Delhi.

4. Pearce, C Glenn etc. "Business Communications: Principles and Applications". 2nd ed. 1988. John Wiley, New York.

5. Treece, Maira. "Successful Business Communications". 3rd ed. 1987. Allyn and Bacon Boston.

6. Sundar, K. *Business Communication.* Vijay Nicole Imprints Private Limited, Chennai.

MEC-106: BUSINESS LEGISLATION

Objectives

The course is designed to assist the students in understanding basic laws affecting the operations of a business enterprise.

Course Contents

I. The Indian Contract Act, 1872: Essentials of a Valid Contract. Void Agreements. Performance of Contracts. Breach of Contract and its Remedies.Quasi-Contracts.

II. The Sale of Goods Act, 1930 : Formation of a Contract. Rights of an Unpaid Seller.Consumer Protection Act and Cyber Laws.

III. The Negotiable Instruments Act, 1881: Nature and Types. Negotiation and Assignment. Holder-in-Due Course, Dishonour and Discharge of a Negotiable Instrument. Arbitration.

IV. The Companies Act, 2013; Nature and Types of Companies. Formation. Memorandum and Articles of Association.Prospectus Allotment of Shares.Shares and Share Capital.Membership.Borrowing Powers.Management and Meetings.

V. Accounts and Audit.Compromise Arrangements and Reconstruction.Prevention of Oppression and Mismanagement.Winding Up.

Suggested Readings

1. *Avtar Singh. Company Law. 1 1 th ed. Lucknow, Eastern, 1996.*
2. *Khergamwala, J S. The Negotiable Instrument Acts.Bombay, N.M. Tripathi, 1980.*
3. *Ramaiya, A. Guide to the Companies Act. Nagpur, Wadhwa, 1992.*
4. *Shah, S M. Lectures on Company Law. Bombay, N.M. Tripathi, 1990.*
5. *Tuteja, S K. Business Law For Managers. New Delhi, Sultan Chand, 1998.*
6. Sundar, K. *Business Ethics And Values.* Vijay Nicole Imprints Private Limited, Chennai.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC- 107: ACCOUNTING FOR MANAGERS

Objectives

The basic purpose of this course is to develop an insight of postulates, principles and techniques of accounting and utilization of financial and accounting information for planning, decision-making and control.

Course Contents:

Unit -I

Meaning and Definition of Accounting, Parties or Users interested in Accounting, Branches of Accounting, Meaning and Definition of Management Accounting, Distinction between Management Accounting and Financial Accounting. Accounting Concepts and Conventions.

Unit- II

Basic Accounting terminologies, Classification of Accounts, Meaning of Journal, Writing of Journal Entries. Secondary Books of Accounting, Preparation of Trial Balance. Elementary knowledge of preparation of financial statement,

Unit -III

Understanding Financial statements and Annual Reports, Accounting Standards, Financial Statement Analysis, Ratio analysis, Funds Flow Analysis, Cash Flows analysis.

Unit - IV

Elements of Costs; Materials, Labour and Overheads (elementary idea only), Cost Sheet.Marginal costing – Cost volume profit analysis, BEP, Marginal Costing for Decision Making.

Unit -V

Budgetary control, Operating and Financial Budgets, Performance Budgeting, Zero-Base Budgeting; Flexible Budgets. Standard Costing – Materials Cost and Labour cost variances only.

Suggested Readings

1 . Anthony R N and Reece J S. *Accounting Principles,* 6th ed., Homewood, Illinois, Richard D. Irwin, 1995.

2. Bhattacharya S K and Dearden J. *Accounting for Management Text and Cases.* New Delhi, Vikas, 1996.

3. Heitger, L E and Matulich, Serge. *Financial Accounting.*New York, Mc-Graw Hill, 1990.

4. Hingorani, N L. and Ramanathan, A R. *Management Accounting.* 5th ed., New Delhi, Sultan Chand, 1992.

5. Horngren, Charles etc. *Principles of Financial and Management Accounting.*Englewood Cliffs, New Jersey, Prentice Hall Inc., 1994.

6. Vij, Madhu. *Financial and Management Accounting.*New Delhi, Anmol Publications, 1997

8. Theory & Problems in Management & Cost Accounting - Khan & Jain

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-108: Computers and Information systems

Objectives

The objective of this course is to build up the experience of computer usage in business organizations with specific reference to commercial data processing systems and understanding of MIS and its application in decision making.

Course Contents

I. I. Computers - An Introduction – Computers trends and technology in Business; Components of a Computer System; Generations of Computers and Computer Languages; Artificial Intelligence (AI), AI Tools -An Overview. Data Files Types / Organizations, Emerging technology in digital environment.

II. System and Application Software: Operating System, DOS, Windows and Android, OS commands and functions, Application Software Category.
Data Communication and Networking: Topology, LAN, MAN, WAN, Communication Media Wired and wireless. OSI and TCP Model

III. Office Automation Tools
Word Processor – Editing, Printing and Formatting of document, Mail merge.
Electronic Spread sheet – Range, Formulas, Functions, Graphs, Basis statistical formulae. Presentation Tool – Creating an effective presentation.
DBMS – Data Creation and Manipulation, Data Reports. Other tools of office automation.

IV Management Information System: Definitions - Basic Concepts, Frameworks, System Development initiative, Different Methodologies - Life Cycle and Prototype approach. Features of various CBIS, Types of Information Systems. - TPS, MIS, DSS, KMS, OAS, experts system: evaluation and control of information systems.

I. Decision Support System - An Overview: Relevance, scope, characteristics and capabilities, Components, Classification of DSS User Interface graphics menus - Forms, DSS tools - DSS generators, Specific DSS, Constructing a DSS: Steps in designing DSS. GDSS (Group Decision Support System): Introduction and Applications.

Suggested Readings :

1. *Burch, John and Grudnitski Gary. Information Systems: Theory and Practice. 5th ed., New York, John Wiley, 1989.*
2. *David, Van Over. Foundations of Business Systems. Fort Worth, Dryden, 1992.*
3. *Eliason, A L. On-line Business Computer Applications. 2nd ed., Chicago, Science Research Associates, 1987.*
4. *Estrada, Susan. Connecting to the Internet. Sebastopol, C A, O'Reilly, 1993.*
5. *Keen, Peter G.W.: Decision Support System an Organisational Perspective Addison-Wesley Pub.*
6. *Theierauff, Robert J. Decision Support System for-effective planning - - Prentice Hall - 1982.*
7. *Krober,Donald W., and Hugh.J. Watson Computer Based Information System Newyork, 1984*

Semester - II

MEC-201 to MEC-208

MEC -201 Fundamentals of E-Commerce

Objectives
The objective of this paper is to educate the learner about e-Commerce concepts along with applications and its structure in India, so students can understand fundamental, security issues and measures for E-Commerce and its related applications.

UNIT 1 Introduction to E-Commerce
E-Commerce – Introduction, Definition, Scope, Internet commerce v/s E-Commerce, Electronic Commerce- Market – Trade Cycle, Electric Data Interchange, Forces fueling E-commerce, E-Commerce Functions, Challenges to traditional methods, E-commerce industry framework, , Types of E-commerce, Scope and limitations of e-commerce.

UNIT 2 E-Commerce Architecture
Internet and Its role in e-commerce, Internet Service Provider and Internet Access Provider, Procedure of registering Internet, Domain, establishing connectivity to Internet, Tools and services of Internet, Internet v/s online services, Procedure of opening e-mail accounts on Internet, on line payments. Web system architecture: Introduction to HTML, HTTP and HTTPS, Web page formatting with text, image, links, tables, frames and form.

UNIT 3 E-Commerce Models and Payment System
Classification of E-Commerce practices, Different models (B2B, B2C, C2C, G2B, and B2G etc) of Ecommerce and their functions, Ethical and Legal issues in EC models, Indian scenario for Taxation in ECommerce, Cross border obstructions in EC. Electronic Money and Online Payment Methods: Card Money, Virtual Money, Payment Transfer methods.

UNIT 4 E-Commerce Applications
Manufacturing & Marketing Applications, Retail & Wholesale Applications, Entertainment & Games Applications, Finance & Banking Applications, Auction & Bid Applications, Education & Publishing Applications.

UNIT 5 Business Strategies for E-Commerce
Value Chain, competitive Strategy and advantages, Business Strategy – B2B and B2C, B2B-Inter organizational transactions, EDI, Benefits, Technology, Standards, Security, on line business, B2C – Consumer transaction, e-shop Internet. Security strategies of EC: Authentication and Authorization in EC, Threats-Frauds and scams in EC, Secure customer services.

Suggested Readings
1. Computer Today - S. Bansundara
2. E-Commerce: The Cutting Edge of Business - Bajaj and Nag , Tata McGraw Hill
3. E-Commerce Concepts Models & Strategies – C.S.V.Murthy, Himalaya Publication.
4. E-Commerce – Mathew Rergnolds, Wrox publication Communication
5. Global Electronic Commerce- Theory and Case Studies J Christopher Westland, H K Clark- University Press
6. E-Commerce – an Indian perspective – P T Joseph – Prentice Hall, 2/e, 2005

MEC-202: BUSINESS POLICY AND STRATEGIC ANALYSIS

Objectives

The Objectives of this course is to develop a holistic perspective of enterprise, critical from the point of view of the top executives.

Course Contents

I. Nature and Scope of Strategic Management; Strategic and Corporate evolution in Indian Context, Strategic Management Process. General Management Point of View, Vision, Mission, Objectives and Policies, Strategic Intent and Vision.

II. Environmental Analysis and Internal Analysis: Environmental Scanning, Industry Analysis Organizational Analysis, Competitive Advantage and competitive strategies, concept of core competencies, SWOT Analysis.

III. Tools and Techniques for Strategic Analysis; Impact Matrix; The Experience Curve; BCG Matrix; GEC Model; Industry Analysis; Concept of Value Chain, Strategic Profile of a Firm.

IV. Framework for Analyzing Competition; Competitive Advantage of a Firm, Strategy Alternative, level of Strategy.

V. Turnaround Management, Mergers and Acquisition, Diversification and Intensification, Business Process Re-engineering, Strategy Implementation, Strategy and structure, organizational values and their impact on strategy, Strategic Management in International firm.

Suggested Readings

1. *Ansoff, H Igor. Implanting Strategic Management. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1984.*

2. *Budhiraja, S B and Athreya, M B. Cases in Startegic Management New Delhi, Tata McGraw-Hill, 1996.*

3. *Christensen, C R. etc, Business Policy: Text and Cases. 6th ed., Homewood, Illinois, Richard D. Irwin, 1987.*

4. *Glueck, William F. Strategic Management and Business Policy. 3rd ed. New York, McGraw-Hill, 1988.*

5. *Hax, A C and Majluf, N S. Strategic Management. Englewood Cliffs, New jersey, Prentice Hall Inc., 1984.*

8. Chakravorty, S K. Managerial Transformation Through Values, New Delhi, Sage, 1993.

9. David Fred. Strategic Management. 7th ed. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1997.

10. Drucker, Peter F. The Changing World of the Executive. New York, Time Booksl 982.

MEC-203: HUMAN RESOURCE MANAGEMENT

Objectives

In a complex world of industry and business, organizational efficiency is largely dependent on the contribution made by the members of the Organization. The Objectives of this course is to sensitize students to the various facets of managing people and to create an understanding of the various policies and practices of human resource management.

Course Contents

I. Concepts and Perspectives on Human Resource Management; Human Resource Management in a Changing Environment, Balance Score Card.

II. Corporate Objectives and Human Resource Planning; Career and Succession Planning; Job Analysis and Role Description.

III. Methods of Manpower Search; Attracting and Selecting Human Resources. Competency Mapping, Induction and Socialization.

IV. Manpower Training and Development; Talent Management, Performance management system -KRA, KPI, Job Evaluation & Wage Determination.

V. Employee Welfare; Industrial Relations & Trade Unions; Dispute Resolution & Grievance Management; Employee Empowerment.

Suggested Readings

1. *Aswathappa,K. Human Resource and Personnel Management Tata McGraw Hill, New Delhi, 1 997*
2. *De Cenzo, D A & Robbins S P. Human Resource Management.5th ed., New York, John Wiley, 1994.*
3. *Guy, V & Mattock J. The New International Manager. London, Kogan Page, 1993.*
4. *Holloway, J. ed. Performance Measurement and Evaluation. New Delhi, Page, 1995.*
5. *Monappa, A. &Saiyadain M. Personnel Management. 2nd ed., New Delhi, Tata Mc-Graw-Hill, 1966.*
6. *Stone, Lloyed and Leslie W.Rue, Human Resource and Personnel Management Richard D. Irwin, Illinois, 1984.*
7. Sundar, K. & Srinivasan J. *Essentials of Human Resource Management (2nd Ed.).* Vijay Nicole Imprints Private Limited, Chennai.
8. Sundar, K. *Human Resource Development.* Vijay Nicole Imprints Private Limited, Chennai.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-204: FINANCIAL MANAGEMENT

Objectives

The purpose of this course is to acquaint the students with the broad framework of financial decision making in a business unit.

Course Contents

Unit -I

Financial Management: meaning, objectives, finance functions, Time Value of Money; Instruments of Financing, Cost of Different Sources of Raising Capital, Weighted Average Cost of Capital.

Unit -II

Operating and Financial Leverage, Valuation and Capital Structure, Decisions, Capital structure Theories, Optimum Capital Structure, Economic Value Added.

Unit –III

Internal Financing and Dividend Policy, Dividend Models, Leasing: concept, types and financial evaluation of Leasing.

Unit -IV

Capital Budgeting, Methods of Capital Budgeting, Analysis of Risk in Capital Budgeting, Use of Excel for Financial Decision Making.

Unit -V

Working Capital Concept, Nature and scope, Determinants of Working Capital, Instruments of Short-term Financing - Management of Working Capital, Cash, Receivable and Inventory Management.

Suggested Readings

1. *Archer, Stephen H. etc. Financial Management. New York, John Wiley, 1990.*
2. *Bhalla, V K. Financial Management and Policy. 2" ed., New Delhi, Anmol, 1998.*
3. *Brealey, Richard A. and Myers Stewart C. Principles of Corporate Finance. 5th ed., New Delhi, McGraw Hill, 1996.*
4. *Hampton, John. Financial Decision Making. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1997.*
5. *Van Horne, James C. Financial Management and Policy. 1 Oth ed., New Delhi, Prentice Hall of India, 1997.*
6. *Winger, Bernard and Mohan, Nancy. Principles of Financial Management. New York, Macmillan Publishing Company, 1991.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-205: MARKETING MANAGEMENT

Objectives

The purpose of this course is to develop and understanding of the underlying concepts, strategies and issues involved in the marketing of products and services.

Course Contents

1. Nature and scope of marketing, Corporate orientations towards the market place, The Marketing environment and Environment scanning, Marketing information system and Marketing research, Understanding consumer and Industrial markets.
2. Market segmentation, Targeting and positioning; Product decisions - product mix, product life cycle.
3. New product development, branding and packaging decisions, Pricing methods and strategies.
4. Promotion decisions promotion mix, advertising, sales promotion, publicity and personal selling; Channel management - selection, co-operation and conflict management, vertical marketing *Implementation and* systems, Organizing and implementing marketing in the Organization.
5. Evaluation and control of marketing efforts; New issues in marketing - Globalization, Consumerism, Green marketing, Legal issues.

Suggested Readings

1. *Enis, B M. Marketing Classics: A Selection of Influential Articles. New York, McGraw Hill, 1991.*
2. *Kotler, Philip and Armstrong, G. Principles of Marketing. New Delhi, Prentice Hall of India, 1997.*
3. *Kotler, Philip. Marketing Management: Analysis, Planning, Implementation and Control. New Delhi, Prentice Hall of India, 1994.*
4. *Ramaswamy, V S and Namakumari, S. Marketing Management: Planning, Control. New Delhi, MacMillan, 1990.*
5. *Stanton, William, J. Fundamentals of Marketing. New York, McGraw Hill, 1994.*
6. *Neelamegham, S. Marketing In India: Cases and Readings. New Delhi, Vikas, 1988.*
7. Sundar, K. *Essentials of Marketing.* Vijay Nicole Imprints Private Limited, Chennai.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-206: PRODUCTION AND OPERATIONS MANAGEMENT

Objectives

The Course is designed to acquaint the students with decision making in: Planning, scheduling and control of Production and Operation functions in both manufacturing and services; Productivity improvement in operations through layout engineering and quality management etc.; Effective and efficient flow, replenishment and control of materials with reference to both manufacturing and services organisations.

Course Contents

1. Nature and Scope of Production and Operations Management Decisions, Types of Manufacturing Systems, Productivity, Challenges in Operations Management, Operations Strategy.
2. Production Planning and Control: An Overview Facilities Location, Location Planning, Facilities Layout (a) Capacity Planning, Aggregate Planning (b)Master Production Scheduling(c) MRP. Role of information technology in operations management.
3. Work Study, Methods Study, Work Measurement, Performance Rating and computation of Standard Time, Maintenance Management, Industrial Safety, Supply Chain Management, PERT/CPM. Importance of digitalization in continuous production system.
4. Material Management: An Overview; Material Handling Equipment, Assembly Line Balancing, Line Balancing Problems, Line Balancing Approaches, Operation Decision, MRP, Purchasing and Store Management, Inventory Control and Budgeting. Artificial Intelligence in operations management.
5. Concept of Quality and Quality Assurance, Statistical Process Control (Acceptance Samplings), ISO, 9000, Total Quality Management (TQM), Six Sigma, Lean Management.

Suggested Readings

1. *Adam, E E& Ebert, RJ. Production and Operations Management.6th ed., New Delhi, Prentice Hall of India, 1995.*
2. *Amrine Harold T. etc. Manufacturing Organisation and Management. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1993.*
3. *Buffa, E S. Modem Production Management. New York, John Wiley, 1987.*
4. *Chary, S N. Production and Operations Management. New Delhi, Tata McGraw Hill, 1989.*
5. *Dobler, Donald W and Lee, Lamar. Purchasing and Materials Management.New York, McGraw Hill, 1984.*
6. *Dilworth, James B. Operations Management: Design, Planning and Control for Manufacturing & Services. Singapore, McGraw Hill, 1992.*
7. *Moore, FG and Hendrick, T E. Productionl Operations Management. Homewood, Illinois, Richard D. Irwin, 1992.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-207: RESEARCH METHODOLOGY

Objectives

To equip the students with the basic understanding of the research methodology and to provide an insight into the application of modern analytical tools and techniques for the purpose of management decision making.

Course Contents

I. Nature and Scope of Research Methodology; Problem Formulation and Statement of Research Objectives, Structure of Research. Research Process; Research Designs - Exploratory, Descriptive and Experimental Research Design.

II. Sampling Design, Sampling Methods, Methods of Data Collection – Qualitative and Quatitative Methods, Review of Literature, Instrument Designing- Questionnaire Format and Question Composition, Individual Question Content, Question Order, Form and Layout, Pilot Testing of the Questionnaire.

III. Selecting an Appropriate Statistical Technique, Hypothesis testing, Type I, Type II error. Parametric and non-parametric tests. Parametric: t-test, f-test, Z-test. Non - parametric tests: Run test, KW test, Mann Whitney U Test.

IV. Multivariate Analysis: Introductory Framework, Use of SPSS and other statistical Software Packages (elementary idea only) Practical Example of Case Study Method.

V. Data Interpretation and Report Writing: Introduction, Data interpretation, Research Report, Modus Operandi of Writing a Market Research Report, Structure and Layout of the Report, Revising and Finalizing the Research Report, Responsibilities of a Market Research Report Writer, Presentation of the Report.

Suggested Readings

1. *Andrews, F.M. and S.B. Withey Social Indicators of Well Being, Plenum Press,NY,1976*
2. *Bennet, Roger: Management Research, I LO, 1 983*
3. *Fowler,FloydJ.Jr., Survey Methods, 2" ed., Sage Pub., 1993*
4. *Fox, J.A.and P.E. Tracy: Randomized Response: A Method of Sensitive Surveys, Sage Pub., 1986*
5. *Gupta,S.P. Statistical Methods, 30" ed,, Sultan Chand,New Delhi,2001*
6. *Golden,-Biddle,Koren and Karen D.Locke: Composing Qualitative Research, Sage Pub., 1997*
7. *Salkind, Neilj. Exploring Research, 3rd ed., Prentice-Hail, NJ, 1997*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

MEC-208: INTERNATIONAL BUSINESS ENVIRONMENT AND MANAGEMENT

Objectives

The primary Objectives of this course is to acquaint the students to emerging global trends in business environment.

Course Contents

I. International Business: An overview - Types of International Business; The External Environment; The Economic and Political Environment, The Human Cultural Environment; Influence on Trade and Investment Patterns; Recent World Trade and Foreign Investment Trends; Theories and Institutions.

II. Trade and Investment - Government Influence on Trade Investment; Determination of Trading Partner's Independence, Interdependence and Dependence; World Financial Environment; Cross-national Cooperation and Agreements; Tariff and Non-Tariff Barriers, WTO, Regional Blocks; International production; Internationalization of Service Firms.

III. World Financial Environment: Foreign Exchange Market Mechanism; Determinants of Exchange Rates; Euro-currency Market; Global Strategic Management: International Marketing. Operation Management in International Firms.

IV. An Overview of Licensing; Joint Ventures Technology and Global Competition; Globalization and Human Resource Development; Globalization with Social Responsibility; Balance of Payments Accounts and Macroeconomic Management.

V. World Economic Growth and the Environment; *Country Evaluation and Selection; International Business Diplomacy:* Negotiating an International Business, Multilateral Settlements; Consortium Approaches.

Suggested Readings

1. *Alworth, Julian S. The Finance, Investment and Taxation Decisions of Multinationals. London, Basil Blackwell, 1988.*
2. *Bhalla, V K and S. Shivaramu. International Business Environment and Business. New Delhi, Anmol, 1995.*
3. *Bhalla, V K. International Economy: Liberalisation Process. New Delhi, Anmol, 1993.*
4. *Daniel, John D and Radebangh, Lee H International Business. 5th ed., New York, Addision Wesley, 1989.*
5. *Eiteman, D K and Stopnehill, Al. Multinational Business Finance. New York, Addision Wesley, 1986.*
6. *Johnston, R B. The Economics of the Euromarket: History, Theory and Practice. New York, Macmillan, 1983.*
7. *Parks, Yoon and Zwick, Jack. International Banking in Theory and Practice.New York, Addison-Wesley, 1985.*

The list of cases and specific references including recent articles and reports will be announced in the class at the time of launching of the course.

SECOND YEAR

Semester-III

MEC-301	E-Commerce Progressions
MEC-302	Digital Marketing
MEC-303	E-advertising
MEC-304	Managing E Channels
MEC-305	Logistics and Supply Chain Management
MEC -306	Marketing Research
MEC-311	Entrepreneurship Development
MEC-312	Summer Training Project Report

Semester-IV

MEC-401	E-Business Philosophy
MEC-402	E-Business Technologies and Trends
MEC-403	Warehouse Management and Data Mining (WMDN)
MEC -404	Business Analytics
MEC-411	Major Research Project

Specialization: Electronic Business

MEC-301	E-Commerce Progression
MEC-302	Digital Marketing
MEC-303	E-Advertising
MEC-304	Managing E Channels
MEC-305	Logistics and Supply Chain Management
MEC-306	Marketing Research
MEC 307	Principles of E-Commerce
MEC-308	Information and Network Security
MEC-309	Internet Programming for e-Business/ e- Commerce
MEC-310	Programming Lab
MEC-311	Entrepreneurship Development
MEC-312	Summer Training Project Report
MEC-401	E-Business Philosophy
MEC-402	E- Business Technologies and trends
MEC-403	Warehouse Management and Data Mining (WMDN)
MEC- 404	Business Analytics
MEC-405	Database Management System
MEC-406	Knowledge Management System
MEC-411	**Major Research Project**

MEC-301 E-Commerce Progression

Objectives
The objective of this paper is to educate the learner about e-Commerce technology and tools with some security aspects in their uses.

Course Contents:

UNIT 1 Transaction Security
Functionality of Network Models, Protocols for OSI and TCP Models, Firewalls & N/W security, Type of firewall, security policies, Emerging firewall management issue, Transaction security, Types of online transactions, Requirement for online transactions.

UNIT 2 Encryption and Transaction Security
Secret –key Encryption, Public key Encryption, Secret key Cryptography, Encryption and Decryption, Authorization and Authentication, Encryption algorithms, Decryption Implementation & management issues, secure socket layers (SSL), Security & online web based banking.

UNIT 3 Security of e-commerce
Internet security, Setting up Internet security, Maintaining secure information, Encryption Issues, Digital signature and other security measures, Firewall. Security Breaches and Cyber Law.

UNIT 4 Payment Systems
Electronic Data Interchange, Digital cash, properties, Electronic check & benefits, Online credit card system, Types of credit card payments, Secure electronic transactions (SET), Other emerging financial instruments, Debit card & Point of sale (POS), Debit card & E-benefit transfer, Smart cards, UPI

UNIT 5 - E-Payment
Overview of E-payment system, transactions through Internet, electronic fund transfer, intelligent agents, Requirements of e-payment systems, functioning of debit and credit cards, Pre and Post payment services. Different e-Transactions: E-com & Banking, E-com & Retailing, E-com & Online Publishing, e-com and gaming.

Suggested Readings
- E-Commerce – S. Jaiswal
- E-Commerce Strategy, Technology &Applications – David Whitely, TMGH
- Electronic Payment Systems for E-Commerce - Michael A. Peirce, Hitesh Tewari, O'Mahony Donal.

MEC-302 Digital Marketing

Objectives
The objective of this paper is to create awareness about Digital Marketing and educate the learner about use of electronics in marketing management.

Course Contents:

Unit 1 Introduction to Digital Marketing and SEO
The Significance of Digital Marketing, Digital Media, Digital v/s Traditional Marketing, Digital Marketing Trends and Platforms, Digital Marketing and Search Engine, Search Engine Optimization (SEO) concepts, Search Engine Architecture, Internal Measures for SEO, Do and Don't for Web Content, Link Building, Introduction to Digital Marketing Tools.

Unit 2 Networks of Digital Marketing
Introduction to Ad-Word, Display Networks, Advertising on Display Networks, Image Advertising, Mobile Advertising, Video Advertising, YouTube Advertising, Keyword Research Methodology, Analysis and Tools for Digital Marketing Networks, Link Building Methodology and Strategies, Online Offline Integration

Unit 3 Search Engine Marketing
Benefits of SEM, Google Ad-Words V/S Microsoft Ad-Center, Types of Campaign, Ad-Group and keywords setup, Direct Campaign V/S Branding Campaign, Campaign Setup, Understanding Ad-Words Bidding, Ad-Formats and Guidelines, Campaigns, Ad-groups and keywords Dashboard

Unit 4 Email and Mobile Marketing
Importance of Email Marketing, Popular Email Marketing Software, Email Marketing Campaign, Newsletters in Email Marketing, Effective strategies for Email Marketing, Email Marketing Tools, Triggered Email Campaign, Mobile Marketing: Mobile Ad-Campaign, Mobile Ad-Formats, Mobile Website Configuration. Video Marketing using YouTube: Optimization of Videos, Tips and Tricks for promotion, YT Analytics, Monetizing YT Channel

Unit 5 Social Media Marketing
Introduction to Social Media Marketing, Benefits of SMM, Social Media Strategy, Social Media Metrics in SEO, Face-book Marketing: setup, options, elements and applications; Twitter Marketing: #hash tags and its uses, analytics and promotions; Google+ Marketing: Benefits in SEO, Groups; LinkedIn Marketing: Strategy, Connection and Recommendations

Suggested Readings
- *Damian Ryan and Calvin Jones, Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, 2nd Edition, and ISBN: 9780749453893.*
- *Vinayak Patukale, Digital Marketing, Kindle Edition*

MEC-303 E-advertising

Objectives
The objective of this paper is to create awareness about E-advertising and educate the learner about use of internet in advertising.

Course Content:

Unit 1.

Advertising & Electronic Media: Introduction, functions, concepts & Evolution of Advertising. Types of advertising, advertising appeals, Copywriting. Comparison between Traditional & Modern Advertising media, National & Global Advertising scene.

Unit 2.

E-Advertising channels: Radio channels: Community Satellite Radio, Misc. radio networks. Audio-Visual Interface System for Advertising. Television Channels: Evolution of TV channels. Doordarshan to satellite, Cable & STB channels, National & Regional channels, Internet & Area networks.

Unit 3.

Social Media advertising: Role of Social Media in business, Social networking sites advertising, pinterest advertising, YouTube advertising, Mobile App advertising, Socio-economic effects of social media advertising.

Unit 4.

Advertising planning & scheduling. Media planning, Factors influencing the choice of media, Cost Planning, Cost & Impact Analysis, Media Scheduling, Advertising Agencies & their role.

Unit 5.

Measuring advertising efficiency, Evaluation of advertising effectiveness, Methods of measuring advertising effectiveness, Pre-testing & Post-testing.

Suggested Readings:
Shamci A.N., Electronic Media, Anmol Publication
Arvind Singhal and Everett M. Rogers, India's Communication Revolution- Sage Pub. 2007
Further books can be referred at time of study.

MEC-304 Managing E Channels

Course Contents:

Unit I- Nature & Scope E Channels, Various models of E Channels, Understanding Local channel options, Partnering Marketplace Sales, Partnering Search Engines, Partnering With New Startups, integrating Web-stores.

Unit-II E-business Website/ E-store Design: Choose A Domain Name, Designing Low Cost Website, The Best Web Hosting Service, Search Engine Friendly Contents , Publishing Your Web-store Online, Affiliate Networks & Sales Improvement, Selling Informations, Payment Gateway Safe & Best, Joining The Wheels With The "Shopping" Cart, Web-store's Inventory Management, Logistics & Order Fulfillment.

Unit-III E-Behavior and Managing Web Traffic: Understanding The Customers Mindset, Search Engine Optimization & Ranking, Get Your Retail Shop Online, Officially Launching Your Ebusiness , Online Vs Offline Customers: Difference & Similarities, Converting Traffic Into Sales ,Online Branding & Reputation Management, Digital Marketing Strategy.

Unit IV- Managing Experience of E shopping: Giving The Perfect Shopping Experience, Making Your Customers A Celebrity, Stay Local Market Global, Delivery Model & Backend Automation, Online Business Web Security, Types Of Web Security & Threats, Information Security Planning, Hacked! How To Defend & Backup, Site & Business Safety, Internet Data Security, Digital Marketing & Boosting Sales.

Unit V- Advanced E-Commerce Business Strategies: Getting Into Global Markets, Acquiring New Customers Fastly, Adding New Products Expanding Globally, Retaining An Old Customer, Transform A Small Site Into A Million Dollar Business, Hiring Ecommerce Experts & Mentors, Listing Your Company In Stock Markets

Suggested Readings:

- *Managing Business in Multi-Channel World: Success Factor of E-Business,Timo Sarrien, Makku Tinnila, Anne Tseng- Idea Group Publishing.*
- *Management of Electronic and Digital Media, Alan B. Albarran, Cengage Learning. ISBN-13: 9781111344375.*

MEC-305 Logistics and Supply Chain Management

Objectives
The objective of this paper is to create awareness about Supply Chain and Logistics Management and educate the learner about use of electronic devices in SCM.

Course Contents

Unit 1 Concept of Supply Chain Management
Basic concepts & philosophy of Supply Chain Management (SCM), Essential features, Functions and Contribution of Supply Chain Management, Infrastructure flows (Cash, Value and information), key issues in SCM, Creating value, Supply Chain Effectiveness and Indian Infrastructure, Framework for Supply Chain Solution, Supply Chain Relationships (SRM).

Unit 2 Concept of Logistic Management
Concept of Logistics, Objectives of logistics, Types of logistics, Concept of Logistics Management, Evolution of Logistics, Role of Logistics in an Economy, Difference between Logistics and Supply Chain Management, Logistics and Competitive Advantage, Logistics Mix, Logistics in Organized Retail in India

Unit 3 Integrated Logistics
Concept of Integrated Logistics, Inventory flow, Information flow, Operational Objectives of Integrated Logistics, Barriers to Integration, Organization structure, Measurement system, Inventory ownership, Information technology, Knowledge transfer capability, Logistical Performance Cycle, Manufacturing support performance cycle, Procurement performance cycle

Unit 4 Recent issues in SCM
Role of computer/ IT in supply chain management, CRM Vs SCM, Benchmarking concept, features and implementation, Outsourcing –basic concepts, value addition in SCM, Concept of Demand Chain Management

Unit 5 Logistic Information System and Ecommerce
Concept of Logistics Information System (LIS), Importance of LIS, Principles of designing LIS, Logistics Information Architecture, Application of Information Technology in Logistics and Supply Chain Management, Requirements of LIS in E-Commerce, E-Logistics Structure and Operation, Logistic Resource Management (LRM)

Suggested Readings:

- *G. Raghuram (IIMA), Logics and supply chain management, Macmillan, 2000*
- *Emiko Bonafield, Harnessing value in supply chain, Johnwiley - Singapore, 1999.*
- *B.S. Sahay, Macmillan – Supply Chain Management, 2000, (Pearson Education, 2004)*

MEC -306 Marketing Research

Objective

This paper aims to develop skills in the students to conduct the market research and to help them to understand the procedure thoroughly and apply it in practical world.

Course Content:

***Unit-1 Marketing Research Dynamics*- Introduction,** Value and Cost of Information *Data Collection Sources and Methods*: Introduction, Meaning and Nature of Data, Methods of Data collection, Tools and techniques for Data collection, Interview Method, Instrument Designing- Introduction**.**

Unit-2 Measurement and Scaling Techniques-Introduction, Importance of Measurement and Scaling in Marketing Research, Scales of Measurement: Fundamental Properties, Primary Scales of Measurement, Attitude Measurement Scales, Types of Comparative Scales, Non – Comparative scale, Selecting an Appropriate Scale, Scale Evaluation, Motivational Research Techniques.

Unit-3 Data Processing and Preliminary Data Analysis: Introduction, Survey Field Work and Data Collection, Nature and Scope of Data Preparation, Editing, Coding, Data Entry, Data Cleaning, Preliminary Data Analysis, Assessing for Normality and Outliers

Unit-4 Data Analysis: Introduction, Descriptive Statistics, Univariate Analysis, Bivariate Analysis, Analysis of Variance, Multivariate Analysis; Discriminant Analysis, Factor Analysis, Conjoint Analysis, Multidimensional Scaling and Clustering Methods.

Unit-5 Applications of Marketing Research I: Introduction, Consumer Market Research, Business-to-Business Market Research, Product Research, Pricing Research, Motivational Research, Distribution Research, Advertising Research, Media research, Sales Analysis and Forecasting, Data Mining.

Recent Trends in Marketing Research: Introduction, Marketing Information System and Research, Online Marketing Research, Recent, Research in Lifestyle Retail, Marketing Research and Social Marketing, Trends in Services Marketing Research and Branding Research.

Suggested Readings:

- *Marketing Research by Naresh K. Malhotra*
- *Research Methodology by C.R. Kothari*
- *Marketing Research Tools and techniques by Nigel Bradley*

MEC-311 Entrepreneurship Development

Unit 1st: Entrepreneurship: Concept, Types of Entrepreneurship, knowledge and skills requirement; Characteristic of successful entrepreneurs; role of entrepreneurship in economic development; entrepreneurship process; factors impacting emergence of entrepreneurship, Entrepreneur v/s Intrapreneur, Entrepreneur Vs. Entrepreneurship, Entrepreneur Vs. Manager,

Unit 2nd: Entrepreneurial Environment, Rural Entrepreneurship, Theories of Entrepreneurship, And Legal Forms of Enterprises, Electronic Startups, Entrepreneurship Development Program: Needs and Objectives of EDPs, Phases of EDPs, Evaluation of EDPs

Unit 3rd Feasibility & Prefeasibility study, Fundamental of a good feasibility plan & Components of feasibility – market feasibility, technical/operational feasibility, financial feasibility; drawing business plan; preparing project report; presenting business plan to investors.

Unit 4th Institutional Assistance, Role of Government in promoting Entrepreneurship, MSME policy in India, Agencies for Policy Formulation and Implementation: District Industries Centers (DIC), Small Industries Service Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship & Small Business Development (NIESBUD), National Entrepreneurship Development Board (NEDB), Role of SIDBI.

Unit 5th Small Skills Unit, Dynamics of small business environment - Causes for small business failure - Success factors for small business, Women Entrepreneurship: Meaning, Characteristic features, Problems of Women Entrepreneurship in India, Developing Women Entrepreneurship in India, Incentive subsidiary. Recent emerging concepts like Atmanirbhar Bharat, Make in India.

Suggested Readings

1. S.S.KHANKA "Entrepreneurial Development" S.Chand & Co. Ltd. Ram Nagar New Delhi, 1999.
2. Hisrich R D and Peters M P, "Entrepreneurship" 5th Edition Tata McGraw-Hill, 2002.
3. E. Gordon & K. Natarajan Entrepreneurship Development Himalaya 2008\
4. Charantimath, Poornima, Entrepreneurship Development and Small Business Enterprises, Pearson Education, New Delhi.
5. Hisrich, Robert D., Michael Peters and Dean Shepherded, Entrepreneurship, Tata McGraw Hill, ND
6. Sundar, K. *Entrepreneurship Development.* Vijay Nicole Imprints Private Limited, Chennai.

MEC-312 Summer Training Project Report

At the end of second semester, all students will have to undergo summer training of 6 weeks with an organization by taking up a project study. The conditions of successfully completing the programme shall not be deemed to have been satisfied unless a student undergoes summer training under the supervision of the department in organizations as approved by the Department / Faculty from time to time. Each student will be required to submit a project report to the Department / Faculty for the work undertaken during this period within five weeks of the commencement of the third semester for the purpose of evaluation in the third semester.

Semester – IV

MEC-411 Major Research Project

Major Research Project study shall commence in the **beginning of fourth semester** and will have two papers weight. It may be Industry oriented internship cum project or departmentally allocated research project.

MEC-401 E-Business Philosophy

Objectives
The objective of this paper is to educate the learner about e-Business philosophy and various components of it.

Course Contents:

UNIT 1 - Introduction to E-Business
Evolution of E-Business, Principles of E –business, E-business models, E-Business Strategies, Legal Aspects of E-Business, Steps to Successful E-Business Implementation. Case and scenario discussion for e- business.

UNIT 2 - E-Business Issues & Internet Marketing
Organizational issues, implementation issues, marketing issues, Internet marketing, different stages of Internet marketing, Critical success factors for Internet marketing, Managing Search Engine, Building online Trust.

UNIT 3 E-business frameworks
Channel Enhancement, Global Markets, E-Selling, E –Buying, E –Procurement, Convergence strategies. E-Business Design: Overview, Steps in e-business design, reversing the value chain, Knowledge building, E-market models, Service and Operation Excellence, Coalitions.

UNIT 4 Issues and Challenges in E-Business
Consumer Protection, Cyber Crimes and Cyber Laws, E-cash advantages and disadvantages, Electronic data interchange, Data mining and E-Marketing. Data Analytics and Applications.

UNIT 5 E-Business Operations and Processes
Competitiveness, Profitability and productivity, Operations success- Competing through effective operations, Processes-Products and services to mach customers needs, Interactive models and software windows for daily operations decisions- Enterprise software- readability and enhanced functionality of SAP R/3 information

Suggested Readings
- *E-Business Fundamental by Bansal SK*
- *E-Business by Gupta VK*
- *E-Business and E-Commerce Management 2e by Dave Chaffey*
- *The E-Business Book: A Step-by-Step Guide to E-Commerce and Beyond by Davle M SMith*

MEC-402 E-Business Technologies and Trends

Objectives
The objective of this paper is to educate the learner about Trends and technologies of e-Business in various business sectors like marketing, governance, trading etc.

Course Contents:

UNIT 1 E- Marketing
Marketplace v/s Market space, Impact of e-commerce on market, Marketing issues in e-marketing, Direct marketing, One-to-one marketing.

UNIT 2 E-Trading
Areas of e-financing, E-Trading, Trading v/s e-trading, Importance and advantages of e-trading, Operational aspects of e-trading, E-Trading in India

Unit 3 E-Ticketing:
Online booking systems, online booking procedure-Railways & Airlines, Tourist and Travel Industry, Hotels and Entertainment Industry

UNIT 4 E-Banking
Concept, Traditional v/s E-banking, Indian E-Banking Environment, Production and Distribution in E-Banking, Key Issues in E-Banking, Future of E-Banking.

UNIT 5 E-Governance
Overview of E-Governance, E-Governance Strategies, E-Governance in Rajasthan/India, Government Portals and Enterprises, E-Governance in Global Scenario.

Suggested Readings
- *E-government: From Vision To Implementation: A Practical Guide With Case Studies by Subhash Bhatnagar*
- *E-Governance in India: Issues and Cases by JayShree Bose, ICFAI Publication*
- *E-Banking in India: Issues and Cases by JayShree Bose, ICFAI Publication*

MEC-403 Warehouse Management and Data Mining (WMDM)

Objectives
The objective of this paper is to create awareness about warehouse Management and educate the learner about use of data mining in warehouse management.

Course Contents

Unit 1 Concept of Warehouse
Introduction, Objectives, Warehouse Structure, Meaning of a Warehouse, Need for warehousing management, Evolution of warehousing, Role of a warehouse manager, Functions of Warehouses, Types of Warehouses, Warehousing Cost, Warehousing Strategies.

Unit 2 Warehousing in Business Functions
Supply Chain Impact on Stores and Warehousing, Retail Logistics, Retail transportation, Challenges in retail warehousing, Issues in retail logistics, managing retail shrinkage Significance of Warehousing in Logistics, Warehousing Management Systems (WMS).

Unit 3 Warehouse Operations and Applications
Warehouse Operations, Receiving inventory, Picking inventory, Locating inventory, Organizing inventory, Dispatching inventory, Equipment Used for a Warehouse, Warehouse information, Importance of Warehouse Information, Decision Making Using Warehouse Information, ICT Applications in a Warehouse.

Unit 4 Technology Aids in Warehouse Management
Retailing and Warehousing, Warehousing and Supply Chain, Role of government in warehousing, Bar Code Scanners, Wireless LAN, Mobile Computers, Radio Frequency Identification (RFID), Retail product tracking in warehouse using RFID

Unit 5 Data mining and Data Warehouse
Introduction, Data Mining Functionalities, Classification of data mining systems – Major issues in data mining, Data warehouse and OLAP technology for data mining, What is a data warehouse – A Multi dimensional model, ,Data Warehouse Architecture, Data Warehouse Implementation.

Suggested Readings

- *Michael J A Berry, Gordon S Linoff, Data Mining Techniques, Wiley Publishing inc, Second Edition, 2004. ISBN: 81-265-0517-6.*
- *Alex Berson, Stephen J.Smith, Data warehousing , data mining & OLAP, , Tata McGraw Hill Publications,2004.*

MEC -404 BUSINESS ANALYTICS

Objective: This course aims to develop overall analytical skills of the students and to help them to apply analytical techniques in business decision making.

Course Contents:

Unit I- Introduction to Business Analytics: Applications, Objectives, Business Analytics and Competitive Advantage, Different types of Data, Big data, Data Mining Process, Data Mining and tools(Hadoop), Introduction to programming Language (R, Python)

Unit II- Descriptive Analytics: Introduction, Visualising and exploring data, Descriptive statistics, Sampling and Estimation, Introduction to Probability Distribution, Tools Application, Correlation and other statistical Tools.

Unit III- Predictive Analytics: Principles of Forecasting, Predictive Modelling: Logic driven and Data driven Models, Time series, Types of Forecasting, Forecasting Methods and their Characteristics, Trend, Seasonality, Cyclist, Hold winner Forecasting method.

Unit IV- Prescriptive Analytics: Business rule algorithms, nonlinear optimization, Machine learning and Artificial Intelligence, Computational Modelling.

Unit V- Ethics and Analytics: Data collection and Protection laws, Ethical Use of Analytics, Analytics and Privacy Principles.

Suggested Readings:

- *JAMES, E.R (2017) BUSINESS ANALYTICS (2 EDITION). PEARSON EDUCATION LIMITED, UK*
- *UNIT – I, II, III, IV*
- *Albright, S.C. & Wayne L. Winston, W.L. (2015) Business Analytics: Data Analysis and Decision Making (5 edition), Cengage Learning Limited*
- *Unit – I, II, III IV*
- *Collmann, J. &Matei, S.A(2016) Ethical Reasoning in Big Data: An Exploratory Analysis (Computational Social Sciences) 1st ed. Springer International Publishing Switzerland*
- *Unit V*
- *Mitchell, T.M. (2017)Machine Learning. First edition. McGraw Hill Education*

Master of Business Administration

MBA-FSM (Financial Services Management)

SYLLABUS

2021-2023

Faculty of Management Studies
Mohanlal Sukhadia University

UDAIPUR (RAJ.)

THE PROGRAMME

The Master of Business Administration (Financial Services Management) is a two year full-time program. The course structure and program administration are as follows:

COURSE STRUCTURE

The programme has been organized in two years-First Year and Second Year, each year comprising two semesters. The list of papers offered during First Year and Second Year of the programme shall be as follows:

FIRST YEAR

SEMESTER-I : FM-101 to FM 108

FM-101 Management Process and Organizational Behavior

FM-102 Statistical Methods

FM-103 Managerial Economics

FM-104 Quantitative Methods

FM-105 Information Technology

FM-106 Managerial Communication

FM-107 Marketing Management

FM-108 Accounting For Managers

SEMESTER-II : FM-201 TO FM-208

FM-201 Corporate Evolution and Strategic Management

FM-202 Business Legislation

FM-203 Financial Management

FM-204 Research Methodology

FM-205 Management Information System

FM-206 Marketing of Financial Services

FM-207 Human Resource Management

FM-208 Security Analysis& Investment Management

SECOND YEAR

SEMESTER -III (FSM): FM-301 TO FM-308

FM-301	Risk Management
FM -302	Wealth Management
FM -303	Merchant Banking Services
FM -304	Mutual Funds
FM -305	Commercial Bank Management
FM -306	Insurance Management
FM -307	International Financial Management
FM -308	Corporate Restructuring

SEMESTER -IV (FSM)

CP-401 Major Research Project

The course would be deemed to be completed only when the students will clear two Modules of NISM and NCFM. The list of modules would be given during the third semester.

The conditions of successfully completing the programme shall not be deemed to have been satisfied unless a student takes a major research project, under the supervision of the department, in organizations as approved by the Department/Faculty from time to time. Each student will be required to submit a project report to the Department/Faculty for the work undertaken during this period within three weeks of the completion of the major research project, duly approved by the supervisor for the purpose of evaluation in the fourth semester

PROGRAMME ADMINISTRATION (SUGGESTED GUIDELINES)

Evaluation

(i) Each paper will carry 100 marks (Except Papers FM-401) of which minimum of 20% of marks should be for internal assessment and remaining percentage of marks be for written examination. The duration of written examination for each paper shall be three hours.

(ii) The internal assessment marks shall be based on factors such as: Participation in seminars, case discussions and group work activities

* Class tests, quizzes, individual and group oral presentations

* Submission of written assignments, term papers and viva-voce

* Class-room participation and attendance

There will be one midterm class test which will carry 10 marks. If any candidate does not appear in any of the midterm tests on medical or other valid grounds, he may appear in the defaulter test by depositing a fee of Rs. 150/- per course.

The course for the midterm test will be first three units but the defaulter test coverage will be entire course.

Home Assignment and individual and group presentation will carry 05 marks and attendance will carry 05 marks.

(iii) The scheme of evaluation of project studies shall be as follows:

Paper FM-401, will carry 200 marks, final project study shall commence after Third semester and the report should be submitted towards the end of fourth semester.

The written part for each of the project studies shall account for 80% of marks and the viva-voce to be conducted by a duly constituted examination board for the remaining 20% of marks.

Promotion and Span Period

(i) The span period of the programme is four years from the date of registration in the programme.

(ii) The minimum marks for passing the examination for each semester shall be 40% in each paper and 50% in aggregate for all the courses of the semester.

(iii) To be eligible for promotion to the second year of the programme, a student must clear successfully at least 12 papers out of the 16 papers offered during first year of the programme.

(iv) If a student fails in more than 2 papers in third semester, he/she will be declared as fail and he will be required to reappear in all the papers, as ex-student, whenever the semester is held.

(v) The degree shall be awarded to successful students on the basis of the combined results of first year and second year examinations as follows:

- Securing 60% and above : Ist Division -

- All other : IInd Division

(vi) A student to be eligible for award of degree has to clear all the papers offered during two-year programme within the span period.

(vii) The candidates will be required to pass in the external examination of 80 marks.

The institute/ university may evolve their own grading system for evalution

Re-examination

A candidate who has secured minimum marks to pass in each paper but has not secured the minimum marks required to pass in aggregate for the semester concerned may take re-examination in not more than two papers to obtain the aggregate percentage required to pass the semester.

A regular student will be allowed to re-appear in any paper in any semester. However, the total number of attempts for a paper shall not exceed four during the span period of the programme. As regards the ex-students, they will be allowed to re-appear in papers only in the semester examination held, subject to total number of attempts for a paper not exceeding four during the span period of the programme.

Attendance

No candidate shall be considered to have pursued a regular course of study unless he/she is certified by the Head/Dean of the Department/Faculty to have attended the three-fourths of the total number of classroom sessions conducted in each semester during his/her course of study. Any student not complying with this requirement will not be allowed to appear in the semester examination. However, the Head/Dean may condone the required percentage of attendance by not more than 10 per cent during a semester.

A student not allowed to appear in the preceding semester examination due to shortage of attendance, may appear in the papers of the proceeding semester along with the papers of current semester after making up the attendance shortfall. Remedial classes, however, will not be arranged by the Department/ Faculty for the purpose.

SEMESTER-I

FM-101 to FM 108

FM-101 : MANAGEMENT PROCESS AND ORGANIZATIONAL BEHAVIOR

Objectives

The objectives of this paper are to familiarize the student with basic management concepts and behavioral processes in the organization.

Course Contents

Unit -I

Evolution of management thought, Systems and contingency approach for understanding organizations, managerial processes, functions, skills and roles in an organization; Social Responsibility of Business; Leadership: Concept, Nature, Importance, Attributes of a leader, Leadership Grid. Decision making: Concept, Nature, Importance, and Process. Types of decisions. Problems in decision making

Unit-II

Introduction to Organizational Behavior: Definition, Importance, Scope, Fundamental Concepts of OB, Different models of OB: Autocratic, Custodial, Supportive, Collegial and SOBC. Attitudes: Nature and dimensions of attitude, ABC Model, Developing the right attitude. Transactional Analysis: Ego states. Johari window

Unit-III

Motivation: Definition, Importance, Motives – Characteristics, Classification of motives - Primary & Secondary motives. Theories of Motivation - Maslow's Theory of need hierarchy - Herzberg's theory. Morale - Definition and relationship with productivity - Morale Indicators.

Unit-IV

Group Dynamics and Team building: Concept of Group & Team. Formal and Informal Groups. Importance of Team building. Conflict Management: Definition. Traditional vis-à-vis Modern view of conflict, Sources and Levels of Conflict, Types of conflict: Intrapersonal, Interpersonal, and Organizational. Constructive and Destructive conflict. Conflict management: Conflict Resolution Styles.

Unit-V

Stress management: Definition, Causes, Managing stress, Stress as a motivator, Types of Stress, Stress Vs Burnout, Strategies to manage stress, Work life balance. Group decision making: Advantages, Disadvantages and techniques. Change management: Concept of change, change as a natural process, Importance & Causes of change – social, economic, technological, organizational. Learning – unlearning, Concept of learning organizations. Kurt Lewin's Change Management Process.

Suggested Readings

1 . Koontz, H and Wechrich, H. *Management.* 10th ed., New York, McGraw Hill, 1995.

2. Luthans, F. *Organizational Behaviour.* 7th ed., New York, McGraw Hill, 1995.

3. Robbins, S P. *Management.* 5th ed., New Jersey, Englewood Cliffs, Prentice Hall Inc., 1996.

4. Robbins, S P. *Organizational Behaviour*. 7th ed., New Delhi, Prentice Hall of India, 1996.

5. Singh, Dalip Emotional *Intelligence at Work, Response Books,* Sage Publications, Delhi,2001

6. Staw, B M. *Psychological Dimensions of Organizational Behaviour.* 2nd Ed., Englowed Cliffs, New Jersey, Prentice Hall Inc., 1995.

7. Stoner, J. etc. *Management.*6th ed., New Delhi, Prentice Hall of India, 1996.

8. Dr. K Sundar, *Essential of Organisational Behaviour*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-102: STATISTICAL METHODS

Objectives

The objective of the course is to make the students familiar with some basic statistical and linear programming techniques. The main focus, however, is in their applications in business decision making.

Course Contents

Unit –I
Introduction: Application of Statistics in Business & Management; Basic Concepts of Statistical Studies: Population, Variable and Parameter, Sample; Classification of Data;. Diagrammatic & Graphical Presentation of Data: Bar Diagram, Histogram, Pie – Diagram, Frequency Polygons, and Ogives.

Unit-II
Summary Statistics: Measures of Central Tendency: Arithmetic Mean, Weighted Mean, Median and Mode .Index Numbers: Concept &Applications.

Unit-III
Measures of Dispersion: Range, Average Deviation. Standard Deviation, Variance and Coefficient of Variation.

Unit-IV
Forecasting Techniques: Simple Correlation & Regression Analysis, Time Series Analysis-Trend Analysis, Cyclical Analysis, Seasonal Analysis, Irregular Variation

Unit-V
Probability : Introduction of Probability Theories, Concepts, Addition & Multiplication Theorems, Probability Distributions: Binomial Poission, Normal and Exponential

Suggested Readings

1. Chadha, N. K. *Statistics for Behavioral and Social Scientists,* Reliance Publishing House, Delhi,1996

2. Gupta, S P and Gupta M P. *Business Statistics.* New Delhi, Sultan Chand, 1997.

3. Kazmier, L J and Pohl, N F. *Basic Statistics for Business and Economics.* New York, McGraw Hill, 1988.

4. Levin Richard I and Rubin David S. *Statistics for Management.* New Jersey, Prentice Hall Inc., 1995.

5. Terry, Sineich. *Business Statistics by Examples.* London, Collier Mac Millian Publishers, 1990.

6. Quantitative Techniques - N.D.Vohra

FM-103 : MANAGERIAL ECONOMICS

Objectives

The Objectives of this course is to acquaint the participants with concepts and techniques used in Micro-Economic Theory and to enable them to apply this knowledge in business decision-making. Emphasis is given to changes in the nature of business firms in the context of globalization.

Course Contents

Unit -I

Scope, Concepts and Techniques of Managerial Economics, Nature of business decision-making, Marginal analysis, optimization; Demand functions, Law of Demand - Utility Concept, Cardinal and Ordinal Approach.

Unit -II

Price effect, Income and substitution effects, Income consumption curve & Price consumption curve, Concept of Consume surplus, Elasticity of Demand; Price Elasticity, Income Elasticity, Cross Elasticity, Advertising Elasticity. Demand Forecasting: Meaning and Significance.

Unit -III

Production Function, Concept, Isoquants, Equilibrium, Law of Variable Proportions, Law of Returns to Scale, Cost Function, Types of Costs, Theory of Firm - Profit Maximization, Sales Maximization.

Unit -IV

Market Structure: Concept of Equilibrium, Perfect Competition, Monopoly, Monopolistic, Oligopoly : Kinked demand curve, Price leadership models, Full cost pricing, Baumol's theory of sales revenue maximization, Williamsons' Managerial discretionary Theory, Cyert & March behavioral Theory. Theoretical Concept of Pricing, Pricing Polices in Practices Non-Price Competition.

Unit -V

Macro Economics : Aggregates and Concepts -GNP and GDP-Aggregate Consumption-Demand, Determination of National Income, Concept and Measurement of National Income. Balance of

Payments, Monetary Policy & Fiscal Policy. Globalization and Indian Business environment. Multiplier effect.

Suggested Readings

1. Adhikary, M. *Business Economics.*,New Delhi, Excel Books, 2000.

2. Baumol, W J. *Economic Theory and Operations Analysis.* 3rd ed., New Delhi, Prentice Hall Inc., 1996.

3. Mehta, P.L. *Managerial Economics.* New Delhi Sultan Chand & Sons.

4. Keat, Paul G & Philips K. Y. Young, *Managerial Economics,* Prentice Hail, New Jersey, 1996.

5. Koutsoyiannis, A. *Modem Micro Economics.* New York, Macmillan, 1991.

6. Milgrom, P and Roberts J. *Economics, Organization and Management.* Englewood Cliffs, New Jersey, Prentice Hall Inc., 1992.

7. Diwedi D.N. *Managerial Economics*.Vikas Publishing, New Delhi.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-104 : QUANTITATIVE METHODS

Objectives

The objective of the course is to make the students familiar with some basic statistical and linear programming techniques. The main focus, however, is in their application in business decision making.

Course Contents

Unit-I

Matrices and their Applications. Markov's Analysis, Function and Iterations of Business Applications.

Unit-II

Linear Programming: Introduction of Operations Research, Scope and Models in Operations research, Scope and models in Operations Research, Introduction of linear Programming, Formulation of LPP, Solutions of LPP-Graphical Methods & Simplex Procedure ,Duality.

UNIT –III

Introduction of Transportation Problems, Procedure of finding optimal solution, Assignment Problem & its solution.

UNIT-IV

Decision Theory: Introduction of Decision Theory, Decision Environments, Decision Making under Risk- EMV & EOL Decision Making under Uncertainty- Maximax, Maximin, Minimax, Regret& Laplace Criterion.

Games Theory - 2x2 zero sum game with dominance - Pure Strategy and Mixed Strategy.

UNIT-V

PERT- CPM, Inventory control. Monte Carlo Simulation (Elementary idea only).

Suggested Readings :

1. Narang ,A S. *Linear Programming And Decision Making* . New Delhi , Sultan Chand,1995.
2. Sharma , J.K. *Fundamentals of Operation research* ,Machmillan, New Delhi,2001
3. *Quantitative Techniques* –N.D. Vohra

FM-105: INFORMATION TECHNOLOGY

Objectives:

The objective of the course is to make student aware about the emerging information technological issues engaging the world.

Course Contents

Unit -I

Introduction to Computers: Evolution of Computers, Basic Architecture and components, Application Software and Packages - Introduction to Embedded Software. Artificial intelligence (AI), AI Tools –An overview, Fundamentals of operating system- Windows, Unix/Linux, Android.

Unit -II

Software Packages

a) Word Processor –Editing, Printing and Formatting of Document Mail merge.

b) Electronic Spread sheet – Range, Formulas, Functions, Graphs, Basis statistical formulae.

c) Presentation Tool – Creating effective presentations

Unit -III

File and Data Management –Data files types/Organizations; Master & Transaction Files; Basics of Data Processing; Introduction to DBMS concepts, DBMS Software: Creating a database, Data entry and basic queries. Report generation & Label generation .

Unit -IV

Financial Accounting Software- Account creation, Journal Entry, Ledger posting, Balance Sheet, P& L Account, Flow Charting : Input-Process –Output presentation , Programming Concepts. Data Communications And networking _LAN & WAN.

Unit -V

,Introduction to Word Wide Web-Internet operations, emerging communication technologies .Introduction to Social Networking, E Commerce ,E –Banking And E- Governance .

Suggested Readings

1. Rajaraman, V. (2004). *Introduction to Information Technology*. PHI.
2. Turban, Rainer and Potter (2003). *Introduction to information technology*. John Wiley and sons.
3. Sinha, P.K., PritiSinha (2002). *Foundation of computing*. BPB Publications.
4. Ram, B. (2003). *Computer Fundamentals*. New Age Publications

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM- 106 : MANAGERIAL COMMUNICATION

Objectives:

The objective of the course is to make student aware about the communication techniques.

Course Contents

Unit -I

Introduction to managerial communication: Meaning, Importance &objectives - Principles of Communication, forms of communication, Communication Process, Barriers of effective communication, Techniques of effective communication.

Unit -II

Nonverbal communication: Body Language, Gestures, Postures, Facial Expressions, Dress codes. The Cross Cultural Dimensions of Business Communication. Listening & Speaking, Techniques of electing response, probing questions, Observation, Business and social etiquettes.

Unit -III

Managerial speeches: Principles of Effective Speech & Presentations. Technical & Non-technical presentations. Speech of introduction -speech of thanks - occasional speech - theme speech, Use of audio visual aids. Reports: Types of Business Reports - Format, Choice of vocabulary, coherence and cohesion, paragraph writing, organization reports by individual, Report by committee.

Unit -IV

Interview Techniques: Mastering the art of conducting and giving interviews, Placement interviews - discipline interviews - appraisal interviews - exit interviews. Group communication: Importance, Meetings - group discussions. Video- conferencing. Case study and written analysis of case (WAC)

Unit -V

Introduction to managerial writing: Business letters: Inquiries, Circulars, Quotations, Orders, Acknowledgments Executions, Complaints, Claims & adjustments, Collection letter, Banking correspondence, Agency correspondence, Bad news and persuading letters, Sales letters, Job application letters - Bio-data, Covering Letter, Interview Letters, Letter of Reference. Memos, minutes, Circulars, notices & Email Etiquettes.

Suggested Readings:

1. Lesikar, R.V. &Flatley, M.E. (2005). *Basic Business Communication Skills for Empowering the Internet Generation.* Tata McGraw Hill Publishing Company Ltd. New Delhi.
2. Ludlow, R. & Panton, F. (1998). *The Essence of Effective Communications.*Prentice Hall of India Pvt. Ltd.
3. Adair, J. (2003). *Effective Communication*. Pan Mcmillan.
4. Thill, J. V. &Bovee, G. L. (1993). *Excellence in Business Communication*.McGraw Hill, New York.
5. Bowman, J.P. &Branchaw, P.P. (1987). *Business Communications: From Process to Product*. Dryden Press, Chicago.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-107 : MARKETING MANAGEMENT

Objectives

The purpose of this course is to develop understanding of the underlying concepts, strategies and issues involved in the marketing of products and services.

Course Contents

Unit -I

Nature and scope of marketing, Corporate orientations towards the marketplace, The Marketing environment and Environment scanning, Marketing information system and Marketing research, Understanding consumer and Industrial markets.

Unit -II

Understanding consumer behavior, factors influencing consumer behavior and buying process; organizational buying; Market segmentation, Targeting and positioning; Product decisions - product mix, product life cycle, new product development, branding and packaging decisions.

Unit -III

Pricing methods and strategies, Promotion decisions promotion mix, advertising, sales promotion, publicity and personal selling; Channel management - selection, co-operation and conflict management, vertical marketing, Implementation and systems.

Unit -IV

Services Marketing: The emergence of service, The service consumer behavior, Service positioning and targeting, Service quality, promoting the service, Relationship Marketing, Services marketing in India.

Unit -V

Emerging issues in marketing: Consumerism, Green marketing, Sustainable development and consumption, Digital marketing, E-CRM

Suggested Readings

1. Enis, B M. Marketing Classics: *A Selection of Influential Articles*. New York, McGraw Hill, 1991.

2. Kotler, Philip and Armstrong, G. *Principles of Marketing*. New Delhi, Prentice Hall of India, 1997.

3. Kotler, Philip. *Marketing Management: Analysis, Planning, Implementation and Control.*New Delhi, Prentice Hall of India, 1994.

4. Ramaswamy, V S and Namakumari, S. *Marketing Management: Planning, Control.* New Delhi, MacMillan, 1990.

5. Stanton, William, J. *Fundamentals of Marketing*. New York, McGraw Hill, 1994.

6. Neelamegham, S. *Marketing In India: Cases and Readings*. New Delhi, Vikas, 1988.

7. Lovelock. Christopher H. *Services Marketing* Prentice Hall.

8. Dr. K Sundar, *Essential of Marketing, Tata McGraw Hill, 2012*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM - 108 : ACCOUNTING FOR MANAGERS

Objectives

The basic purpose of this course is to develop an insight of postulates, principles and techniques of accounting and utilization of financial and accounting information for planning, decision-making and control.

Course Contents:

Unit -I

Meaning and Definition of Accounting, Parties or Users interested in Accounting, Branches of Accounting, Meaning and Definition of Management Accounting, Distinction between Management Accounting and Financial Accounting. Accounting Concepts and Conventions.

Unit -II

Basic Accounting terminologies, Classification of Accounts, Meaning of Journal, Writing of Journal Entries. Secondary Books of Accounting, Preparation of Trial Balance Financial Statement Analysis, Ratio analysis, Funds Flow Analysis, Cash Flows analysis.

Unit -III

Elements of Costs; (a) Materials Costs: - Materials purchasing, receiving, storing and issuing including pricing of issues. Labour Costs and Labour Turnover.

Unit -IV

Overheads- Identifying the overheads with cost centre. Allocation, Apportionment and Absorption – Accounting treatment of under and Over Absorption. (Preparation of Cost Sheet, items to be excluded while preparing cost sheet.

Unit -V

Managerial Decision Making Techniques: Marginal costing – Cost volume profit analysis, BEP Budgetary control, Operating and Financial Budgets, Performance Budgeting, Zero-Base Budgeting; Flexible Budgets. Standard Costing – Materials Cost and Labour cost variances only. Accounting Standards.

Suggested Readings

1 . Anthony R N and Reece J S. *Accounting Principles*, 6th ed., Homewood, Illinois, Richard D. Irwin, 1995.

2. Bhattacharya S K and Dearden J. *Accounting for Management Text and Cases.* New Delhi, Vikas, 1996.

3. Heitger, L E and Matulich, Serge. *Financial Accounting.*New York, Mc-Graw Hill, 1990.

4. Hingorani, N L. and Ramanathan, A R. *Management Accounting.* 5th ed., New Delhi, Sultan Chand, 1992.

5. Horngren, Charles etc. *Principles of Financial and Management Accounting.*Englewood Cliffs, New Jersey, Prentice Hall Inc., 1994.

6. Needles, Belverd, etc. *Financial and Managerial Accounting.*Boston, Houghton Miffin Company, 1994.

7. Vij, Madhu. *Financial and Management Accounting.*New Delhi, Anmol Publications, 1997

8. Theory & Problems in Management & Cost Accounting - Khan & Jain

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

SEMESTER-II :

FM- 201 TO 208

FM-201 BUSINESS POLICY & STRATEGIC MANAGEMENT

Objectives

The Objectives of this course is to develop understanding about strategic processes and their impact on a firm.

Course Contents:

Unit-I

Strategy and the Quest for Competitive Advantage: Military origins of strategy – Evolution - Concept and Characteristics of strategic management – Defining strategy – Mintzerbg's 5Ps of strategy – Corporate, Business and Functional Levels of strategy - Strategic Management Process. . Strategic Intent & Strategy Formulation: Vision, mission and purpose – Business definition, objectives and goals – Stakeholders in business and their roles in strategic management - Corporate Social Responsibility, Ethical and Social Considerations in Strategy Development.

Unit-II

Strategic analysis: Analyzing Company's Resources and Competitive Position - Organizational Capability Profile – Strategic Advantage Profile – Core Competence - Distinctive competitiveness. Analyzing Company's External Environment: Environmental appraisal – Scenario planning – Preparing an Environmental Threat and Opportunity Profile (ETOP) – Industry Analysis - Porter's Five Forces Model of competition.

Unit-III

Corporate Portfolio Analysis: Business Portfolio Analysis - Synergy and Dysergy - BCG Matrix – GE 9 Cell Model - Concept of Stretch, Leverage and fit 6. Generic Competitive Strategies: Low cost, Differentiation, Focus. . Grand Strategies: Stability, Growth (Diversification Strategies, Vertical Integration Strategies, Mergers, Acquisition & Takeover Strategies, Strategic Alliances & Collaborative Partnerships), Retrenchment, Outsourcing Strategies. Tailoring strategy to fit specific industry – Life Cycle Analysis - Emerging, Growing, Mature& Declining Industries.

Unit-IV

New Business Models and strategies for Internet Economy: Shaping characteristics of E-Commerce environment – E-Commerce Business Model and Strategies – Internet Strategies for Traditional Business – Key success factors in E-Commerce – Virtual Value Chain. Strategy implementation - Project implementation – Procedural implementation – Resource Allocation – Organization Structure – Matching structure and strategy.

UNIT- V

Behavioural issues in implementation – Corporate culture – Mc Kinsey's 7s Framework - Concepts of Learning Organization . Functional issues – Functional plans and policies – Financial, Marketing, Operations, Personnel, IT. Strategy Evaluation – Operations Control and Strategic Control - Symptoms of malfunctioning of strategy — Balanced Scorecard.

Cases in strategic management: A minimum of 5 cases encompassing the above topics to be analyzed and discussed in the class.

Suggested Readings :-

1. A Thompson Jr., A J Strickland III, J E Gamble, Crafting & Executing Strategy – The Quest for Competitive Advantage, Tata McGraw Hill, 4th ed., 2005.

2. Ranjan Das, Crafting the Strategy: Concepts and Cases in Strategic Management, Tata McGraw Hill, 2004.

3. Henry, Mintzberg, Bruce, Ahlstrand and Joseph, Lampel (1998). Strategy Safari. 31Free Press, New York.

4. Gary, Hamel and Prahalad, C. K. (1999). Competing for the Future.HBS Press.

5. Ed. C.A. Montgomery, M.E. Porter, Strategy – Seeking and Securing Competitive Advantage, Harvard Business Review Publications, 1991.

6. Peter F. Drucker, Managing in a Time of Great Change, Truman Talley Books / Plume Penguin Group, 1998.

FM-**202: BUSINESS LEGISLATION**

Objectives

The course is designed to assist the students in understanding basic laws affecting the operations of financial institutions.

Course Contents

Unit -I

The Contract Act, 1872 Nature and classification of contracts - Essential elements of a valid contract - Offer and Acceptance - Consideration , Capacities of Parties, free consent, Void agreement, Performance and discharge of contract, Breach of contract - Meaning and remedies, Contingent contracts, Quasi Contracts.

Introduction to special contracts - Indemnity & Guarantee, Bailment & Pledge, Agency.

Unit -II

Sales of Goods Act, 1930 - Contract for Sale of Goods - Meaning - Essentials of a Contract of Sale -Formalities of a Contract of sale, Provisions relating to Conditions and Warranties Caveat and Emptor relating to transfer of property or ownership, Provisions relating to performance of Contract of Sale - Rights of Unpaid Seller – Rules as to delivery of goods.

Unit-III

The Negotiable Instruments Act, 1881 Negotiable Instruments - Meaning, Characteristics, Types, Parties - Holder and holder in Due Course, Negotiation and Types of Endorsements, Dishonor and Discharge of Negotiable Instrument, Liabilities of parties on Negotiable Instrument.

Unit -IV

The Companies Act, 2013 Company - Definition, Meaning, Features and Types of companies Incorporation of a company - Memorandum of Association, Articles of Association and Prospectus Share Capital and Recent Amendments.

Unit -V

The Consumer Protection Act, 1986 Definitions of Consumer, Complainant, Goods, Services - Meaning of Consumer Dispute, Complaint, Unfair Trade Practices, Restrictive Trade Practices, Rights of Consumers, Consumer Disputes Redressal Agencies.

The Information Technology Act, 2000 Digital Signature - Digital Signature Certificate ElectronicGovernance ElectronicRecords CertifyingAuthorities Penalty& Adjudication.

Intellectual Property Rights: Conceptual understanding of patents, copyrights, trademarks and designs.

Suggested Readings

1. *Avtar Singh. Company Law. 1 1 th ed. Lucknow, Eastern, 1996.*
2. *Khergamwala, J S. The Negotiable Instrument Acts.Bombay, N.M. Tripathi, 1980.*
3. *Ramaiya, A. Guide to the Companies Act. Nagpur, Wadhwa, 1992.*
4. *Shah, S M. Lectures on Company Law. Bombay, N.M. Tripathi, 1990.*
5. *Tuteja, S K. Business Law For Managers. New Delhi, Sultan Chand, 1998.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-203 : FINANCIAL MANAGEMENT

Objectives

The purpose of this course is to acquaint the students with the broad framework of financial decision making in a business unit.

Course Contents

Unit -I

Aims and Objectives of Financial Management; Role of Finance Manager, Time Value of Money; Instruments of Long term Finance, Cost of Different Sources of Raising Capital, Weighted Average Cost of Capital, Marginal Cost of Capital

Unit -II

Operating and Financial Leverage, Valuation and Capital Structure Decisions, Capital structure Theories – NI and NOI approach, MM Hypothesis without taxes and under corporate taxes, Optimum Capital Structure, Economic Value Added.

Unit -III

Methods of Capital Budgeting – Payback, ARR, IRR, NPV and PI, Analysis of Risk in Capital Budgeting – Sensitivity Analysis, Scenario Analysis, Financial Modeling, Use of Excel for Financial Decision Making.

Unit -IV

Working Capital Concept, Nature and scope, Determinants of Working Capital, Instruments of Short-term Financing - Management of Working Capital, Cash, Receivable and Inventory Management. Dividend Policy, Dividend Models, Recent development in Financial Management – GDR, ADR, FCCB, ZCB, DDB, Warrants, SPN, Equi pref, Sweat Equity Shares, ESOP, Tracking Stocks, Disaster Bonds, Mortgage Based Securities, etc.

Unit -V

Leasing, Types of Leasing, Introduction to Equipment Leasing, Financial Evaluation of Leasing. Hire Purchase Consumer Finance Factoring and Forfeiting, Bill Discounting, Housing Finance.

Suggested Readings

1. *Archer, Stephen H. etc. Financial Management. New York, John Wiley, 1990.*

2. *Bhalla, V K. Financial Management and Policy. 2" ed., New Delhi, Anmol, 1998.*

3. *Brealey, Richard A. and Myers Stewart C. Principles of Corporate Finance. 5th ed., New Delhi, McGraw Hill, 1996.*

4. *Hampton, John. Financial Decision Making. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1997.*

5. *Van Horne, James C. Financial Management and Policy. 1 Oth ed., New Delhi, Prentice Hall of India, 1997.*

6. *Winger, Bernard and Mohan, Nancy. Principles of Financial Management. New York, Macmillan Publishing Company, 1991.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-204 : RESEARCH METHODOLOGY

Objectives

To equip the students with the basic understanding of the research methodology and to provide an insight into the application of modern analytical tools and techniques for the purpose of management decision making.

Course Contents

Unit-I

Foundation of Research: Meaning, Objectives, Motivations, utility. Concept of Theory, empiricism, deductive and inductive theory .Characteristics of scientific Method, Understanding the Language of Research –Concept & Construct. Definition –Variable .Research Process, Nature and Scope of Research Methodology; Problem Formulation and Statement of Research Objectives.

Unit-II

Research Design; Concept And Importance in Research , Features of good research design , Types of Research Designs – Exploratory Research Designs, Descriptive Research Designs Experimental Research Designs

Qualitative & Quantitative Research : Qualitative research-Quantitative Research. Difference between Qualitative & Quantitative Research

Unit –III

Measurement: Concept of measurement- What is measured? Problems in measurement in management research- Validity and reliability .Levels of Measurement –Nominal, Ordinal, Interval, Ratio. Attitude Scaling techniques, Motivational Research Techniques

Types of Data: Secondary Data –Definition Sources ,Characteristics . Primary data –Definitions , Advantages & Disadvantages Over Secondary data, Observation Method ,Questionnaire Construction , Personal Interview ,Telephonic Interview ,Mail Survey ,Email/Internet survey.

Sampling: Concepts of Statistical Population, Sample ,Sampling Frame ,Sampling error, Sample Size ,Non Response. Characteristics of a good Sample .Probability Sample –Simple Random Sample, Systematic Sample ,Stratified Random Sample & multistage sampling .Non Probability Sample –Judgment ,Convenience ,Quota & Snowballing methods .Determining size of sample – Practical consideration in sampling & sample size.

Unit -IV

Data Analysis : Data Preparation – Univariate analysis (Frequency Tables ,bar charts, pie charts ,percentages). Null and Alternate Hypothesis; Type I and Type II error; critical Region; level of

significance. Parametric and Non- Parametric test, Parametric: t-Test & Z test & Multivariate Analysis, Non- Parametric test : Run test, KW test, Whitney test.

Unit -V

Bivariate Analysis – Cross Tabulation and Chi –Square, F-ANOVA.

Report Preparation : Pre-Writing Consideration, Format of Marketing research report ,common Problem Encountered when preparing the marketing research report .Presenting the research report.

Suggested Readings

1. *Andrews, F.M. and S.B. Withey Social Indicators of Well Being, Plenum Press,NY,1976*
2. *Bennet, Roger: Management Research, I LO, 1 983*
3. *Fowler,FloydJ.Jr., Survey Methods, 2" ed., Sage Pub., 1993*
4. *Fox, J.A.and P.E. Tracy: Randomized Response: A Method of Sensitive Surveys, Sage Pub., 1986*
5. *Gupta,S.P. Statistical Methods, 30" ed,, Sultan Chand,New Delhi,2001*
6. *Golden,-Biddle,Koren and Karen D.Locke: Composing Qualitative Research, Sage Pub., 1997*
7. *Salkind, Neilj. Exploring Research, 3rd ed., Prentice-Hail, NJ, 1997*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-205 : MANAGEMENT INFORMATION SYSTEM

Objective

The objective of the course is to develop the basic understanding of the decision support system of the artificial intelligence for business Organization.

Course Contents:

Unit-I

Management Information System: Definitions - Basic Concepts Frameworks - Major Trends in Technology, applications of Information Technology. System & Design: Systems Development initiative, Different Methodologies - Life Cycle & Prototype approach, Detailed study on Life Cycle Design & implementation, Case Study.

Unit-II

Managerial Decision Making: Decision making process, problem solving techniques, how decisions are being supported - decision styles group decision making, features of various CBIS.

Unit -III

Decision Support System : An Overview ; Relevance, Scope of DSS, characteristic and capabilities of OSS, components of OSS, classification of DSS, Database Management System: Sources of data -data file environment database environment - data models - relevance of relational data base design in DSS.

Unit -IV

Model Base Management system: Types of models, function, time, certainty, uncertainty, risk, structure OR models, Dichotomous model of mind - Simon's model in information system design simulation technique. Dialog generation management system.

Unit –V

User interface - graphics menus - Forms OSS tools - DSS generators - specific DSS. Constructing a DSS: Steps in designing a OSS identification of decision, building- of DSMS, building of MSMS - building of DGMS, implementation, performance testing. Recent trends in MIS

Suggested Readings

1. Keen, Peter G.W.: Decision Support System an Organizational Perspective Addison-Wesley Pub.

2. Theierauff, Robert J. Decision Support System for-effective planning - - Prentice Hall - 1982.

3.Krober,Donald W., and Hugh.J. Watson Computer Based Information System Newyork, 1984

4.DavisL, Michael W. A management approach - Macmillan Publishing Company, Prentice HaliNew Jersey, 1988.

5. Andrew P. Decision Support System Engineering,Sage, John Wiley & Sons, New York, 1991.

6. Leod, Raymond Me JR Management information systems - Macmillan Publishing Company, New York - 5th Edition - 1993.

7. Turban, Efrain Decision Support & Expert Systems - Management Perspective - Macmillan Publishing Company, New York, 1988

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-206 : MARKETING OF FINANCIAL SERVICES

Unit-I

Introduction to financial services, Nature and Scope of Financial Services. Types of Financial Services , Non-Banking Financial Companies: Function and Types.

Unit-II

Online marketing for financial services and Introduction to Digital Marketing: concepts SEO, SMM and marketing through Facebook and Instagram.

Unit-III

Venture Capital Financing Advisory Services. Mergers/Amalgamations and Acquisition /Takeovers. Credit Rating, Credit Cards, Microfinance, Stock Broking, E-Broking Regulatory framework for Financial Services, Recent Developments.

Unit-IV

Consumers Behaviour in Service, Encounter Environmental Issues, Positioning Services in Competitive Market, Financial Services; Product Development, Designing Communication, Mix for Financial Services, The Marketing Mix for Financial Services, Designing and Managing Financial Services.

Unit –V

Problems and Challenges in Marketing of Bank Services, Marketing of Insurance Services, Marketing of Allied Services; Mutual Funds, Credit Cards, Housing Finance, Personal Loans, Factoring Services, Quality issues in Financial Services, Pricing of Financial Services.

Suggested Readings

Bhalla V.K. Management of Financial Services.Anmol New Delhi, 2001.

Khan M.Y. Financial Services.TMH New Delhi 3rd edition 2004.

Bhole L.M. Financial Institutions and Markets TMH 4/e 2004

Gorden, E and Natrajan Emerging Scenario of Financial Services.

Clifford Gomez. "Financial Markets, Institutions and Financial Services" Prentice Hall of India.

*Pathak V. Bharti." The Indian Financial System". Pearson Education, Second Edition***.**

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course. Cases of at least four Banks and other Institutions on Marketing Strategy will be discussed in the class

FM-207: HUMAN RESOURCE MANAGEMENT

Unit-I

Human Resources Management-Introduction and Importance, Human Aspect of Management, HRM Evolution. Difference between Personnel Management and HRM. HRM in a Changing Environment, Role of a HR Manager.

Unit -II

Human Resources Planning: Objectives, Importance, Process and Manpower Estimation

Job analysis, Job Description, Job Specification.

Recruitment: Meaning and Sources of Recruitment.

Selection: Essentials of selection procedure and Process

Placement and Induction, Retention of Employees.

Unit-III

Training and Development- Objectives and Needs, Training Process, Methods of Training, Tools and Aids

Evaluation of Training Programs. Career Planning and Succession Planning.

Unit-IV

Performance Management System: Definition, Concepts and Ethics.

Performance Appraisal: Methods, Rating Errors

Compensation Management: Concepts and Components, Perks and Benefits.

Job Evaluation: concept and methods

Productivity Management: Concept, TQM, Kaizen and Quality Circles.

Unit-V

Industrial Relations: Disputes, Causes, Settlement of Disputes -Grievance Procedure and Collective Bargaining.

Industrial Relations & Trade Unions, Retirement/Separation, Superannuation, Voluntary Retirement Schemes, Resignation, Discharge, Dismissal, Suspension, Layoff.

Suggested Readings

1. *Aswathappa,K. Human Resource and Personnel Management Tata McGraw Hill, New Delhi, 1 997*

2. *De Cenzo, D A & Robbins S P. Human Resource Management.5th ed., New York, John Wiley, 1994.*

3. *Guy, V & Mattock J. The New International Manager. London, Kogan Page, 1993.*

4. *Holloway, J. ed. Performance Measurement and Evaluation. New Delhi, Page, 1995.*

5. *Monappa, A. &Saiyadain M. Personnel Management. 2nd ed., New Delhi, Tata Mc-Graw-Hill, 1966.*

6. *Stone, Lloyed and Leslie W.Rue, Human Resource and Personnel Management Richard D. Irwin, Illinois, 1984.*

8. Dr. K Sundar, *Essential of Human Resource Management*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-208: SECURITY ANALYSIS AND INVESTMENT MANAGEMENT

Objectives

The objective of this course is to impart knowledge to students regarding the theory and practice of Security Analysis and

Course Contents:

Unit-I

Indian Financial System. Capital Market & Money Market. Risk and Return; Types of Securities, Investment Alternatives, Non Security Forms of Investment , Listing &Delisting of Securities.

Unit-II

Mechanics of Investing; Primary Market, Secondary Market; Trading Mechanism, Stock Market Terminologies, Market Indices and Return, SEBI Regulations, Investors Protection. Dematerialization & Depositories.

Unit-III

Valuation Theories of Fixed and Variable Income Securities; The Return &Risk and the Investment Decision, Equity Research Reports : Sector analysis & Company Analysis. Major international Indices : Dow Jones ,Hang Seng .NIKKI, NASDAQ ,FTSE,CAC,CBOT etc.

Unit-IV

Stock Market Analysis – Fundamental Analysis: Economic, Industry & Company Analysis .Technical Analysis: Dow Theory , Technical Indicators, Charts, Moving Averages, Oscillators ,ROC,RSI, Efficient Market Hypothesis , Recent Developments in the Indian Stock Market.

Unit-V

Portfolio Management Markowitz, Mean Variance Criteria, Sharpe Single Index model, CAPM.

Suggested Readings

1. *Pandiyan Pumthavathey, Security Analysis &Partfolio.Mgt. New Delhi Vikas Publishing House, Pvt. Ltd., 2009.*
2. *Bhalia, V K. Investment Management: Security Analysis and Portfolio Management., 8th ed., New Delhi, S. Chand,2001.*
3. *Fischer, Donald E. and Jordan, Ronald J. Security Analysis and Portfolio Management. 6th ed., New Delhi, Prentice Hall of India, 1995.*
4. *Fuller, Russell J. and Farrell, James L. Modem Investment and Security Analysis. New York, McGraw Hill, 1993.*
5. *Haugen, Robert H. Modem Investment Theory. Englewood Cliffs, New Jersey, Prentice Hall Inc., 1987.*
6. *Huang, Stanley S C and Randall, Maury R. Investment Analysis and Management. London, Allyn and Bacon, London,1987.*
7. *Sharpe, William F. etc. Investment.New Delhi, Prentice Hall of India, 1997.*

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

SECOND YEAR: III SEMESTER

FM- 301 TO 308

FM-301: RISK MANAGEMENT

Course Contents

UNIT-I

Introduction to Risk Management; The meaning of Risk, Types of Risk, The cost of Risk. Risk Management, Derivatives: Definition, Classification & Features, Forwards and Futures, Participants in Derivative Markets.

UNIT-II

Hedging through Derivatives, Interest Rate Futures, Index Futures, Currency Futures, Commodity Futures , Concept of Insurance.

UNIT-III

Options Concept, Types of Trading Strategies, Option Pricing Models: BS model & Binomial model , Synthetic Options, Sensitivity of Financial Options Premium, Option Greeks.

UNIT-IV

Swap Concept: Currency Swaps, Interest Rate Swaps, Pricing of Swaps. Weather Derivatives, Values at Risk, Commodity Derivative Market.

UNIT-V

Regulatory Framework of Derivative Markets, Recent Developments in Risk Management, Exotic Options, CDS, CLBO, Risk Management Basics.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-302 : WEALTH MANAGEMENT

Course Contents

UNIT-I

Introduction: Financial Planning : Background, Role of Financial Planner, Financial Planning Process, Client Data Collection, Client Data Analysis, Life Cycle, Wealth Cycle, Risk Profiling and Asset Allocation.

UNIT-II

Financial Plan, Goal-based Financial Plan, Comprehensive Financial Plan, Financial Blood-Test Report (FBR), Financial Planning in India.

Investment Products & Services

Derivatives:-Futures, Options. Mutual Fund. Venture Capital / Private Equity Funds. Hedge Funds, Structured Products, Portfolio Management Services (PMS).

Investment Evaluation Framework

Risk-Return Framework, Risk:-Standard Deviation, Beta.

Risk Adjusted Returns:-Sharpe Ratio, Treynor Ratio, Alpha

UNIT-III

Investment & Risk Management: Equity

Role of Equity, Active and Passive Exposures, Returns from Passive, Exposure to S&P CNX Nifty, Sector Exposure and Diversification, Fundamental and Technical Analysis, Fundamental Valuation Approaches, Investment and Speculation, Leveraging.

Investment & Risk Management: Debt

Role of Debt, Deposits and Debt Securities, Valuation of Debt Securities, Yields and Interest Rate Risk, Interest Rate and Debt Investments, Credit Exposure and Debt Investments, Concentration Risk, Passive Investments in Debt.

Investment & Risk Management: Alternate Assets

Gold:-Role of Gold, Gold Investment Routes, Rupee returns from Gold.

Real Estate:-Role of Real Estate, Real Estate Investment Routes, Real Estate Indices

SSELECTIVVELLY-Invest Classification Scheme for Investment Products

UNIT-IV

Risk Profiling & Asset Allocation

Risk Profiling, Why Asset Allocation?, Strategic Asset Allocation, Tactical Asset Allocation, Fixed Asset Allocation, Flexible Asset Allocation, Asset Allocation Returns in Equity and Debt:-Fixed Asset Allocation with Annual Re-balancing, Flexible Asset Allocation.

Asset Allocation Returns in Equity, Debt and Gold:-Fixed Asset Allocation with Annual Re-balancing, Flexible Asset Allocation

Allocation to Speculation, Diversification in Perspective.

Risk Management through Insurance:

Risk Assessment, Life Insurance, Health Insurance, General Insurance, Safeguards in Insurance

UNIT-V

Elements of Taxation:

Previous Year and Assessment Year, Gross Total Income, Income Tax Slabs, Advance Tax, Tax Deducted at Source (TDS),Exempted Income.

Deductions from Income:- Section 80C,. Section 80CCC, Section 80CCD, Section 80D, Section 80E, Section 80GG.

Long Term and Short Term Capital Gain / Loss, Speculation Profit / Loss, Capital Gains Tax exemption under Section 54EC, Capital Gains Tax exemption under Section 54F, Setting Off & Carry Forward

Taxation of Investment Products:

Dividend Tax / Tax on Income Distributed by Mutual Fun, Securities Transaction Tax (STT),Capital Gains Taxation, Taxation of Fixed Deposits and Fixed Maturity Plans:-Fixed Deposits, Fixed Maturity Plans (FMP)

Dividend and Growth Options in Mutual Fund schemes, Wealth Tax.

Estate Planning:

Background, Assets & Liabilities, Nomination, Inheritance Law, Will , Trust.

Recent trends in wealth management.

FM – 303: MERCHANT BANKING SERVICES

Course Contents

UNIT-I

Merchant Banking: Nature & Scope, Types of Merchant Bankers, Regulation of Merchant Banking Activity.

UNIT-II

Project Preparation & Appraisal
Types of securities, Money Market Instruments
Design of Capital Structure
Savings & Primary Markets

UNIT-III

Pre-Issue Management: Types of Issues & Analysis of Prospectus
Public Issue through Prospectus, Private Placement, Bought Out Deals
Pricing of Securities, Book Building Methods
SEBI Guidelines for Public Issues
Management of Public Issues: Marketing & Underwriting, Allotment/ Refunds, Listing Requirements

UNIT-IV

Buy-Back of Shares
Mergers, Acquisitions, Amalgamations and Takeovers

UNIT-V

Loan Syndication: Domestic & External
Advisory Services: Non-Resident Indian Investors, Overseas Corporate Body, Foreign Institutional Investors
Recent Developments.
(The list of cases and special references including recent articles will be announced in the class at the time of launching of the course).

FM-304 : MUTUAL FUNDS
Course Contents

UNIT-I

Mutual Fund : Meaning and definition, Mutual Fund and Financial System.

UNIT-II

Regulatory framework of Mutual Fund, Advantages of Mutual Fund, Growth of Mutual Fund industry, Procedure of setting up new Mutual Fund, Organization and management of Mutual Fund.

UNIT-III

Types of Mutual Fund, Mutual Fund schemes and services and marketing of Mutual Fund schemes.

Systematic Approach to Investing:- Lump-Sum Investment, Systematic Investment Plan (SIP),Systematic Withdrawal Plan (SWP), Systematic Transfer Plan (STP).

UNIT-IV

Accounting, transparency and disclosures Selection of Mutual Fund scheme, Risks in Mutual Fund, Custodian Services. Recent Developments in Mutual Fund Industry. International Funds .

UNIT-

Performance Evaluation of Mutual Funds:

Risk-Return Framework, Risk:-Standard Deviation, Beta.
Risk Adjusted Returns:-Sharpe Ratio, Treynor Ratio, Jenson's Alpha, Duration based strategies.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-305 : COMMERCIAL BANK MANAGEMENT

Course Contents

UNIT-I

An introduction to the Banking Business, Present structure of Commercial Banking System in India, Management and Organizational Set-up of the commercial Banks in India.

UNIT-II

Asset Liability Management Techniques and Hedging Interest Rate and Credit Risk ; Determining and Measuring Interest Rate and Controlling a Bank's Interest - Sensitive Gap, The Concept of Duration and Managing a Bank's duration Gap.

UNIT-III

Managing the Bank's Investment Portfolio and Liquidity Position; The Investment function in Banking, Liquidity and Reserve Management Strategies, Managing Bank Sources of Funds ; Management of Capital Funds, Management of Deposits Management of Primary and secondary reserves.

UNIT-IV

Management of Loans ; Working Capital Financing, Consumer and Housing loans, Equipment Financing, Priority Sector Lending, Export Financing.

UNIT-V

Non Fund Based Services ; Letter of Guarantee, Depositary Services, Portfolio Management, Bank Assurance, Mutual Fund Marketing, Other Allied Services, E-Banking, Network Banking, BIS in Banking, Recent Developments in Indian Banking Industry.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-306 : INSURANCE MANAGEMENT

Course Contents

UNIT-I

Insurance : Introduction of Insurance, Mathematical Basis of Insurance, Nature of Insurance Business, Classification of Insurance, Principles of Contract of Insurance, Insurance Documents, IRDA.

UNIT-II

Life Insurance Classification of Life Insurance Policies, Assignment of Life Insurance, Practical Aspects of Life Insurance.

UNIT-III

General Insurance; Non Life Insurance Fire Insurance, Automobile Insurance, Marine Insurance, Property Insurance, Health Insurance, Agriculture Insurance, Cattle Insurance, Social Insurance, Travel Insurance Miscellaneous Insurance.

UNIT-IV

Functions and Organizations of Insurers, Product Design and Development, Underwriting Claims Insurance, Insurance Pricing,

UNIT-V

Insurance Intermediaries, Reinsurance, Information Technology in Insurance Emerging Issues in Insurance Sector.

The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course.

FM-307: INTERNATIONAL FINANCIAL MANAGEMENT

Course Contents

Unit I: International Finance: Overview Globalization and the Multinational Firm; International Monetary System, Balance of Payments, The Market for Foreign Exchange.

Unit II: Foreign Exchange Arithmetic: Forward Exchange contracts, Forward Exchange Rates based on cross rates, Interbank deals, Execution of forward contract, Cancellation/Extension of forward contract, Currency Swaps, International Parity Relationship and Forecasting Foreign Exchange Rate.

Unit III: International Financial Markets & Cash Mgt.: International Banking and Money Market, International Bond Market, LIBOR, International Equity Markets, ADR, GDR, EURO, Multinational Cash Management.

Unit IV: International Portfolio Management with Exposure Management: International Portfolio Investments, Foreign Direct Investment and Cross-Border Acquisitions, Management of Economic Exposure, Management of Transaction Exposure, Management of Translation Exposure, Foreign Trade Contracts & Procedures.

Unit V: International Commercial Terms: Incoterms, Letters of Credit - Meaning and Mechanism, Types of Letters of Credit, Operation of a Letters of Credit, Export-Import Bank of India, Export Credit Insurance.

The list of cases and specific references including recent articles and reports will be announced in the class at the time of launching of the course.

FM-308 : CORPORATE RESTRUCTURING

Course Contents

UNIT-I

Introduction: Meaning of corporate restructuring, need, scope and modes of restructuring, historical background, global scenario, national scenario.

Strategies: Planning, formulation and execution of various corporate restructuring strategies - mergers, acquisitions, takeovers, disinvestments and strategic alliances, demergers and hiving off, reverse merger.

Corporate Demergers and Reverse Mergers: Concept of demerger; modes of demerger - by agreement, under scheme of arrangement; demerger and voluntary winding up; legal and tax aspects of demerger.

UNIT-II

Mergers and Amalgamations: Meaning and concept; legal, procedural, economic, accounting, taxation and financial aspects of mergers and amalgamations including stamp duty and allied matters; interest of small investors; merger aspects under competition law; jurisdiction of courts; filing of various forms; Amalgamation of banking companies and procedure related to Government companies; Cross border mergers.

Takeovers: Meaning and concept; types of takeovers; legal aspects - SEBI takeover regulations; procedural, economic, financial, accounting and taxation aspects; stamp duty and allied matters; payment of consideration; bail out takeovers and takeover of sick units; takeover defences; cross border takeovers.

UNIT-III

Funding of Mergers and Takeovers: merits and demerits; funding through various types of financial instruments including equity and preference shares, options and securities with differential rights, swaps, stock options; ECBs, funding through financial institutions and banks; management buyouts/leveraged buyouts.

UNIT-IV

Valuation of Shares and Business: Introduction; need and purpose; factors influencing valuation; methods of valuation of shares; corporate and business valuation. Financial Restructuring: Reduction of capital; reorganization of share capital Buy-back of shares– concept and necessity; legal provision for buy-back of shares by listed and unlisted

companies.

UNIT-V

Post Merger Re-organisation: Factors in post merger reorganization: integration of businesses and operations, financial accounting, taxation, post merger valuation, human and cultural aspects; assessing accomplishment of post merger objectives; measuring post merger efficiency.

SEMESTER-IV

FM-401 : MAJOR RESEARCH PROJECT

The objective of this course is to prepare the students to conduct a study of an

Industry/organization or project utilizing the tools and techniques learned in the first three semesters of the programme.

The focus of the study could be an in depth analysis of an industry and within the industry study of an organization as a case study. The emphasis is on macro and micro level study of issues /problems. Alternatively, if an organization has a problem, its diagnosis and solution in the form of an analytical analysis or model building could be considered which can be implemented.

The comprehensive project study could also be carried out as a comparative analysis of the same industry in different countries, if feasible.

The project should have substantial primary/secondary data. The student is expected to conduct a detailed survey of literature and/or analysis of the secondary/ primary data. In case of a status report of an industry, it is expected that the student collects data regarding all aspects related to a particular industry, analyze the data and present the findings.

Prior to conduct of the study, a student is required to prepare a short research proposal of the study and it is also expected that the study would lead to recommendations and implementable plans of action.

Types of Projects:

1. Comprehensive case study of Industry or segment
2. Organizational study aimed at inter-organizational comparison/validation of theory/survey of management practices with reference to particular industry.
3. Field study (empirical study) with respect to any research issue.
4. Feasibility Study as Comprehensive Project.

EXPECTED FORMAT FOR PREPARATION OF THE PROPOSAL

- Introduction and Statement of the Problem
- Short Literature Survey

- Research Design and Hypothesis, if any
- Research Methodology
- Data Sources
- Time Budget
- Tentative Chapter Plan
- Expected Contribution of the study
- Beneficiaries
- A short write up on the researcher
- Bibliography/Appendices, if any

REPORT FRAMEWORK

- Initial pages
- Executive summary
- Introduction/statement of problem
- Detailed survey of literature
- Need – objective of the study
- Methodology/Focus/Scope/Limitations
- Text of the study including analysis
- Conclusions and Recommendations including plan of action
- Bibliography
- Appendices

FORMAT OF PRESENTATION

1. The student is expected to follow the required style for presentation of the report including Tables, References, Bibliography and Appendices.

2. Literature Survey should be related to the problem of study. Review of the studies in the area and critical examination of them including conclusions of the student should form part of the literature survey.

3. Acknowledgement of all sources of information through footnoting and biography is an essential requirement of the study.

CONDUCT OF THE PROJECT

1. The comprehensive study should be done by students.

2. A faculty member should be assigned to each group. The faculty member should ensure that there is proper analysis of data with some amount of originality. Cut and paste of data/analysis/material should not be allowed.

3. Ideally the comprehensive study should start from the third semester and the deadlines for different activities such as identification of topics, presentation of proposal, data collection, etc., can be specified by the respective institution so as to discourage last minute compilation and collation of data/materials.

4. Two copies of the report (one print + one digital) should be submitted by the student(s) to the institute. The institute has to submit combined CD of all the projects to the

Faculty of Science

Department of Mathematics & Statistics

Courses offered-

- B. Sc. Mathematics
- M. Sc. Mathematics
- B. Sc. Statistics
- M. Sc. Statistics

Programme Specific Outcomes and Course Outcomes
Department of Mathematics and Statistics

Programme Specific Outcomes

PSOs of B.Sc. Mathematics

PSO1. Understand Group Theory, Ring Theory and Fields and apply in problems.

PSO2. Understand the basic concept of Differential Equations of various types and apply in various real life problems.

PSO3. Understand the Geometrical Interpretations of 2D and 3D shapes and evaluate their area and volume.

PSO4. Analyse real numbers and their applications by certain results and apply then in various pure problems.

PSO5. Analyse numerical problems and apply in various problems by different methods.

PSO6. Understand the basic definition of Graph Theory, Tree and Boolean Algebra and analyse their application.

PSOs of M.Sc. Mathematics

PSO1. Understand the concept of group theorems, ring theory and field theory and evaluate their applications also expansion of these concepts from the view point of Discrete Mathematics.

PSO2. Analyze and interpret real and complex functions with their applications.

PSO3. Study the analytic and numerical solutions of various differential equations, initial and boundary value problems by various approaches.

PSO4. Apply various techniques in solving linear and non-linear programming problems and find their applications.

PSO5. Understand the concept of hydrodynamics, equation of Continuity, rigid dynamics, moment of inertia and boundary surface with their applications.

PSO6. Find applications of tensor analysis in electromagnetism and physics.

PSO7. Discuss testing of hypothesis by various Mathematical distributions.

Course Outcomes	**COs** of the course **"Algebra" (B.Sc. I Year)** CO1 Understand concepts of matrices, system of linear equation and their consistency, using by rank. CO2 Understand different methods to find the solution of cubic equations. CO3 Understand basic concept of group subgroup, cyclic group, permutation group etc. and analyse their applications. CO4 Apply Lagrange's theorem and understand the concept of normal sub group, centre of group etc. CO5 Apply Cayley theorem of finite groups. **COs** of the course **"Calculus" (B.Sc. I Year)** CO1 Understand concepts of arc length and Geometrical interpretation of results obtained from it. CO2 Understand the concepts of Asymptotes points of inflexion and apply them in curve tracing. CO3 Apply Beta and Gamma function in quardature and rectification. CO4 Understand the concept of differential equation and their types and analyse their applications. **COs** of the course **"Geometry" (B.Sc. I Year)** CO1 Indentify the nature of conic of second and third degree. CO2 Geometrical properties of ellipse and hyperbola as well as 3-D shapes CO3 Interpret the relation between plane and straight line. CO4 Evaluation of principal plane and direction of conics. **COs** of the course **"Advanced Calculus" (B.Sc. II Year)** CO1 Understand basic concepts of continuity important theorems. CO2 Concepts of partial differentiation and its applications. CO3 Evaluate double and triple integrals and their applications. CO4 Understand vectors & scalars quantity, evaluate of gradient, divergence and curl. Some important vector identity. CO5 Understand Gauss's theorem, Stoke's theorem and Green's theorem and their applications.

	COs of the course **"Differential equations"(B.Sc. II Year)** CO1 Understand the concept of exact, simultaneous and total differential equation and analyse their applications. CO2 Evolution of solution of linear differential equation with variable coefficients by various approach. CO3 Classify the partial differential equation and evaluate their solution using different approaches. CO4 Analyze numerical solution of differential equation. **COs** of the course **"Mechanics" (B.Sc. II Year)** CO1 Finding resultant of coplanar forces and study equilibrium of bodies under three or more forces. CO2 Interpretation of virtual work by forces. CO3 Study the projective motion of various particles. CO4 Finding velocity and acceleration in various direction and study rectilinear motion. CO5 Study the motion of particle in resisting medium. **COs** of the course **"Real Analysis" (B.Sc. III Year)** CO1 Understand the concepts of real number and analyse their properties. CO2 Study sequence, series and their applications. CO3 Apply Riemann integrals in evaluation of some integrals. CO4 Understand the concept of uniform convergence and study their application. **COs** of the course **"Abstract Algebra" (B.Sc. III Year)** CO1 Understand the concept of ring theory and their applications. CO2 Study the concept of homomorphism and isomorphism of rings and their applications. CO3 Evolution of examples of vector spaces and related problems. CO4 Apply Sylvester law of nullity in linear transformations.

	COs of the course **"Discrete Mathematics" (B.Sc. III Year)** CO1 Understand the basic concept of sets and propositions, permutations and combinations. CO2 Understand the basic of relations and functions, Pigeon Hole principle graphs and related theorems. CO3 Understand the basic concept of trees and finite state machines. CO4 Understand the basic concept of Recussence relations solution by the method of generation functions. CO5 Basic concept of Boolean algebra Lattices, Duality, Digital network switching circuits. **COs** of the course **"Numerical Analysis and Operation Research" (B.Sc. III Year)** CO1 Study the interpolation methods of equi-distance and unequi distance intervals. CO2 Discuses the numerical integration methods and their derivations. CO3 Understand the concept of linear programming problems and methods of solving it. CO4 Apply assignment and transportation problem in various physical problems. **COs** of the course **"Mathematical Statistics" (B.Sc. III Year)** CO1 Understand the basic concept of probability, independent events and related problems. CO1 Understand the basic of Random variables, distribution functions, density functions. CO1 Understand the basic concept of theoretical probability distribution and related theorems. CO1 Understand the basic definition of Mathematical expectation, moments and related theorems. CO1 Understand the basic concept of curve fitting by the least square principle, fitting of straight line and parabola and regression.

	COs of the course **"Algebra-I" (Sem-I)** CO1 Understand types of direct product of subgroups. Cauchy's theorem for abelian and non abelian groups. CO2 Understand and apply Sylaw's three theorem. Composition series and Jordan Holder theorem. CO3 Understand solvable group and their properties fundamental theorem for finite abelian group. CO4 Understand Annihilators of subspace, invariant and projection. CO5 Understand types of Linear transformation and diagonalicatoin. **COs** of the course **"Real Analysis" (Sem-I)** CO1 Study the measure and their properties of subsets of Real numbers. CO2 Study the measurably of various functions discuss. CO3 Discuss the integral properties of measurable functions. CO4 Discuss the convergence of equation of measurable function and other applications. CO1 Establish the relations between the solutions of various differential equations. CO2 Application of special function to solve various problems. CO3 Study the various problems of special functions. CO4 Understand the concept of orthogonal polynomials and generating functions. **COs** of the course **"Differentional Equations and Calculus of Variation" (Sem-I)** CO1 Understand concept of partial differential equations, existence and uniqueness theorem and solution of second order PDE through Monge's method. CO2 Understand concepts of canonical forms and reduction of second order semi linear partial differential equations to canonical forms. classification of second order PDE having more than two independent variables, Cauchy's problem.

	CO3 Understand concept of BVP's of second order ordinary differential equations, Strum-Lowville BPS's Lagrange's identity and relevant theorems and properties based on study Eigen values and Eigen functions. CO4 Study solution of second order PDE's by the method of separation of variables, Green's functions and solution of second order homogeneous BPV's through Green's function. CO5 Understand concept of calculus of variations functional, Euler-Lagrange differential equation for externals and its alternative forms. Solution of variational problems using Ritz method. **COs** of the course **"Mechanics" (Sem-I)** CO1 Understand the concepts of hydrodynamics, equation of continuity and boundary surface. CO2 Derive Feeler's dynamical equations and Bernoulli's equation with applications and problems CO3 Understand the concept of central orbit and planetary motion with Kepler's laws. CO4 Understand the concept of special theory of relativity, Michelson-Marley experiment and Lorentz transformation. CO5 Describe applications of Lorentz transformations and concept of Minkowski's 4-dimensional continuum space, relativistic Hamiltonian and Lagrangian. **COs** of the course **"Differential Geometry-I" (Sem-I)** CO1 Understand the basic concept of plane section and circular section. CO2 Understand the concept of any section of a central conicoid. Generating lines Tangent plane. CO3 Understand the basic concept of projection of generators, Hyperbolic paraboloid. CO4 Understand the basic of confocal conioids elliptic coordinates, parameter of confocals. CO5 Understand the basic concept of conoids inflexional tangents and indicatrix.

COs of the course **"Algebra-II" (Sem-II)**

CO1 Understand prime fields, polynomial rings, integral domain, Euclidean domain, principal ideal domain and unique factorization domain and their related theorems.

CO2 Understand concept of modules, sub module, Quotient modules with suitable examples. Fundamental theorem of homomorphism and isomorphism.

CO3 Understand finitely generated modules with fundamental theorem, Noetherian and Artinian modules and related theorems.

CO4 Understand field extension with examples types of extension. Perfect field and finite fields.

CO5 Understand Automorphism, Galois theory of field extension and its theorem. Solution of polynomial equations.

COs of the course **"Complex Analysis" (Sem-II)**

CO1 Interpret complex numbers Geometrically and study the concept of analytic function and their applications.

CO2 Understand the concept of conformal transformation and apply it in various problems.

CO3 Discuses the concept of complex integrations and its application.

CO4 Study of various types of singularities and zero and application of Cauchy's Residue's theorem.

COs of the course **"Special Functions" (Sem-II)**

CO1 Find solutions of various differential equations using series solution.

CO2 Understand concept of various special functions and their relations.

CO3 Study properties of various special functions.

CO4 Discuss applications of special functions in various problems.

CO5 Understand concept of generating functions and their applications.

	COs of the course **"Mechanics" (Sem-II)** CO1 Understand the concept of Rigid dynamics, moment of inertia, product of inertia, Momental ellipsoid and principal anes. CO2 Understand D' Alembert's principle and drive equations of motion. Study motion about a fixed axis CO3 Understand the motion in two dimensions under finite forces and impulsive forces. CO4 Understand principles of the conservation of momentum and conservation of energy. CO5 Derive Lagrange's equations in generalized coordinates under finite and impulsive forces. **COs** of the course **"Differential Geometry-II" (Sem-II)** CO1 Understand the concept of differential geometry. CO2 Understand the basic of surfaces. Ruled surface and developable surface and related theorems. CO3 Understand the concept of curvature of normal section principal radii. CO4 Understand the concept of an oblique section radius of curvature, lines of curvature of an ellipsoid. CO5 Understand the concept of umbilicus, curvature at point of a generator of a skew surface curve linear coordinates. **COs** of the course **"Topology" (Sem-III)** CO1 Understand the concept of metric space with properties and examples open set, closed set, sequence, compact space and related theorems. CO2 Understand basic concepts of topology, bases, countable space and related theorems. CO3 Understand the various types of topological space T_0 T_1 T_2 etc. and related theorems, compactness and their theorems. CO4 Understand Connectedness and continuity related theorems. CO5 Understand function algebra and some important theorems.

	COs of the course **"Tensor Analysis" (Sem-III)** CO1 Understand the concepts of tensors, its types end operations. Define Quotient law, fundamental tensor and associate tensors. CO2 Understand the concepts of Christoffel symbols, transformation of Christoffel symbols and covariant differentiation of tensors. CO3 Define Geodesics, null geodesics and applications, understand the concept of Riemannian, Normal Gaussian Coordinates and parallel propagation. CO4 Define and understand Riemannian, Curvature tensor, its properties and conformal curvature tensor. CO5 Understand the concept of electromagnetism, Max well's equations, transformation of elective and magnetic intensities and energy momentum tensor for electromagnetic field. **COs** of the course **"Numerical Analysis-I" (Sem-III)** Course outcome:- at the end of class students will gain knowledge of CO1 Understand the basic concept of iteration theory, rate of convergence, acceleration of convergence, multiple and complex roots. CO2 Understand the real and complex roots, Bisection method, secant method, Regula falsie method, Newton Raphson method. CO3 Concept of synthetic division Birge vieta method, Graffes root squaring method. CO4 Understand the solution of Gauss Jordan method, partition method, Jacobi method. CO5 Understand the basic concept of Eigen value problem, power method complex Eigen values.

	COs of the course **"Computer Programming in-C" (Sem-III)** CO1 Understand basic concepts of computer and generations of computer. CO2 Understand concepts of computer languages, use of all PC software's, Algorithm, flow chart. CO3 Understand concepts and features of High level language C. CO4 Understand concepts of how to compile and run C Programs. CO5 Understand concepts of writing and run all programs on topics mentioned in syllabus. **COs** of the course **"Discrete Mathematics" (Sem-III)** CO1 Understanding fundamental concepts of mathematical logic and certain Algebra concepts from the view point of Discrete Mathematics. CO2 Expansion of the Algebra concepts from the view point of Discrete Mathematics. CO3 Introduction to the Mathematical structure of Lattices, Partially ordered sets and their various kinds of Lattices. CO4 Introduction to Boolean Algebra, its relation with Lattices and relevant concepts. CO5 Minimization of Boolean function, Various canonical forms and Karnaugh-Map. **COs** of the course **"Optimization Techniques-I" (Sem-III)** CO1 Explain linear programming problem (L.P.P.), parametric linear programming and method used to solve it. CO2 Analyse the discrete changes in the parameters of the problem and its effect on optimal solution. CO3 Enumerate fundamentals of integer programming techniques and apply different techniques to solve various optimization problems arising from different areas. CO4 Understanding of project scheduling by PERT and CPM. CO5 Understand how optimization can be used to solve industrial problems.

COs of the course **"Mathematical Theory of Statistics-I" (M-III)**

CO1 Understand concepts of probability, laws of probability, Baye's theorem and its applications.

CO2 Understand basic concepts of Mathematical expectations, moments generating function, inversion theorem and its applications.

CO3 Understand and apply Binomial, Poisson distribution etc.

CO4 Understand Normal, Gamma and Beta distributions and its applications in real life problem.

CO5 Understand basic concepts of curve fitting, Correlation and regression and their applications.

COs of the course **"Integral Equation" (Sem-III)**

CO1 Study the concept of linear integral equations and their classifications.

CO2 Finding solution of linear integral equations.

CO3 Study the various properties of Eigen values and Eigen functions.

CO4 Apply Hilbert Schmidt theorem in solving freedholm integral equation of second kind.

CO5 Discuses freedholm theorems and their applications.

COs of the course **"Functional Analysis" (Sem-IV)**

CO1 Know about normal linear and Banach space and their applications.

CO2 Understand the various Important theorems.

CO3 Know about inner product space and Hilbert space with various important law.

CO4 Understand orthonormal basis and sets.

CO5 Learn various operation and apply to solve problems.

COs of the course **"Relativity and Cosmology" (Sem-IV)**

CO1 Understand the principle of covariance equivalence, Mach's principle and Newton's potential derive Einstein field equations.

CO2 Disuses Schwarzschild extensor solution singularise and related problems. Derive energy momentum tensor for perfect fluid.

CO3 Discuss planetary orbit, Three crucial tests of general relativity, Radar echo delay and study Schwarzschild interior solution.

CO4 Understand principle of cosmology, Einstein and De-sitter Universes and their derivations with properties and their comparison.

CO5 Understand the concept of non-static cosmological models, Hubble's law derivation of Robertson-walker metric, its geometric feature and expressions for FRW model.

COs of the course **"Numerical Analysis-II" (Sem-IV)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Understand the concept of curve fitting with least square principle.

CO2 Understand the numerical solution of ordinary differential equations by Taylors series method, Picard's method, Fuler's method and modified eulers method.

CO3 Understand the solution of Rungekutta method and stability analysis.

CO4 Understand the solution of linear boundary value problems of ordinary differential equations by finite difference methods.

CO5 Understand the solution of Non linear boundary value problems by finite difference scheme.

COs of the course **"Computer Programming of Numerical Methods" (Sem-IV)**

CO1 Understand concepts of Normalized floating numbers, perform operations of normalized floating number and to write & run C program on Normalized floating Number.

CO2 Understand concepts of write and run programs to find roots of Algebraic and Transcendental equations.

	CO3 Understand concepts of write and run programs to solve numerical solutions of simultaneous linear equations. CO4 Understand concepts of write and run programs of Differentiation and integration. CO5 Understand concepts of write and run Programs of numerical solutions of Differential equation. **COs** of the course **"Discrete Mathematics" (Sem-IV)** CO1 Understand basic concept of Graph Theory, introducing planar graphs. CO2 Trees (an important class of graphs, planar graphs, Bipartite graphs, Spanning trees and their properties. CO3 Discussion of Euler's Theorem related to Euler graphs, Directed graphs and certain other advanced concepts of trees. CO4 Finite state machines and related concepts and their various kinds understanding. CO5 Grammar, Languages and their construction derivations etc. with their various type and certain advanced concepts. **COs** of the course **"Optimization Techniques-II" (M-I)** CO1 Explain the fundamental knowledge of non linear programming and dynamic programming problems. CO2 Uses of classical optimization techniques. CO3 Describes the basics of different evolutionary algorithms. CO4 Analyse and appreciate variety of performance measure for various optimization problems. CO5 Understand the different methods of optimization and be able to suggest a technique for a specific problem.

	COs of the course **"Mathematical Theory of Statistics-II" (M-IV)** CO1 Describe Chi square and t distribution with properties and applications. CO2 Understand F distribution with properties and applications. CO3 Understand basic concepts of estimation, criterion of good estimators, consistency, efficiency, sufficiency and untiaseelness. CO4 Discuss the method of maximum Likelihood estimator and its properties and find M.L.E. for binomial, Poisson and Normal populations. CO5 Discuss testing of hypothesis, error Neyman Pearson Lemma and its applications. **COs** of the course **"Integral Transform" (Sem-IV)** CO1 Understand the concept of Laplace transform and study its applications in finding solution of differential equations. CO2 Study the concept of Fourier transform and its applications. CO3 Discuss the application of Mellin transform. CO4 Study the Henkel transform with elementary property and its applications.

Skill Course (SC) for Semester II

M2 STA 07-SP 01 A

Skill Course Elective 01

English Language Communication and Presentation

(At the beginning of the semester, students must be provided: Detailed Lecture schedule of topics to be covered in each lecture, tutorial topics, clearly defining chapters/ sections of reference books followed, link to web resources etc. Examiners are expected to take into consideration the lecture schedule while setting the question papers to ensue questions are set within scope of the syllabus).

External: 80 Marks Internal: 20 Marks

Contact Hours: 40hrs

Note:

a. Of the 40 contact hours, alteast 30 hours must be devoted to practical exercises.
b. Five assignments and fie internal assessments, one from each unit are to be carried out.
c. Use of audio/ visual aids must be made.

UNIT I

Introduction: Theory of Communication, types and modes of communication.

UNIT II

Language of Communication: Verbal and non-verbal (Spoken and Written) personal, Social and Business Barriers and Strategies Intra-personal, Inter-personal and Group Communication.

UNIT III

Speaking Skills: Monologue, Dialogue, Group Discussion, Effective communication/ Miscommunication, Interview, Public Speech.

UNIT IV

Reading and Understanding: Close Reading Comprehensive Summary Paraphrasing Analysis and Interpretation Translation (from Indian Language to English and vice-versa) Literary/ Knowledge Texts.

UNIT V

Writing Skills: Documenting, Repost Writing Making notes Letter Writing.

SWOC Analysis

Reference Books:

1. Bansal, R.K. & Harrison, J.B. (2013). Spoken English: A Manual of Speech and Phonetics, 4th ed. New Delhi: Orient Black Swan.
2. Sharma, N. (2010). Communication Skill. Satya Prakashan, New Delhi.
3. Lesikar R.V., Flately M E, Rentz K & Pandey. (2009). Business Communication: Making Connections in a Digital World. New Delhi, Tata McGraw Hill.
4. Vibrant English. (2013). Hyderabad: Orient Black Swan.
5. Raymond Murphy, Essential English Grammar, 2nd Ed, Cambridge University Press, Cambridge, 2007.
6. Any other related Reading may be recommended.

List of sample practical exercises: (Spoken and Written)

1. Greeting and Self Introduction
2. Introducing people
3. Talking about favorite things
4. Making offers
5. Expressing shock and disbelief
6. Making appointments
7. Talking about preferences
8. Inviting, advising, giving suggestions
9. Expressing thanks and gratitude
10. Responding to thanks
11. Giving opinion, complaints
12. Talking about hope, expressing regret
13. Agreement, disagreement, apologizing, requesting
14. Talking about fear, making predictions, expressing certainty and uncertainty
15. Lack of understanding and asking for clarifications
16. Asking for and giving directions
17. Shopping, phone conversations
18. Giving and responding to bad and good news
19. Interrupting people, expressing feelings (good and bad), congratulating
20. Narration of an incident, storytelling
21. Writing a resume
22. Letters to various authorities/ offices (eg. Electricity, Bank, etc.)

Skill Course (SC) for Semester IV

M4 STA 07-SC 01

Skill Course Elective 01

NUMERICAL ANALYSIS

L-T-P	2-0-0

TIME: 3 hours

External Assessment 80

Internal Assessment 20

UNIT I

Theory of Iteration: Simple iteration, Rate of Convergence, Acceleration a convergence, method for multiple and complex roots.

UNIT II

Convergence of iteration process in the case of several unknowns.

UNIT III

Real and complex roots, solution of transcendental and polynomial equations by using besection method, secant method.

UNIT IV

Regula-Falsi method, Newton Ruphson method, Chebyshev method and Muller method.

UNIT V

Concept of synthetic division, the Birge – vita, Bairstow and Graeffe's root squaring method. System of Simultaneous equations(Linear): Direct method of determinant, Gauss–Elimination.

Books Recommended:

1. Jain, Iyenger and Jain : Numerical Analysis.
2. Jain, M. K. : Numerical solutions of differential equation.
3. Chouhan D.S., Vyas P. & Soni. V. : Studies in Numerical Analysis

SKILL COURSE

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

SEMESTER IV M. Sc. MATHEMATICS 2016-17

M4 MAT -SC 01

Skill Course Elective 01 for IV Semester

BASIC STATISTICAL TECHNIQUES

L-T-P	2-0-0

(30 L)

(For M.Sc. Students not having Statistics as a subject in UG Course)

UNIT I

An introduction to Statistics: Data collection and data presentation, frequency distribution, graphical representation, measures of central tendency, dispersion, skewness and kurtosis.

UNIT II

Concept of probability, Probability distributions: Binomial, Poisson and Normal distribution (Simple applications only).

UNIT III

Introduction to bivariate frequency data and its measurement: covariance, correlation, scatter diagram, Regression analysis: Linear regression, regression coefficient, fitting of regression equation by least square method.

UNIT IV

Population, sample, Statistica, standard error, estimation, confidence interval and confidence level, confidence interval estimate of proportion and mean. Hypothesis and its types, errors, level of significance. Test statistics (only Practicals Problems): Student's Chi-square, F and Z-Statistics and their applications in testing of hypothesis.

UNIT V

An introduction to Analysis of Variance (ANOVA), its definition, assumptions and uses, One way classification and statistical analysis of the model involved in it (Only Practicals Problems).

Text Books:

(1) Hogg, R. V. & Tanis, E. A. (2002): Probability and Statistical Inference Pearson Education, Asia.
(2) Mood, A.M., Graybill, F. A. and Boes D. C. (1999): Introduction to the theory of Statistics, MCGraw Hill, New York.
(3) Arora, P.N. and Malhan, P.K. (2001): Biostatistics, Himalaya Publishing House, New Delhi.
(4) Goon, A.M., Gupta, M.K. and Das Gupta, B. (2006): Basic Statistics, World Publication, Kolkata.
(5) Gupta, S.C.: Fundamental of Statistics.

Bridge Course Structure for B.Tech. Engineering Graduates who are seeking admission in M.Sc. (Mathematics) Programme under CBCS and Non Collegiate Scheme effective from 2018-19

The B.Tech. Graduate students are regularly enquiring about their admission in PG programme in Mathematics in MLSU. Since the papers/topics which are covered in B.Tech. programme are not sufficient to consider the candidates eligible for admission in PG Mathematics programme therefore we have not been considering their cases for admission in the PG Programme.

In the curriculum of B.Tech. Courses of RTU , Rajasthan for different branches of B.Tech. Engineering degree a student studies at least 8 courses/papers of mathematics each of one semester duration .

So to provide an opportunity to the B.Tech. Graduates students in our PG programme, the Departmental Committee has resolved that if the candidate passes the additional three papers which are not available in the B.Tech. Programmes. Then their eligibility may be considered for admission in our PG Programme on regular basis as well as for non collegiate. B.Tech. students should be permitted to appear in additional three papers and it will be treated as Bridge Course for M.Sc. (Mathematics) Programme. The schedule of examination of this Bridge Course will be same as our UG Programme in B.Sc. Mathematics.

During the admission process for PG Mathematics through entrance exam the total percentage (according to CGPA/SGPA conversion rules of the concerned university) of theory papers alongwith the additional three papers will be considered at the time of preparing merit for the admission in PG course in Mathematics under CBCS scheme and total percentage of B.Tech. course along with the additional three papers will be considered for the non collegiate scheme.

The nomenclature and syllabus of Bridge Course is as follows

1. Algebra(First Year B.Sc. Mathematics, Paper-I)
2. Real Analysis (Third Year B.Sc. Mathematics, Paper-I)
3. Abstract Algebra(Third Year B.Sc. Mathematics, Paper-II)

Hence the rules of passing and syllabus will be same which are available for B.Sc. programme of our university. Time of qualifying of this course (3papers) is two years. After successful completion of this course student will be eligible to get admission in M.Sc. Programme on regular basis as well as non collegiate basis..

Programme Specific Outcomes and Course Outcomes
Department of Mathematics and Statistics

Programme Specific Outcomes	**PSOs of B.Sc. Statistics** PSO1. Understand the basic concept of descriptive statistics, probability theory along with computational techniques and official statistics. PSO2. Focus on Discrete and continuous probability distribution and density function, also describe. PSO3. Classifications of infermics, concept of design of experiments, quality control and concepts of theory of sample survey. **PSOs of M.Sc. Statistics** PSO1. Preliminaries of integration and probability distribution. PSO2. Analysis study of different sampling methods and classification of design of experiments. PSO3. Study of multivariate analysis, optimization techniques and different models of stochastic process. PSO4. Advanced study of design, inference and sample survey.

Course Outcomes	**COs** of the course **"Descriptive Statistics" (B.Sc. I Year)** After completion of classes students will be able to learn:- CO1 Describe the concept o statistics, population sample, types of data, method to collect them, their classification, tabulation and presentation with the help of different frequency curves and diagrams. CO2 Learn various measure of location, quartiles deciles and their properties, merits and demerits. CO3 Learn various measure of dispersion, Lorenz curve and requisites to obtain an ideal measure of dispersion. CO4 Understand different types of moments and different measure of Skewness and Kurtosis. CO5 Learn theory of attributes upto three variable, also consistency, association and independence of attributes. **COs of the course " Probability Theory" (B.Sc. I Year)** After completion of classes students will be able to learn:- CO1 All the basic term for probability its definition and addition law of probability also solve simple problem of probability. CO2 Conditional and multiplication law of probability and simple applications. CO3 Types o random variable their probability mass function and density functions. CO4 Mathematical expectation its definition, additive and multiplicative law and elementary idea of conditional expectation etc. CO5 Moments and cumulates generating function and their properties. **COs** of the course **"Computational Techniques & Official Statistics" (B.Sc. I Year)** After completion of classes students will be able to learn:- CO1 Statistical organization of India, its functions and publication. CO2 Linear programming problem its formulation and presentation by different method.

	CO3 Interpolation formulae, different operators with their properties and estimation of missing value. CO4 Divided difference formulae and inverse interpolation. CO5 Numerical integration and related problems. **COs of the course "Statistics Practical" (B.Sc. I Year)** Course outcome:- After completion of classes students will learn: * Presentation of raw data. * Graphical presentation of frequency polygon, curve and ogives. * Diagrammatic representation of Bars and Diagram. * Measure of central tendency. * Measure of dispersion. * Moments and measures of skewness and Kurtosis. * Evaluation of probabilities by different method. * Association of attributes. * Problems based on interpretation. **COs** of the course **" Probability Distributions" (B.Sc. II Year)** After completion of classes students will be able to learn:- CO1 Weal law of large numbers and central limit theorem for i.i.d. random variables. CO2 Different univariate discrete distribution their properties and application. CO3 Some other discrete distributions their properties and application like geometric, multinomial and distribution etc. CO4 Different univariate continuous distribution their properties and application. CO5 Some more continuous distributions and their properties and application.

COs of the course **"Sampling Distributions And Elements Of Estimation"(B.Sc. II Year)**

After completion of classes students will be able to learn:-

CO1 Univariate sampling distribution its concept, properties and concepts of standard error of an estimate. Chi-square distribution its derivation, properties and problems.

CO2 t, F and Z sampling distribution with their properties.

CO3 Concept of point estimation and its properties.

CO4 Bias, Mean square error and variance, MVUE and its properties.

CO5 Concept of interval estimation and its properties.

COs of the course **"Applied Statistics" (B.Sc. II Year)**

After completion of classes students will be able to learn:-

CO1 Method of least square, fitting of polynomial and plausible solution of linear equations.

CO2 Concept of correlation, regression.

CO3 Partial and multiple correlation coefficient and multiple regression.

CO4 Different components of time series and different mother to obtain it.

CO5 Construction of Index numbers types of it and requisites of an ideal index number.

COs of the course **"Statistics Practical" (B.Sc. II Year)**

After completion of classes students will be able to learn:-

* Fitting of Binomial, Poisson and Normal distribution.
* Calculation of area of normal curve.
* Calculation of correlation coefficient by different method.
* Fitting of curves.
* Construction of regression line.
* Calculation of multiple and partial correlation coefficient and regression equations (for three variables only)
* Determination of trend line by different method.
* Determination of seasonal variation by different method.
* Construction and index method.

COs of the course **"Statistical Inference" (B.Sc. III Year)**

After completion of classes students will be able to learn:-

CO1 Procedure of testing hypothesis its terminology and determination of BCR for testing simple v/s simple hypothesis in uniform and normal population.

CO2 Theory of test of significance for large samples and t-distribution.

CO3 Test of significance for Chi-square and F-sampling distribution.

CO4 Different method o estimation with their properties.

CO5 Elements of Non-parametric inference and sequential analysis. Construction of O.C. and ASIN function and properties of SPRT.

COs of the course **"Design Of Experiments And Statistical Quality Control" (B.Sc. III Year)**

After completion of classes students will be able to learn:-

CO1 ANOVA for one-way and two-way classification. Basic concepts, models and its types in design of experiments.

CO2 ANOVA for CRD & RBD and its efficiency.

CO3 Missing plot technique for single value in RBD and ANOVA for LSD.

CO4 Statistical quality control with different charts for variables and attributes.

CO5 Principles of acceptance of sampling plan and their functions.

COs of the course **"Theory Of Sample Surveys And Vital Statistics" (B.Sc. III Year)**

After completion of classes students will be able to learn:-

CO1 Concepts of sample surveys principle steps in a sample survey, its limitations. Principle of sampling design and procedure of selecting random samples.

CO2 Simple and stratified random sampling.

CO3 Cluster and two stage sampling their definition and estimation of mean and variance.

CO4 Ratio and regression method of estimation and systematic sampling.

	CO5 Uses of vital statistics and method to obtaining it and measurements of different components of vital statistics and description and construction of life table. **COs** of the course **"Statistics Practical" (B.Sc. III Year)** After completion of classes students will be able to learn:- * Testing of hypothesis for large samples. * t-test for the significance of single and difference of mean. * F-test for equality of variances. * χ^2- test for specified variance, goodness of fit, independence of attributes and Homogeneity of correlation coefficient. * Non-parametric test. * ANOVA for one-way classification and two-way classification. * ANOVA of CRD, RBD and LSD. * Estimation of missing value. * statistical quality control. * Sample surveys problem by SRS and stratified sampling. * Vital statistics.

COs of the course **"Measure and Integration" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Set theory with its limits, classes and functions.

CO2 Measure and its properties.

CO3 Probability measure- measurable space.

CO4 Measurable functions and its properties.

CO5 Properties of Integral.

COs of the course **"Matrices and Linear Algebra" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Matrices properties, partitioning and universe matrices with linear dependence and independence.

CO2 Basic and dimension, orthonormal basis.

CO3 Characteristic equations with Eigen values and vectors.

CO4 Bilinear and quadratic forms.

CO5 Singular value and Jordon decomposition.

COs of the course **"Probability Theory" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Axiomatic approach to probability and its application.

CO2 Independence of experiments and events, Baye's theorem and its application.

CO3 Random variables, distribution function and multivariate and frequency function.

CO4 Mathematical expectation and its properties.

CO5 WLLN and central limit theorem.

COs of the course **"Theoretical Distributions" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Generating functions and their applications.

CO2 Inversion theorem, derivation of distribution function and application of central lime theorem.

CO3 Discrete distributions with their properties and application.

CO4 Continuous distributions with their properties and application.

CO5 Compound distributions, Pearsonian system of frequency curve.

COs of the course **"Practicals Based on C-Programming in Computational Statistics" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

Introduction to computer and its uses. Application of C-programming in various areas of computational statistics. Techniques related to generating random number. Developing algorithm, flow chart and program for some useful statistical data analysis problems.

COs of the course **"Practicals Based on CT 03 & CT 04" (Sem-I)**

Course outcome:- at the end of class students will gain knowledge of

* Calculation of moments, Skewness and Kurtosis.
* Fitting of Binomial, Poisson and Normal distribution.
* Calculation of area under normal curve.

COs of the course **"Sampling Distributions" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Univariate sampling distributions, Chi-square distribution (central and non-central) and their applications.

CO2 t- and F distribution (central and non central) and their applications.

CO3 Orthogonal polynomials, order statistics and their distribution.

CO4 Sampling distribution of median and range, regression and correlation, null and non-null distribution of sample correlation coefficient.

CO5 Bivariate distribution (discrete and Continuous)

COs of the course **"Statistical Inference-I" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Elements of statistical decision functions, point estimation and their properties.

CO2 Minimum mean square, MVU and UMVU estimators, CR bounds.

CO3 Various method to obtain maximum likelihood estimators (MLE's) interval estimation.

CO4 Basic concepts of testing hypothesis, two kind of errors, NP Lemma for determination of best critical region.

CO5 Non-parametric test and sequential analysis its construction and its application.

COs of the course **"Design of Experiments-I" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Analysis of models, orthogonal polynomial, ANCOVA, transformation.

CO2 Principles of experimentation, CRD, RBD.

CO3 LSD & BIBD and their analysis.

CO4 Factorial experiments and confounding.

CO5 Missing plot technique with reference to RBD and split plot design.

COs of the course **"Theory of Sample Surveys-I" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Planning and execution of analysis of sample survey, simple random sampling.

CO2 Stratified and cluster sampling.

CO3 Two stage and systematic sampling.

CO4 Ratio and regression method of estimation, Double sampling.

CO5 Elements of unistage sampling with varying probability.

COs of the course **"Practicals Based on CT 05 & CT 06" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

* Calculate correlation and regression for Bivariate frequency distribution.
* Large sample test, F-test, Chi-Square test and t-test.
* Barlet's test for homogeneity of variance.
* Power curves for testing simple hypothesis v/s composite hypothesis.
* Test of significance for simple correlation coefficient.
* Non-parametric test.
* SPRT calculations of constants.
* Fitting of orthogonal polynomials.

COs of the course **"Practicals Based on CT 07 & CT 08" (Sem-II)**

Course outcome:- at the end of class students will gain knowledge of

* Analysis of CRD, RBD, LSD and BIBD.
* Analysis of RBD, LSD with missing observations.
* Analysis of a factorial experiments confounded factorial experiments.
* Drawing of random samples from finite populations.
* Drawing samples from Binomial and normal populations.
* Estimation of population mean and variance in SRS, stratified sampling.
* Systematic sampling, cluster sampling, two stage sampling, double sampling and by ratio and regression method of estimation.
* PPSWR selection of sample and estimation.

COs of the course **"Multivariate Analysis" (Sem-III)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Multivariate normal distribution and its properties and distribution o quadratic forms.

CO2 MLE's of the mean vector and covariance matrix.

CO3 Hotelling's T^2 its properties and uses, Mahalnobis D^2.

CO4 Wishart distribution and its properties classification of observations.

CO5 Null and non-null distributions of partial and multiple correlation coefficients and multivariate central limit theorem.

COs of the course **"Statistical Inference-II" (Sem-III)**

Course outcome:- at the end of class students will gain knowledge of

CO1 Likelihood ratio test and its applications.

CO2 Properties of MLE's and generalization of CR inequality for multipalametric case.

CO3 Complete family of probability distributions.

CO4 UNP test with and more than one parameter.

CO5 Similar regions and relationship between notions of completeness.

COs of the course **"Practicals Based on CT 09" (Sem-III)**

Course outcome:- at the end of class students will gain knowledge of

* Multivariate analysis.
* Linear combination of correlated normal variates and evaluation of probabilities.
* Estimation and testing of mean vector, covariance, partial and multiple correlation coefficient.
* Analysis of discriminate functions. Their software development in C-language.

COs of the course **"Operations Research" (Sem-III)**

Course outcome:- at the end of class students will gain knowledge of

CO1 OR definition, scope and nature, transpiration and assignment problems.

	CO2 Deterministic, Inventory models with at most one linear restriction and without restriction probabilistic inventory models. CO3 Queuing theory and its differ models of process. CO4 Simulation, definition, its types uses and limitations. CO5 Steady state, solutions of Markovian queuing models. **COs** of the course **"Stochastic Processes" (Sem-III)** Course outcome:- at the end of class students will gain knowledge of CO1 Stochastic process with stationary transition probabilities and its properties. CO2 Classification of states stationary distribution of a Markov chain. CO3 Markov pure jump process, passion process, birth and death process. CO4 Second order processes mean and covariance function. CO5 Stochastic differential equations, estimation theory and special distribution. **COs** of the course **"Practicals Based on DSE 01 & DSE 02" (Sem-III)** Course outcome:- at the end of class students will gain knowledge of * OP and stochastic. * process and their software developments in C-language. **COs** of the course **"Design of Experiments-II" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Linear estimation of Gauss Markoff theorem, testing of hypothesis and sub hypothesis. CO2 Analysis of two way elimination of heterogeneity, orthogonality connectedness and Balancedness, incomplete block designs.

	CO3 Concept of association scheme with two associate classes. CO4 Lattice and Linked block designs, MOLS for prime and power of prime, Construction and analysis of Youden square design. CO5 Methods of construction of BIBD and SBIBD. **COs** of the course **"Non-Parametric Inference" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Order statistics and their sampling distribution and hypothesis testing for population quantities. CO2 Tolerance limits for distribution and coverage's, Chi-square goodness of fit test and signed test. CO3 Test for two sample problems comparison and their distributions, Run test, median test and U-test. CO4 Linear ranks statistics, Probability distribution and irefulness. CO5 Correlation between rank order statistics and variate values. Test based on the total number of runs and the length of the longest run. **COs** of the course **"Practicals Based on CT 11" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of * Testing of hypothesis for one-way and two-way classification. * Analysis of IBD, GDD. * Analysis of linked block design. * Analysis of simple lattice, youden square etc. **COs** of the course **"Theory of Sample Surveys" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Partition of sample space and definition of T-classes of linear estimators. CO2 Quenouille's techniques of bias reduction and its applications, methods of estimation in PPSWR, ratio method of estimation.

	CO3 Ratio and regression method of estimation for PPSWR, Variance by HT-estimator and YG-estimators. CO4 Sen- Midzuno scheme of sampling of inclusion probabilities. CO5 The theory of multistage sampling with VPWR and VPWOR. **COs** of the course **"Demography" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Census and vital data. CO2 Stationary populations, construction of life table. CO3 Stable population theory. CO4 Demographic trends in India CO5 Bivariate growth models, migration models, fertility and mortality analysis models. **COs** of the course **"Practicals Based on CT-12" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of * Horvitz and Thompson's procedure of estimating mean of the population. * Yates and Grundy method, Midzuno's sampling scheme, Rao-Hartley Cochran schemes. * Two stage sampling method. * Ratio and regression method of estimation and software development of above practical in C- language.

Programme Specific Outcomes and Course Outcomes
Department of Mathematics and Statistics

Programme Specific Outcomes	**PSOs of B.Sc. Statistics** PSO1. Understand the basic concept of descriptive statistics, probability theory along with computational techniques and official statistics. PSO2. Focus on Discrete and continuous probability distribution and density function, also describe and applied statistics. PSO3. Classifications of inferences, concept of design of experiments and sample surveys. Project work has been also introduces an preliminaries level. **PSOs of M.Sc. Statistics** PSO1. Preliminaries of integration and probability distribution. Practical will be emphasize on MS-excel and SPSS. PSO2. Analysis study of different sampling methods and classification of design of experiments. R programming language has been introduced. PSO3. Study of multivariate analysis, optimization techniques and different models of stochastic process. PSO4. Demography, econometrics, Linear models and regression analysis have been introduced and the practical will be done on r software. Project work and dissertation will be done.

Course Outcomes	**COs** of the course **"Computational Techniques & Official Statistics" (B.Sc. I Year)** After completion of classes students will be able to learn:- CO1 Interpolation formulae, different operators with their properties and estimation of missing value. CO2 Divided difference formulae and inverse interpolation. CO3 Linear programming problem its formulation and presentation by different method. CO4 Introduction of Statistical Quality Control and their applications. CO5 Statistical organization of India, its functions and publication. **COs of the course "Statistics Practical" (B.Sc. I Year)** Course outcome:- After completion of classes students will learn: * Presentation of raw data. * Graphical presentation of frequency polygon, curve and ogives. * Diagrammatic representation of Bars and Diagram. * Measure of central tendency. * Measure of dispersion. * Moments and measures of skewness and Kurtosis. * Evaluation of probabilities by different method. * Association of attributes. * Problems based on interpretation. * Solution of LPP by Graphical and Simplex methods. * Statistical Quality Control: (i) & R Charts (ii) X and a charts (iii) p, np and c charts. * Exercises on Finite Difference Theory * Lagrange's and Newton's divided difference formulae * Inverse interpolation by Langrange's formula. * Numerical Integration by Trapezoidal, Simpson's 1/3rd & 3/8th rules. **COs** of the course **"Applied Statistics" (B.Sc. II Year)** After completion of classes students will be able to learn:- CO1 Method of least square, fitting of polynomial and plausible solution of

	linear equations. CO2 Concept of correlation, regression, Partial and multiple correlation coefficient and multiple regression. CO3 Vital Statistics and it's derivative and application CO4 Different components of time series and different mother to obtain it. CO5 Construction of Index numbers types of it and requisites of an ideal index number. **COs** of the course **"Statistics Practical" (B.Sc. II Year)** After completion of classes students will be able to learn:- * Fitting of Binomial, Poisson and Normal distribution. * Calculation of area of normal curve. * Calculation of correlation coefficient by different method. * Fitting of curves. * Construction of regression line. * Calculation of multiple and partial correlation coefficient and regression equations (for three variables only) * Vital Statistics : (i) CDR, Age specific death rates, Standardized death rates (ii) CBR, GFR, ASFR, TFR (iii) Standardized birth rate (iv) Crud rate of natural increase GRR and NRR (v) Life tables and to find out certain values with its help. * Determination of trend line by different method. * Determination of seasonal variation by different method. * Construction and index method. **COs** of the course **"Design Of Experiments And Sample Surveys" (B.Sc. III Year)** After completion of classes students will be able to learn:- CO1 ANOVA for one-way and two-way classification. Basic concepts, models and its types in design of experiments. CO2 ANOVA for CRD & RBD and its efficiency, Missing plot technique for single value in RBD and ANOVA for LSD. CO3 Concepts of population and sample, need for sampling, types of

	sampling CO4 SRS, Stratified etc sampling schemes CO5 Other types of sampling schemes and their applications. **COs** of the course **" PROJECT WORK" (B.Sc. III Year)** The project work shall be spread over the whole year. A project may be undertaken by a group of students. However, the project report shall be submitted by each member of the group separately. A project report shall clearly state the problem addressed, the methodology adopted, the assumptions , the hypotheses formulated, any previous reference to the study undertaken, statistical analyses performed and the broad conclusion drawn. There shall be an external examiner and an internal examiner (preferably the supervisor of the student) for the evaluation of the project work. Out of total 50 marks assigned to the project, 30 marks will be assigned on the evaluation of the project report separately by both the examiners and 20 marks will be assigned on the oral presentation and viva-voce. **COs** of the course **"Statistics Practical" (B.Sc. III Year)** * Introduction to C-programming Language. * The following practical topics are prescribed for practical work using C-programming language: * Large sample test of significance for mean, standard deviation and proportion for one and two sample problems. * t test for the significance of single mean and difference of means (paired and unpaired cases) etc… **COs** of the course **"Measure and Integration" (Sem-I)**

	Course outcome:- at the end of class students will gain knowledge of CO1 Set theory with its limits, classes and functions. CO2 Measure and its properties. CO3 Probability measure- measurable space. CO4 Measurable functions and its properties. CO5 Properties of Integral. **COs** of the course **"Matrices and Linear Algebra" (Sem-I)** Course outcome:- at the end of class students will gain knowledge of CO1 Matrices properties, partitioning and universe matrices with linear dependence and independence. CO2 Basic and dimension, orthonormal basis. CO3 Characteristic equations with Eigen values and vectors. CO4 Bilinear and quadratic forms. CO5 Singular value and Jordon decomposition. **COs** of the course **"Probability Theory" (Sem-I)** Course outcome:- at the end of class students will gain knowledge of CO1 Axiomatic approach to probability and its application. CO2 Independence of experiments and events, Baye's theorem and its application. CO3 Random variables, distribution function and multivariate and frequency function. CO4 Mathematical expectation and its properties. CO5 WLLN and central limit theorem. **COs** of the course **"Theoretical Distributions" (Sem-I)**

	Course outcome:- at the end of class students will gain knowledge of CO1 Generating functions and their applications. CO2 Inversion theorem, derivation of distribution function and application of central lime theorem. CO3 Discrete distributions with their properties and application. CO4 Continuous distributions with their properties and application. CO5 Compound distributions, Pearsonian system of frequency curve. **COs** of the course **"Practicals Based On Statistical Methods (Using MS-Excel & SPSS" (Sem-I)** Course outcome:- at the end of class students will gain knowledge of * Presentation of raw data, Graphical representation by (i) Histogram (ii) Frequency polygon (iii) Frequency curve and (iv) Ogives etc. * Measures of Central Tendency, Dispersions, Skewness, Kutosis etc. * Fitting of curves: (i) Straight line (ii) Parabola (iii) Exponential and Power curves. * Computation of simple, multiple, partial and rank correlation coefficients. * Calculation of Multiple and Partial correlation coefficients and construction of multiple regression equations (for three variables only). **COs** of the course **"Practicals Based on CT 03 & CT 04" (Sem-I)** Course outcome:- at the end of class students will gain knowledge of * Random number generation.(i) Binomial, (ii) Poisson, (iii) Normal * Fitting of distributions. * Plot probability curves for different sets of parameters. *Practical using generating functions such as MGF, PGF, CGF, CFs.. * Software development of above practical problems in Excell & SPSS and running the same on computers. **COs** of the course **" STATISTICAL COMPUTING WITH R " (Sem-II)**

	Course outcome:- at the end of class students will gain knowledge of CO1 R language Essentials, preliminaries. CO2 Matrices and Arrays, Conditional Statements etc. CO3 Data frames, Descriptive Statistics, Graphical Approaches. CO4 Probability Distributions, plots etc. CO5 Correlation and regression, Design of experiments.. **COs** of the course **"Theory of Sample Surveys" (Sem-III)** Course outcome:- at the end of class students will gain knowledge of CO1 Partition of sample space and definition of T-classes of linear estimators. CO2 Quenouille's techniques of bias reduction and its applications, methods of estimation in PPSWR, ratio method of estimation. CO3 Ratio and regression method of estimation for PPSWR, Variance by HT-estimator and YG-estimators. CO4 Sen- Midzuno scheme of sampling of inclusion probabilities. CO5 The theory of multistage sampling with VPWR and VPWOR. **COs** of the course **"Demography" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Census and vital data, preliminaries. CO2 Mortality and determinants. CO3 Life table and Construction of life table. CO4 Population growth and their rates, Stationary and Stable populations CO5 Migration and their types. **COs** of the course **" Project Work and Viva-Voce/ Dissertation" (Sem-IV)** The Project Work will be spread over the whole semester. Project may be undertaken by the group of students and each teacher can guide upto 10 students, which can be relaxed by the Head of the department. However, the project report shall be submitted by each member of the group separately. A project report shall clearly state the problem addressed, the methodology

	adopted, the assumptions and the hypotheses formulated, any previous reference to the study undertaken, statistical analyses using some advance statistical softwares/ packages such as R/ STATA/ SPSS/ Latex etc. performed and the broad conclusion drawn. There shall be an external examiner and an internal examiner (preferably the supervisor of the student) for the evaluation of the project work. Out of total 100 marks assigned to the project, 80 marks will be assigned on the evaluation of the project work separately by both the examiners and 20 marks will be assigned jointly by the examiners on the oral presentation and viva – voce). **COs** of the course **"Practicals Based on CT 11" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of * Calculations of various rate, ratio, percentages etc. * Population Pyramids * Computations of various Death rates. * Computations of various Birth rates, NRR, GRR etc. * Construction of Life Tables-Abridged, Lotka Life Tables * Constructions of Makehams and Gompertz curves * Logistic curve fitting for projection. **COs** of the course **" Econometrics" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Nature and Scope of Econometrics - Review of GLM, OLS. CO2 Heteroscedasticity, Instrumental variable estimation. CO3 Simultaneous linear equations model. CO4 Recursive systems, k-class estimators. CO5 Definition of casuality and types. **COs** of the course **"Linear Models And Regression Analysis" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of CO1 Theory of linear estimation, generalized inverse of a matrix etc. CO2 ANOVA and multiple comparision tests etc. CO3 Simple, multiple regression models, homogeneity of variances etc. CO4 Selection of input variables and model selection CO5 Robust regression

	COs of the course **"Practicals Based On DSE 01 & DSE 02 CT-12" (Sem-IV)** Course outcome:- at the end of class students will gain knowledge of 1. OLS estimation and prediction in GLM. 2. Use of dummy variables (dummy variable trap) and seasonal adjustment. 3. GLS estimation and prediction. 4. Tests for Heteroscedasticity: pure and mixed estimation. 5. Fitting of Multiple linear regression models. 6. Estimation of regression coefficient, fitting of multiple linear regressions. 7. Non-linear regression. 8. Logistic Regression. 9. Residual Analysis for model adequacy, detection of outliers and influential observations. 10. Variable Selection procedures. 11. Collinearity Diagnostics.

Faculty of Science

Department of Microbiology

Courses offered-

- M. Sc.

PROGRAMME OUTCOME OF M.Sc. MICROBIOLOGY (CBCS)

Upon completion of this programme, students will able to:

- Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment, genetics, agriculture, food and others
- State of art knowledge about various methodological and analytic approaches that are used within the specialization
- Understand the regulation of biochemical pathway and possible process modifications for improved control over microorganisms for microbial product synthesis.
- Can compete in national level competitive exams such as NET-JRF or GATE or International exams such as GRE-TOEFEL and can pursue career in higher studies
- Demonstrate practical skills in the use of tools, technologies and methods common to microbiology, and apply the scientific method and hypothesis testing in the design and execution of experiments.
- Develop ability to independently carry out a complete scientific work process, including the understanding of theoretical background, hypothesis generation, collection and analysis of data, and interpretation and presentation of results.
- Has high competence and multidisciplinary project experience within selected topics related to microbiology and ability to contribute in a multidisciplinary team.
- Can communicate scientific results to the general public and experts by writing well structured reports and contributions for scientific publications and posters, and by oral presentations

M.Sc. MICROBIOLOGY I SEM: Course Outcome

Paper I: (M1MCB01-CT01) Instrumentation and Analytical Techniques (Theory)

Upon completion of this course, the students will able to:

- This skill based course will teach the various instrumentations that are used in the analytical laboratories
- The students has the basic knowledge on the theory, operation and function of analytical instruments

Paper II: (M1MCB02-CT02) Cell Biology and Molecular Genetics (Theory)

Upon completion of this course, the students will able to:

- Gives a strong foundation on the basic unit of life and functions of cell
- The course outcome is to train the students in understanding genetics and relate modern DNA technology for disease diagnostics and therapy

Paper III: (M1MCB03-CT03) Fundamentals of Microbiology (Theory)

Upon completion of this course, the students will able to:

- Throws light on types of microorganisms in and around humans
- Understanding on the concept of culturing microbes, sterilization techniques and estimating number of microbes in given sample

Paper IV: (M1MCB04-CT04) Biomolecules and Metabolism (Theory)

Upon completion of this course, the students will able to:

- Trains students about the salient features of biomolecules in the organization of life
- Helps the students in appreciating the integrated approach of interrelated pathways of catabolism and anabolism.

M.Sc. MICROBIOLOGY II SEM: Course Outcome

Paper I: **(M2BT01-CT05) Molecular Biology (Theory)**

Upon completion of this course, the students will able to:

- Learn fundamental molecular principles of genetics
- Understand relationship between phenotype and genotype in human genetic traits.
- Describe the basics of genetic mapping and understand how gene expression is regulated.

Paper II: **(M2BT02-CT06) Immunology and Enzymology (Theory)**

Upon completion of this course, the students will able to:

- Understand the role of the immune system, its organization and function.
- Develop immunological concepts and methods to diagnose immune disorders.
- Learn the mechanism of action and kinetics of enzyme.

Paper III: **(M2BT03-CT07) Bioinformatics and Biostatistics (Theory)**

Upon completion of this course, the students will able to:

- Understand the basic concepts of biostatistics.
- Learn the formula and principles used in biology.
- Explore methods and software tools for understanding biological data.

Paper IV: **(M2BT04-CT08) Genetic Engineering (Theory)**

Upon completion of this course, the students will able to:

- Know about implementation of genetic engineering for different purposes.
- Understand the principles of genetic engineering and the vectors used in cloning, methods of introduction of gene and expression.
- Investigate the different strategies of recombinant DNA technology and resolve the problems encountered.

M.Sc. BIOTECHNOLOGY/ MICROBIOLOGY III SEM: Course Outcome

Paper 1: (M3MB01CT09) Microbial Genetics (Theory)

Upon completion of this course, the students will able to:

- To become familiar with the foundation concepts of microbial genetics
- To identify and distinguish genetic regulatory mechanism at different levels

Paper 2: (M3MB02CT10) Industrial Microbiology (Theory)

Upon completion of this course, the students will able to:

- To learn about fermentation techniques, fermentation processes, fermentors
- To learn to isolate industrially important organisms

Paper 3: (M3MB03CT11) Microbial Ecology (Theory)

Upon completion of this course, the students will able to:

- To gain the knowledge of how important the microbes are for a sustainable environment
- To familiarize the various methods of detecting and solving environmental issues caused by microorganisms

Paper 4: (M3MB04CT12) Microbial Physiology and Metabolism (Theory)

Upon completion of this course, the students will able to:

- It features the regulatory aspects of metabolism for better understanding of physiology and therapeutic applications
- Know the various physical and chemical growth requirements of bacteria and get equipped with various methods of bacterial growth measurements

M.Sc. MICROBIOLOGY IV SEM: Course Outcome

Industrial Training: ***Major research Project at research laboratory or institute of repute (6 months)***

Upon completion of this course, students will able to:

- Carry out a substantial research-based project
- Demonstrate capacity to improve student achievement, engagement and retention
- Demonstrate capacity to lead and manage change through collaboration with others
- Demonstrate an understanding of the ethical issues associated with practitioner research
- Analyse data and synthesize research findings
- Report research findings in written and verbal forms
- Use research findings to advance education theory and practice.

Faculty of Science

Department of Pharmacy

Courses offered-

- B. Pharma.

Program Name	Program outcome
B. Pharmacy (B. Pharm.)	On completion of the B. Pharm. program, a student will be able to: 1. Demonstrate knowledge of the basic pharmaceutical sciences and the ability to acquire, manage and use current information for problem solving. 2. Describe the synthesis, formulation, analysis and pharmacological aspects of drugs and pharmaceuticals. 3. Identify the rules and regulations involved in the drug discovery and development, manufacture, distribution and sale of medicines. 4. Observe record, analyze, criticize, organize, improvise and manage documents, data and information related to pharmaceutical products and practices. 5. Develop problem-based learning approach and analytical thinking in his/her academic and professional life. 6. Demonstrate the ability to plan and implement professional activities. 7. Act efficiently as a leader in the diverse areas of the profession. 8. Write, interpret and communicate effectively and scientifically. 9. Apply the knowledge and skills gained through education to gain recognition in professional circle and society. 10. Partnering with other health care communities to provide innovative solutions. 11. Create awareness in society about the effective and safe use of medicines. 12. Demonstrate eco-friendly products and processes to maintain public health. 13. Imbibe ethical practices and moral values in personal and professional endeavors. 14. Tackle future challenges through lifelong learning.

B.Pharm 1 sem		
Subject with code	**Scope**	**Learning outcome**
BP101T. HUMAN ANATOMY AND PHYSIOLOGY-I (Theory)	This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.	Upon completion of this course the student should be able to 1. Explain the gross morphology, structure and functions of various organs of the human body. 2. Describe the various homeostatic mechanisms and their imbalances. 3. Identify the various tissues and organs of different systems of human body. 4. Perform the various experiments related to special senses and nervous system. 5. Appreciate coordinated working pattern of different organs of each system
BP102T. PHARMACEUTICAL ANALYSIS (Theory)	This course deals with the fundamentals of analytical chemistry and principles of electrochemical analysis of drugs	Upon completion of the course student shall be able to · understand the principles of volumetric and electro chemical analysis · carryout various volumetric and electrochemical titrations · develop analytical skills
BP103T. PHARMACEUTICS- I (Theory)	This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.	Upon completion of this course the student should be able to: · Know the history of profession of pharmacy · Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations · Understand the professional way of handling the prescription · Preparation of various conventional dosage forms
BP104T. PHARMACEUTICAL INORGANIC CHEMISTRY (Theory)	This subject deals with the monographs of inorganic drugs and pharmaceuticals.	Upon completion of course student shall be able to · know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals · understand the medicinal and pharmaceutical importance of inorganic compounds

BP105T.COMMUNICATION SKILLS (Theory)	This course will prepare the young pharmacy student to interact effectively with doctors, nurses, dentists, physiotherapists and other health workers. At the end of this course the student will get the soft skills set to work cohesively with the team as a team player and will add value to the pharmaceutical business.	Upon completion of the course the student shall be able to 1. Understand the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation 2. Communicate effectively (Verbal and Non Verbal) 3. Effectivelymanage the team as a team player 4. Develop interview skills 5. Develop Leadership qualities and essentials
BP 106RBT.REMEDIAL BIOLOGY (Theory)	To learn and understand the components of living world, structure and functional system of plant and animal kingdom.	Upon completion of the course, the student shall be able to · know the classification and salient features of five kingdoms of life · understand the basic components of anatomy & physiology of plant · know understand the basic components of anatomy & physiology animal with special reference to human
BP 106RMT.REMEDIAL MATHEMATICS (Theory)	This is an introductory course in mathematics. This subject deals with the introduction to Partial fraction, Logarithm, matrices and Determinant, Analytical geometry, Calculus, differential equation and Laplace transform.	Upon completion of the course the student shall be able to:- 1. Know the theory and their application in Pharmacy 2. Solve the different types of problems by applying theory 3. Appreciate the important application of mathematics in Pharmacy
B.Pharm 2nd sem		
Subject with code	**Scope**	**Learning outcome**

BP 201T. HUMAN ANATOMY AND PHYSIOLOGY-II (Theory)	This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.	Upon completion of this course the student should be able to: 1. Explain the gross morphology, structure and functions of various organs of the human body. 2. Describe the various homeostatic mechanisms and their imbalances. 3. Identify the various tissues and organs of different systems of human body. 4. Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume. 5. Appreciate coordinated working pattern of different organs of each system 6. Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.
BP202T. PHARMACEUTICAL ORGANIC CHEMISTRY –I (Theory)	This subject deals with classification and nomenclature of simple organic compounds, structural isomerism, intermediates forming in reactions, important physical properties, reactions and methods of preparation of these compounds. The syllabus also emphasizes on mechanisms and orientation of reactions	Upon completion of the course the student shall be able to 1. write the structure, name and the type of isomerism of the organic compound 2. write the reaction, name the reaction and orientation of reactions 3. account for reactivity/stability of compounds, 4. identify/confirm the identification of organic compound

BP203 T. BIOCHEMISTRY (Theory)	Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is providing biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA.	Upon completion of course student shell able to 1. Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes. 2. Understand the metabolism of nutrient molecules in physiological and pathological conditions. 3. Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.
BP 204T.PATHOPHYSIOLOGY (THEORY)	Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes.This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively.	Upon completion of the subject student shall be able to – 1. Describe the etiology and pathogenesis of the selected disease states; 2. Name the signs and symptoms of the diseases; and 3. Mention the complications of the diseases.

BP205 T. COMPUTER APPLICATIONS IN PHARMACY (Theory)	This subject deals with the introduction Database, Database Management system, computer application in clinical studies and use of databases.	Upon completion of the course the student shall be able to 1. know the various types of application of computers in pharmacy 2. know the various types of databases 3. know the various applications of databases in pharmacy
BP 206 T. ENVIRONMENTAL SCIENCES (Theory)	Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.	Upon completion of the course the student shall be able to: 1. Create the awareness about environmental problems among learners. 2. Impart basic knowledge about the environment and its allied problems. 3. Develop an attitude of concern for the environment. 4. Motivate learner to participate in environment protection and environment improvement. 5. Acquire skills to help the concerned individuals in identifying and solving environmental problems. 6. Strive to attain harmony with Nature.
B.Pharm 3 rd sem		
Subject with code	Scope	Learning outcome
BP301T. PHARMACEUTICAL ORGANIC CHEMISTRY –II (Theory)	This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds are also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.	Upon completion of the course the student shall be able to 1. write the structure, name and the type of isomerism of the organic compound 2. write the reaction, name the reaction and orientation of reactions 3. account for reactivity/stability of compounds, 4. prepare organic compounds

BP302T. PHYSICAL PHARMACEUTICS-I (Theory)	The course deals with the various physica and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.	Upon the completion of the course student shall be able to 1. Understand various physicochemical properties of drug molecules in the designing the dosage forms 2. Know the principles of chemical kinetics & to use them for stability testing nad determination of expiry date of formulations 3. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.
BP 303 T. PHARMACEUTICAL MICROBIOLOGY (Theory)	Study of all categories of microorganisims especially for the production of alchol antibiotics, vaccines, vitamins enzymes etc..	Upon completion of the subject student shall be able to; 1. Understand methods of identification, cultivation and preservation of various microorganisms 2. To understand the importance and implementation of sterlization in pharmaceutical processing and industry 3. Learn sterility testing of pharmaceutical products. 4. Carried out microbiological standardization of Pharmaceuticals. 5. Understand the cell culture technology and its applications in pharmaceutical industries.

BP 304 T. PHARMACEUTICAL ENGINEERING (Theory)	This course is designed to impart a fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry.	Upon completion of the course student shall be able: 1. To know various unit operations used in Pharmaceutical industries. 2. To understand the material handling techniques. 3. To perform various processes involved in pharmaceutical manufacturing process. 4. To carry out various test to prevent environmental pollution. 5. To appreciate and comprehend significance of plant lay out design for optimum use of resources. 6. To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries.
B.Pharm 4th sem		
Subject with code	Scope	Learning outcome
BP401T. PHARMACEUTICAL ORGANIC CHEMISTRY –III (Theory)	This subject imparts knowledge on stereo-chemical aspects of organic compounds and organic reactions, important named reactions, chemistry of important hetero cyclic compounds. It also emphasizes on medicinal and other uses of organic compounds.	At the end of the course, the student shall be able to 1. understand the methods of preparation and properties of organic compounds 2. explain the stereo chemical aspects of organic compounds and stereo chemical reactions 3. know the medicinal uses and other applications of organic compounds
BP402T. MEDICINAL CHEMISTRY – I (Theory)	This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs. The syllabus also emphasizes on chemical synthesis of important drugs under each class.	Upon completion of the course the student shall be able to 1. understand the chemistry of drugs with respect to their pharmacological activity 2. understand the drug metabolic pathways, adverse effect and therapeutic value of drugs 3. know the Structural Activity Relationship (SAR) of different class of drugs 4. write the chemical synthesis of some drugs

BP 403 T. PHYSICAL PHARMACEUTICS-II (Theory)	The course deals with the various physica and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.	Upon the completion of the course student shall be able to 1. Understand various physicochemical properties of drug molecules in the designing the dosage forms 2. Know the principles of chemical kinetics & to use them for stability testing nad determination of expiry date of formulations 3. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.
BP 404 T. PHARMACOLOGY-I (Theory)	The main purpose of the subject is to understand what drugs do to the living organisms and how their effects can be applied to therapeutics. The subject covers the information about the drugs like, mechanism of action, physiological and biochemical effects (pharmacodynamics) as well as absorption, distribution, metabolism and excretion (pharmacokinetics) along with the adverse effects, clinical uses, interactions, doses, contraindications and routes of administration of different classes of drugs.	Upon completion of this course the student should be able to 1. Understand the pharmacological actions of different categories of drugs 2. Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels. 3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases. 4. Observe the effect of drugs on animals by simulated experiments 5. Appreciate correlation of pharmacology with other bio medical sciences
BP 405 T.PHARMACOGNOSY AND PHYTOCHEMISTRY I (Theory)	The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation, phytochemicals present in them and their medicinal properties.	Upon completion of the course, the student shall be able 1. to know the techniques in the cultivation and production of crude drugs 2. to know the crude drugs, their uses and chemical nature 3. know the evaluation techniques for the herbal drugs 4. to carry out the microscopic and morphological evaluation of crude drugs
B.Pharm 5th sem		
Subject with code	Scope	Learning outcome

BP501T. MEDICINAL CHEMISTRY – II (Theory)	This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs. The syllabus also emphasizes on chemical synthesis of important drugs under each class	Upon completion of the course the student shall be able to 1. Understand the chemistry of drugs with respect to their pharmacological activity 2. Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs 3. Know the Structural Activity Relationship of different class of drugs 4. Study the chemical synthesis of selected drugs
BP 502 T. Industrial PharmacyI (Theory)	Course enables the student to understand and appreciate the influence of pharmaceutical additives and various pharmaceutical dosage forms on the performance of the drug product.	Upon completion of the course the student shall be able to 1. Know the various pharmaceutical dosage forms and their manufacturing techniques. 2. Know various considerations in development of pharmaceutical dosage forms 3. Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality
BP503.T. PHARMACOLOGY-II (Theory)	This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects and contraindications) of drugs acting on different systems of body and in addition,emphasis on the basic concepts of bioassay	Upon completion of this course the student should be able to 1. Understand the mechanism of drug action and its relevance in the treatment of different diseases 2. Demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments 3. Demonstrate the various receptor actions using isolated tissue preparation 4. Appreciate correlation of pharmacology with related medical sciences
BP504 T. PHARMACOGNOSY AND PHYTOCHEMISTRY II (Theory)	The main purpose of subject is to impart the students the knowledge of how the secondary metabolites are produced in the crude drugs, how to isolate and identify and produce them industrially. Also this subject involves the study	Upon completion of the course, the student shall be able 1. to know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents 2. to understand the preparation and development of herbal formulation.

	of producing the plants and phytochemicals through plant tissue culture, drug interactions and basic principles of traditional system of medicine	3. to understand the herbal drug interactions 4. to carryout isolation and identification of phytoconstituents
BP 505 T. PHARMACEUTICAL JURISPRUDENCE (Theory)	This course is designed to impart basic knowledge on important legislations related to the profession of pharmacy in India	Upon completion of the course, the student shall be able to understand: 1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals. 2. Various Indian pharmaceutical Acts and Laws 3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals 4. The code of ethics during the pharmaceutical practice
B.Pharm 6th sem		
Subject with code	Scope	Learning outcome
BP601T. MEDICINAL CHEMISTRY – III (Theory)	This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasis on modern techniques of rational drug design like quantitative structure activity relationship (QSAR), Prodrug concept, combinatorial chemistry and Computer aided drug design (CADD). The subject also emphasizes on the chemistry, mechanism of action, metabolism, adverse effects, Structure Activity Relationships (SAR), therapeutic uses and synthesis of important drugs.	Upon completion of the course student shall be able to 1. Understand the importance of drug design and different techniques of drug design. 2. Understand the chemistry of drugs with respect to their biological activity. 3. Know the metabolism, adverse effects and therapeutic value of drugs. 4. Know the importance of SAR of drugs.

BP602 T. PHARMACOLOGY-III (Theory) 45	This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects and contraindications) of drugs acting on respiratory and gastrointestinal system, infectious diseases, immuno-pharmacology and in addition,emphasis on the principles of toxicology and chronopharmacology	Upon completion of this course the student should be able to: 1. understand the mechanism of drug action and its relevance in the treatment of different infectious diseases 2. comprehend the principles of toxicology and treatment of various poisoningsand 3. appreciate correlation of pharmacology with related medical sciences.
BP 603 T. HERBAL DRUG TECHNOLOGY (Theory)	This subject gives the student the knowledge of basic understanding of herbal drug industry, the quality of raw material, guidelines for quality of herbal drugs, herbal cosmetics, natural sweeteners, nutraceutical etc. The subject also emphasizes on Good Manufacturing Practices (GMP), patenting and regulatory issues of herbal drugs	Upon completion of this course the student should be able to: 1. understand raw material as source of herbal drugs from cultivation to herbal drug product 2. know the WHO and ICH guidelines for evaluation of herbal drugs 3. know the herbal cosmetics, natural sweeteners, nutraceuticals 4. appreciate patenting of herbal drugs, GMP .

BP 604 T. BIOPHARMACEUTICS AND PHARMACOKINETICS (Theory)	This subject is designed to impart knowledge and skills of Biopharmaceutics and pharmacokinetics and their applications in pharmaceutical development, design of dose and dosage regimen and in solving the problems arised therein.	Upon completion of the course student shall be able to: 1. Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance. 2. Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination. 3. To understand the concepts of bioavailability and bioequivalence of drug products and their significance. 4. Understand various pharmacokinetic parameters, their significance & applications.
BP 605 T. PHARMACEUTICAL BIOTECHNOLOGY (Theory)	Biotechnology has a long promise to revolutionize the biological sciences and technology. · Scientific application of biotechnology in the field of genetic engineering, medicine and fermentation technologymakes the subject interesting. · Biotechnology is leading to new biological revolutions in diagnosis, prevention and cure of diseases, new and cheaper pharmaceutical drugs. · Biotechnology has already produced transgenic crops and animals and the future promises lot more. · It is basically a research-based subject.	Upon completion of the subject student shall be able to; 1. Understanding the importance of Immobilized enzymes in Pharmaceutical Industries 2. Genetic engineering applications in relation to production of pharmaceuticals 3. Importance of Monoclonal antibodies in Industries 4. Appreciate the use of microorganisms in fermentation technology
B.Pharm 7th sem		
Subject name with code	Scope	Objective/learning outcome

BP701T. INSTRUMENTAL METHODS OF ANALYSIS (Theory)	This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart a fundamental knowledge on the principles and instrumentation of spectroscopic and chromatographic technique. This also emphasizes on theoretical and practical knowledge on modern analytical instruments that are used for drug testing.	Upon completion of the course the student shall be able to 1. Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis 2. Understand the chromatographic separation and analysis of drugs. 3. Perform quantitative & qualitative analysis of drugs using various analytical instruments.
BP 702 T. INDUSTRIAL PHARMACYII (Theory)	This course is designed to impart fundamental knowledge on pharmaceutical product development and translation from laboratory to market	Upon completion of the course, the student shall be able to: 1. Know the process of pilot plant and scale up of pharmaceutical dosage forms 2. Understand the process of technology transfer from lab scale to commercial batch 3. Know different Laws and Acts that regulate pharmaceutical industry 4. Understand the approval process and regulatory requirements for drug products

BP 703T. PHARMACY PRACTICE (Theory)	In the changing scenario of pharmacy practice in India, for successful practice of Hospital Pharmacy, the students are required to learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care. In community pharmacy, students will be learning various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up.	Upon completion of the course, the student shall be able to 1. know various drug distribution methods in a hospital 2. appreciate the pharmacy stores management and inventory control 3. monitor drug therapy of patient through medication chart review and clinical review 4. obtain medication history interview and counsel the patients 5. identify drug related problems 6. detect and assess adverse drug reactions 7. interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states 8. know pharmaceutical care services 9. do patient counseling in community pharmacy; 10. appreciate the concept of Rational drug therapy.
BP 704T: NOVEL DRUG DELIVERY SYSTEMS (Theory)	This subject is designed to impart basic knowledge on the area of novel drug delivery systems.	Upon completion of the course student shall be able 1. To understand various approaches for development of novel drug delivery systems. 2. To understand the criteria for selection of drugs and polymers for the development of Novel drug delivery systems, their formulation and evaluation
BP705P. INSTRUMENTAL METHODS OF ANALYSIS (Practical)	Practical aspect of analysis of chemistry	Very useful in pharmaceutical industry, chemical industry for purificaiton and synthesis of compund & testing them
B.Pharm 8th sem		
Subject name with code	**Scope**	**Objective/learning outcome**

BIOSTATISITCS AND RESEARCH METHODOLOGY (Theory) (BP801T.)	To understand the applications of Biostatics in Pharmacy. This subject deals with descriptive statistics, Graphics, Correlation, Regression, logistic regression Probability theory, Sampling technique, Parametric tests, Non Parametric tests, ANOVA, Introduction to Design of Experiments, Phases of Clinical trials and Observational and Experimental studies, SPSS, R and MINITAB statistical software's, analyzing the statistical data using Excel.	Upon completion of the course the student shall be able to • Know the operation of M.S. Excel, SPSS, R and MINITAB ® , DoE (Design of Experiment) • Know the various statistical techniques to solve statistical problems • Appreciate statistical techniques in solving the problems.
SOCIAL AND PREVENTIVE PHARMACY (BP 802T)	The purpose of this course is to introduce to students a number of health issues and their challenges. This course also introduced a number of national health programmes. The roles of the pharmacist in these contexts are also discussed.	Objectives: After the successful completion of this course, the student shall be able to: · Acquire high consciousness/realization of current issuesrelated to health and pharmaceutical problems within the country and worldwide. · Have a critical way of thinking based on current healthcare development. · Evaluate alternative ways of solving problems related tohealth and pharmaceutical issues
BP803ET. PHARMA MARKETING MANAGEMENT (Theory)	The pharmaceutical industry not only needs highly qualified researchers, chemists and, technical people, but also requires skilled managers who can take the industry forward by managing and taking the complex decisions which are imperative for the growth of the industry. The Knowledge and Know-how of marketing management groom the people for taking a challenging role	The course aims to provide an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry.

	in Sales and Product management.	
BP804 ET: PHARMACEUTICAL REGULATORY SCIENCE (Theory)	This course is designed to impart the fundamental knowledge on the regulatory requirements for approval of new drugs, and drug products in regulated markets of India & other countries like US, EU, Japan, Australia,UK etc. It prepares the students to learn in detail on the regulatory requirements, documentation requirements, and registration procedures for marketing the drug products.	Upon completion of the subject student shall be able to; 1. Know about the process of drug discovery and development 2. Know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals 3. Know the regulatory approval process and their registration in Indian and international markets

BP 805T: PHARMACOVIGILANCE (Theory)	This paper will provide an opportunity for the student to learn about development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance, global scenario of Pharmacovigilance, train students on establishing pharmacovigilance programme in an organization, various methods that can be used to generate safety data and signal detection. This paper also develops the skills of classifying drugs, diseases and adverse drug reactions.	At completion of this paper it is expected that students will be able to (know, do, and appreciate): 1. Why drug safety monitoring is important? 2. History and development of pharmacovigilance 3. National and international scenario of pharmacovigilance 4. Dictionaries, coding and terminologies used in pharmacovigilance 5. Detection of new adverse drug reactions and their assessment 6. International standards for classification of diseases and drugs 7. Adverse drug reaction reporting systems and communication in pharmacovigilance 8. Methods to generate safety data during pre clinical, clinical and post approval phases of drugs' life cycle 9. Drug safety evaluation in paediatrics, geriatrics, pregnancy and lactation 10. Pharmacovigilance Program of India (PvPI) requirement for ADR reporting in India 11. ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning 12. CIOMS requirements for ADR reporting 13. Writing case narratives of adverse events and their quality.

BP808ET: CELL AND MOLECULAR BIOLOGY (Elective subject)	Cell biology is a branch of biology that studies cells – their physiological properties, their structure, the organelles they contain, interactions with their environment, their life cycle, division, death and cell function. · This is done both on a microscopic and molecular level. · Cell biology research encompasses both the great diversity of single-celled organisms like bacteria and protozoa, as well as the many specialized cells in multi-cellular organismssuch as humans, plants, and sponges.	Upon completion of the subject student shall be able to; · Summarize cell and molecular biology history. · Summarize cellular functioning and composition. · Describe the chemical foundations of cell biology. · Summarize the DNA properties of cell biology. · Describe protein structure and function. · Describe cellular membrane structure and function. · Describe basic molecular genetic mechanisms. · Summarize the Cell Cycle
BP809ET. COSMETIC SCIENCE(Theory)	Cosmetic Industry	Science of cosmetics can be learn
BP810 ET. PHARMACOLOGICAL SCREENING METHODS	This subject is designed to impart the basic knowledge of preclinical studies in experimental animals including design, conduct and interpretations of results	Upon completion of the course the student shall be able to, · Appreciate the applications of various commonly used laboratory animals. · Appreciate and demonstrate the various screening methods used in preclinical research · Appreciate and demonstrate the importance of biostatistics and researchmethodology · Design and execute a research hypothesis independently
BP 811 ET. ADVANCED INSTRUMENTATION TECHNIQUES	This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart advanced knowledge on the principles and instrumentation of spectroscopic and chromatographic hyphenated techniques. This also emphasizes on theoretical and practical knowledge on	:Upon completion of the course the student shall be able to · understand the advanced instruments used and its applications in drug analysis · understand the chromatographic separation and analysis of drugs. · understand the calibration of various analytical instruments · know analysis of drugs using various analytical instruments.

	modern analytical instruments that are used for drug testing.	
Elective course on Pharmaceutical Product Development	Dosage form development	In Pharmaceutical industry how product is developed

Faculty of Science

Department of Physics

Courses offered-

- M. Sc.

Programme Specific Outcomes (PSO) of M.Sc (Physics) Programme

The MSc (Physics) is planned for BSc graduates who:

a. intend to deepen and extend their knowledge of physics.
b. wish to pursue research career in university, industrial or national research laboratory.
c. plan to use the rationale inculcated by studying physics in other disciplines like science oriented print & electronic media, movies and documentary.

Emphasis is to equip students with tools and methods to approach and solve increasingly challenging problems. Hopefully these challenges will not only broaden and sharpen students' skills but will also amplify the enthusiasm to participate in discovery, knowledge creation and disseminate it to the society. The program is planned and designed to inculcate professional, soft, and physics specific skills. The students would be able to:

PSO1. Solve complex and a variety of problems by (a) recognizing relevant concepts and physical laws (b) applying the concepts to the problem (c) deploying mathematical and computational techniques (d) using experimental, computational, and/or theoretical methods, (e) spotting the limitations of solutions.

PSO2. Thrive for success in diverse demanding circumstances which need professional and interpersonal skills to balance, complement, and strengthen the core science and aptitude oriented skills of students.

PSO3. Critically assess the current knowledge and expertise so as to develop, implement, and refine a plan to acquire new knowledge in the pursuit of new intellectual wealth.

PSO4. Communicate effectively through skilful and technology based oral, visual & written aids and formats.

PSO5. Use the appropriate tools and requisite media literacy to acquire, assess, and analyse data and information from diverse resources.

PSO6. Use the advanced scholarly peers groups and their platforms to form a sound document on the subject matter of concern or interest using state of art word processing and documentary resources.

PSO7. Gain a thorough grounding in the subject to be able to teach it at college as well as school level.

PSO8. View physics as a training ground for the mind developing a critical attitude and the faculty of logical reasoning that can be applied to diverse fields.

PSO9. Gain procedural knowledge that creates different types of professionals in the conventional and emerging areas of Physics such as research and development, print and electronic media of science, movies and documentaries, teaching (at primary, middle, and secondary levels), industries of various scales, and as officials of various cadres in government and public services.

PSO10. Understand the basic concepts of core branches of physics particularly classical mechanics, quantum mechanics, statistical mechanics and electricity & magnetism to appreciate how diverse phenomena observed in nature follow from a set of fundamental laws and mathematical reasoning.

PSO11. Learn to carry out experiments in basic as well as certain advanced areas of physics such as nuclear physics, condensed matter physics, nanoscience, lasers and electronics.

PSO12. Explain how laws of physics apply to phenomena around us and understand the basics of certain sub fields such as nuclear and high energy physics, atomic and molecular physics, solid state physics, plasma physics, astrophysics, general theory of relativity, nonlinear dynamics and complex system.

PSO13. Construct conclusive logical arguments by means of strong technical inputs in camaraderie with Physics.

PSO14. Appreciate design, planning and implementation of Physics-related experiments. Then to analyse and interpret data using suitable software or programming languages to arrive on the results to validate or reject the hypotheses of theory.

PSO15. Grow professional scientific behaviour such as (a) being objective, unbiased and truthful (b) avoiding unethical, irrational behaviour such as data manipulation or plagiarism (c) being respectful to the copy and intellectual property rights, environmental and government regulations (iv) promotion of self-learning, team culture and work spirit.

The first two semesters consist entirely of core courses which lay down the foundation necessary for a career in Physics.

M.Sc (I Semester)

M1PHY01-CT01: Mathematical Methods in Physics

This course lays foundation of the advance course on usage of mathematical methods in problem solving across the disciplines of Physics. Based on the major techniques covered, the course outcomes are understanding and applications of:

CO1 Usage of curvilinear coordinate system.

CO2 The grammar and simple algebra of Tensors.

CO3 The basics of group theory, symmetry and morphism, discrete and continuous groups, types of group and applications.

CO4 Various techniques to solve differential equations.

CO5 Properties of special functions enabling applications in various physics problems.

CO6 Analyticity, residues and poles of Complex functions, Methods of integration of complex functions and related lemmas and theorems.

CO7 Introduction, properties and usage of Fourier and Laplace transforms. Related theorems and applications.

M1PHY02-CT02: Classical Mechanics

This course introduces rudimentary tools of Classical mechanics and analytical dynamics. The course outcomes are as follows:

CO1 Be able to explain the need and importance of phase space, and phase space variables, Constraints and its types and their role in mechanics.

CO2 Apply the calculus of variation and the principle of least action.

CO3 Formulation of Lagrangian dynamics, its importance and usage.

CO4 Hamilton's principle, Formulation of Hamiltonian dynamics,
its importance and applications.

CO5 Hamilton Jacobi equation, canonical transformations,
Definition and properties of Lagrange and Poisson brackets.

CO6 Classical theory of small oscillations and normal modes.

CO7 Aspects of special theory of relativity with emphasis on four vector formulation.

M1PHY03-CT03 : **Quantum Mechanics-I**

This course develops need and understanding of the basic concepts of Quantum Mechanics. This is one the most fundamental course required for higher learning across the branches of physics. It is divided into two parts and the following course outcomes are expected:

CO1 Understand inadequacy of classical mechanics and important experimental results devoid of valid explanation.

CO2 Learn mathematical foundation of quantum mechanics, Linear vector space, Dirac bra and ket algebra. Algebra, properties and type of operators.

CO3 Grasp the fundamental postulates of quantum mechanics, Uncertainty principle, quantum dynamics, Schrodinger, Heisenberg and the Interaction pictures.

CO4 Use quantum mechanical methods to solve particle in a box, simple harmonic oscillator and Hydrogen atom.

CO5 Quantisation of angular momentum, Eigenvectors and eigenvalues. Addition of angular momenta.

CO6 Time independent perturbation theory, anharmonic oscillator, infinite square and cube wells, Zeeman effect, Stark effect.

CO7 Introduction of path integral method. The concept and evolution of the approach. Basic tools of the path integral method.

M1PHY04-CT04 Electronics

The objectives are to develop basic understanding of analog and digital electronics and 8085 microprocessor. Circuit analysis, models and the practical applications are covered.

CO1 OP-AMPs: Mathematical analysis of gains and characteristics in various configurations.

CO2 Characteristics of an Op-AMP.

CO3 Instrumentation and applications using OP-AMP.

CO4 Oscillators and wave shaping circuits, Voltage regulators

CO5 Boolean algebra, Combinational and sequential logics

CO6 Architecture of 8085 microprocessor, Assembly language programming.

M1PHY05-CP01 General Physics laboratory

Students are expected to do at least ten experiments after understanding theoretical principle behind each set up, design of experiments, working principle of the equipments/instruments, sources of errors in experiments etc. Experimental errors must be estimated in all experiments. Course outcomes based on the various types of experiments are:

CO1 Study of arc spectra by constant deviation spectrometer.

CO2 Determination of elastic constants of glass by method of Cornu's fringes.

CO3 Determination of coefficient of thermal conductivity of metal by Angstrom's method.

CO4 To study variation in internal resistance of a material with temperature.

CO5 To study the Hall effect in a given semiconductor probe and to find the Hall Voltage, Hall Coefficient, Charge Carriers, Hall angle and Mobility.

CO6 To study the characteristic of given Solar Cell Panel.

CO7 Determination of λ, dλ, and thickness using Michelson's interferometer.

CO8 Determination of wavelength of light emitted by He-Ne laser and to verify the law governing Interference from a Young's double slit experiment.

CO9 (a) Measurement of wavelength of He-Ne laser light using ruler or Michelson interferometer. (b) Measurements of thickness of thin wire with laser.

CO10 To study Faraday's effect and to determine Verdt's constant.

CO11 To plot the polar curve of a filament lamp and to determine its mean spherical intensity.

CO12 To study the dissociation limit of iodine.

CO13 Jamin's Interferometer's method for refractive index of air.

CO14 Beam characteristics of a He-Ne laser beam.

CO15 Any other experiments designed and setup by the teacher.

M1PHY06-CP02: Electronics Laboratory

Students perform the experiments after understanding design of experiments, working principle of the equipments, instruments, components and their role on the results/performance of the experiments. It has two sections of it. Sources of errors in experiments due to instruments are also estimated in all experiments.

SECTION-A: Analog Electronics

CO1 Measurement of operational amplifier parameters.

CO2 Study of Clipping and clamping circuits.

CO3 Study of active filter circuits.

CO4 Study of active integrator and differentiator circuits.

CO5 Study of Wien Bridge Oscillator.

CO6 Study of wave form generators: (a) Square wave generator (astable multivibrator), (b) Pulse generator (monostable multivibrator) and triangular wave generator.

CO7 Study of Schmitt Trigger and comparators.

CO8 Study of UJT parameters and Relaxation Oscillator.

CO9 Design of a Regulated power supply: (a) Study of series voltage regulated power supply and (b) study of IC regulated power supply.

SECTION-B: Digital Electronics

CO1 Study of Combinational circuits: (i) Two bit and four bit adder (ii) Subtractor (iii) Decoder and 7-segment display (iv) Multiplexer and (v) Demultiplexer.

CO2 Study of Sequential circuits: (i) Flips Flops : RS, JK, JKMS, D &T flip-slops.

CO3 Study of Shift Registers.

CO4 Study of Counters : (i) 4-bit Ripple counter (ii) 4-bit Synchronous Counter (iii) BCD Counter.

CO5 Any other experiments suggested by teacher.

M.Sc. (II Semester)

M2PHY01-CT05: Computational Methods in Physics

This course provides knowledge of relevant tools that are necessary to build physical and mathematical models to describe the complex physical phenomena using computers.

CO1 Idea of errors in computation due to machine, methods and algorithms.
CO2 Numerical solutions of linear and non-linear equations.
CO3 Interpolation and curve fitting algorithms.
CO4 DFT and FFT algorithms.
CO5 Numerical differentiation and integration algorithms.
CO6 Solving differential equations, Euler and Taylor Series methods, Runge-Kutta Methods, Predictor-corrector Method, Comparison of different methods.
CO7 Elementary ideas of solutions of Partial Differential Equations.
CO8 Monte-Carlo simulations: Sampling and Integration, Metropolis Algorithm.
CO9 Numerical methods for Matrices: Eigen values and Eigen vectors, Similarity transformation and Diagonalization, power method to find eigen values.

M2PHY02-CT06:Quantum Mechanics-II

This second part completes the basic course of Quantum Mechanics which is one of the most fundamental to understand the state of art weapons in the armory of modern theoretical physics. This is also a prerequisite for a good experimentalist.

CO1 The Approximation methods: The WKB method and the Variational principles- basic formalism and applications.
CO2 Theory of scattering: Quantum mechanical perspectives and tools-PW analysis, Born Approximation, Effective range theory, Method of Green functions- Basic formalism and applications.
CO3 Indistinguishability principle and its effect on scattering processes and cross-section.
CO4 Time dependent perturbation theory for constant and Harmonic perturbations-Principle and emergence of Fermi Golden rules, Applications to find scattering cross section and radiative transitions in atoms.

CO5 Relativistic wave equations: KG, Weyl, Dirac and Pauli equations. Need of spin attribute to the Dirac particle and to get the Spin operators, Dirac spinors, Dirac hole theory and emergence of Quantum Field theory.

CO6 Fundamentals of path integral method. To find propagation operators for simple examples. Comparison with the approaches of quantum physics.

M2PHY03-CT07: Statistical Mechanics

Students will learn to find macroscopic thermal properties like specific heat, magnetic susceptibility from microscopic dynamics. The course starts from the classical dynamics and then using quantum dynamics as the microscopic principles. The notion of an ensemble and theory of phase transition is introduced.

CO1 Connection between statistics and thermodynamics.

CO2 Different ensemble theories to explain the behaviour of the systems using classical statistics.

CO3 Difference between classical statistics and quantum statistics.

CO4 The density matrix and ensembles theory following the quantum statistics.

CO5 Partition functions and to find thermodynamic quantities. Classical and quantum cluster methods.

CO6 Statistical behaviour of ideal Bose and Fermi systems.

CO7 Bose-Einstein condensation, Liquid He, Ising model for application of statistics methods to a magnetic system.

CO8 Landau theory of phase transition, order parameter, statistical correlation and fluctuations.

M2PHY04-CT08: Electrodynamics

This course is designed to impart the basic principles associated with electromagnetic field theory and introduction of Plasma Physics. It elucidates:

CO1 Laws of electrostatics and magnetostatics, Maxwell's equations, Lorentz invariance, electromagnetic waves in free space, dielectric and conducting medium. Laws of reflection and refraction.

CO2 Dispersion relations in plasma, Classification of waves (TEM, TE, TM)

CO3 Transmission lines: lossless line, terminated transmission line and general lossy line.

CO4 Rectangular wave guide, Electromagnetic cavities: time average electric and magnetic energies, Electromagnetic cavities: damping constant, quality factor

CO5 Dipole radiation: Retarded potential, Liénard-Wiechert potential, dynamics of charged particle in static and electromagnetic field, electric and magnetic fields due to a uniformly moving charge and an accelerated charge.

CO6 Radiation from moving charges, Qualitative discussion of bremsstrahlung and synchrotron radiation.

CO7 Radiation reaction: The Abraham-Lorentz formula, radiation damping.

CO8 Definition of plasma, natural occurrence of plasma, Astrophysical plasmas. Plasma oscillation, Debye shielding, plasma parameter and plasma production.

CO9 Thermal ionization, Saha equation.

CO10 Laboratory methods of plasma production, steady glow discharge, microwave breakdown and induction discharge.

M2PHY05-CP03: Electronics and Microprocessor Projects

Students can design and construct electronic circuits of specific purpose. The training is useful to design other circuits also. Through ALP students will learn concepts of interface and automation.

CO1 Design and construction of electronic circuits with OP amps, discrete electronic components and integrated circuit chips.

CO2 Design and construction of amplifier, oscillator, and wave shaping circuits of defined specifications.

CO3 Design and construction of electronic filters and understanding phase sensitive detection technique.

CO4 Design construction and performance of encoders, decoders, multiplexers, demultiplexers, Flip-Flops, shift registers, counters.

CO5 Assembly language programming using 8085 microprocessor based on the arithmetical, logical, data transfer instruction and solving the sorting, time delay problems.

M2PHY06-CP04: Computational Physics Laboratory

This laboratory course is aimed to understand numerical aspects, error analysis and get insights of the limitations of various numerical methods. It also develops programming skill in Fortran and C. Students will get exposure of the Matlab scientific computing tool and can compare results with developed programs. There are two parts of this paper.

SECTION A: Programming in Fortran or C

CO1 To implement Gauss elimination method.

CO2 To implement Gauss Seidel method.

CO3 To implement bisection method.

CO4 To implement false-position method.

CO5 To implement Newton Raphson method.

CO6 To find roots of a quadratic equation.

CO7 To perform addition, subtraction and multiplication of matrices.

CO8 To find inverse of a matrix by any one method.

CO9 To change a square matrix into a upper and lower triangular matrix.

CO10 To find area and volume of any given geometric shape.

CO11 To perform conversion of temperature from one to another scale.

CO12 To generate Fibonacci series.

CO13 To find maximum and minimum from a set of given numbers.

CO14 To find factorial of a given number.

CO15 To test if a given number is a prime number or not.

SECTION B: Introduction of MATLAB

CO1 To find minima and maxima of curve.

CO2 To understand algorithmic flow towards root of bisection and *regula falsi* methods.

CO3 To solving differential and integral equation.

CO4 To perform curve plotting .

CO5 To perform FFT and DFT.

CO6 To perform linear interpolation.

CO7 To sample three different parabolic functions at the points defined in x

CO8 Vectors and Matrices operation.

CO9 To perform curve fitting.

CO10 Interpolation and Extrapolation.

CO11 Least Squares fitting.

CO12 Cubic spline interpolation, Spline Interpolation.

M.Sc. (III Semester)

M3PHY01-CT09: Atomic and Molecular Physics

Students will learn origin of atomic spectra of one and two valence electron atoms and response to the applied electric and magnetic field. Moreover, they learn basic theories of the rotational, vibrational and electronic spectra of polyatomic molecules. Instrumentation, principles and details of the Molecular spectroscopic methods are elucidated in length.

CO1 Spectrum of Hydrogen atom, Spectra of alkali atoms, Spin orbit interaction, Fine structure in alkali Spectra, Equivalent and non-equivalent electrons.

CO2 Normal and anomalous Zeeman Effect, Paschen back effect, Stark Effect, Two electron systems , LS and JJ coupling.

CO3 Rotation spectra of molecules, Diatomic vibrating rotator, The interaction of rotation and vibration, Vibration of polyatomic molecules, Techniques and instrumentation of Microwave and IR Spectroscopies.

CO4 Pure rotational Raman Spectra, Vibrational Raman Spectra, Polarization of light and Raman Effect.

CO5 Structure determination from Raman, IR and microwave spectroscopies.

CO6 Electronic spectra of diatomic and polyatomic molecules.

CO7 Molecular Photoelectron Spectroscopy, NMR Spectroscopy, ESR spectroscopy.

M3PHY02-CT10: Solid State Physics

This is the most fundamental course to understand characteristics and behavior of materials and the physics behind their general, specific and exotic properties. This subject is both theoretically and experimentally rich. The course outcomes are to expose the students to:

CO1 Crystal structure, direct and reciprocal lattices, Form and structure factors.

CO2 Lattice Dynamics of crystals: Lattice vibrations of crystals with monoatomic and diatomic basis, quantization of elastic waves, Inelastic scattering by phonons. Specific heat of solids due to phonons and the thermal conductivity.

CO3 Theory of free electrons- Fermi- Dirac distribution, free electron gas in three dimensions and heat capacity.

CO4 Electron bands, the band structures of metals, insulators and semiconductors, Number of orbitals in a band, tight binding approximation.

CO5 The reduced, extended and periodic zone schemes, construction of Fermi surfaces, electron orbits, hole orbits, open orbits, deHaas-van-Alfen effect for Fermi surface.

CO6 Superconductivity, Meissner effect, type-I & II superconductors, BCS theory, Josephson junctions and its ac and dc characteristics.

CO7 Magnetic properties of solids: Langevin diamagnetism equation, quantum theory of diamagnetism and paramagnetism, quantum theory of paramagnetism, Hund's rules.

CO8 Ferromagnetic order, magnons, neutron magnetic scattering, Antiferromagnetic order, Ferromagnetic domains, single domain particle.

M3PHY03-ET01A: Radiation Physics

This specifically designed course covers production, quantification and detection of radiation from various sources. It also covers the diagnostic and therapeutic tools. Effect of ionizing radiation on living organisms, insurance level of radiation safety enables to educate on radiological protection and permissible radiation exposure for treatment.

CO1 Sources of Radiation: Cosmic rays, radioactive sources, brief study of principle of operation & characteristics of radiations of Cockroft Walton, Van de Graff, cyclotron, electron lineac, electron synchrotron, Synchrotron radiation; Polarization, coherence and emittance. Neutron Source; Reactors, Neutrons from charged particle and photon induced reactions.

CO2 Radiation Protection: Units and various parameters, background levels, radiation carcinogenesis.

CO3 Interaction of Charged Particle with Matter: Definition of range, types of charged particle interaction, energy transfer in elastic collisions, Bethe formula, scattering of heavy and light charged particles.

CO4 Interaction of Photons: Attenuation coefficients, classical scattering from single electrons, coherent scattering, Klein –Nishina cross section, Compton scattering from atomic electrons: Effect of electron binding, electron recoil energy, electron momentum distributions from Compton profiles. Photoelectric absorption, characteristic X-rays, Auger electrons, pair production.

CO5 Interaction with Neutrons: Neutron interactions, Neutron fields in non-multiplying media: Definition of flux, current density, collision dynamics, distribution of energy and angle of scatter, Mean scatter angle and energy loss in single collision, extension to multiple collision, slowing down in hydrogen, neutron diffusion, moderation and diffusion.

CO6 Radiation Detectors: Gas detectors, Scintillation detector, Semiconductor detectors.

CO1 Dosimetry: Experimental determinations of microdosimetric spectra, practical considerations, primary radiation effects, radiation effects in condensed systems, radiolysis of water, dosimeter, Charged particle equilibrium, photon interaction coefficients, relation between exposure, kerma and absorbed spectra, measurement of exposure, practical aspects of ionization chamber dosimetry, calorimetry, standardization for low and medium energy X-rays, high energy photons, electrons, chemical dosimeters, TLD, solid state and film dosimeters.

CO2 Brief discussion of radiotherapy using photons, electrons and heavy particles: introduction to radiation imaging techniques, Diagnostic radiology, tomography, MRI, Nuclear Medicine.

M3PHY03-ET01B: Plasma Physics

Students will study methods to find the charge particle motion, theory & characteristics of plasma. Methods to generate plasma in the laboratory and how plasma production is helpful to make fusion reactors. This paper also contains Solar plasma together with the study of solar interior. The course out comes are to:

CO1 Unleash the plasma state as distinct from other three states, develop concepts of Debye screening collective behavior, quasi neutrality.

CO2 Derive a set of fluid equations to study plasma properties.

CO3 Use fluid equations to study plasma waves, equilibrium and stability.

CO4 Understand concepts of plasma resistivity, diamagnetism, and paramagnetism.

CO5 Develop Kinetic description of hot plasma, the waves and instabilities in hot plasma.

CO6 Understand equilibrium and stability of fusion plasma, magnetic confinement and inertial confinement schemes, Tokamaks, laser fusion.

CO7 Learn about Solar plasma and its magneto hydrodynamics, Solar magnetism, Chromospheres and corona, Solar wind and heliosphere, solar eruptions. Solar vibrations, Sunspots and cycle.

CO8 Solar plasma electrodynamics for solar luminosity, opacity, temperature, pressure, mass, radius and gases. The Sun's continuous and absorption line spectrum, solar energy transport, photosphere, chromospheres corona and solar winds.

CO9 Solar interior, nucleus transformation and fusion reactions, solar neutrino experiments, Basic of nebular models and the formation of the planets, Asteroid, Comets, Meteors.

M3PHY03-ET01C: Theoretical Methods in Condensed Matter Physics

This course provides background theories and knowledge of a few tools that are being used to model and simulate physical and chemical properties of crystalline materials.

CO1 Electronic Structure: Single electron Model: Basic Hamiltonian, Born-Oppenheimer approximation, Schrodinger equation and translation symmetry, Bloch's theorem and its Fourier analysis, Kronnig-Penny model.

CO2 Density of States, van-Hove singularity, specific heat of non-interacting electrons at low temperatures.

CO3 Nearly free and tight bound electrons: electronic properties , Brillouin zones and the free electron Fermi surfaces.

CO4 Tight bound electrons: Wannier functions and tight binding model.

CO5 Electron-electron Interaction: Hartree and Hartree-Fock equations, Hartree–Fock method and the correlation and exchange interaction of electrons.

CO6 Thomas-Fermi theory, Density functional theory, Kohn-Sham equations. Kohn-Sham and Hohenberg theorem.

CO7 Calculations of Band Structure, Psuedopotential and Orthogonal Plane Wave methods

CO8 Framework of the LCAO and the LAPW or LMTO methods.

M3PHY04-ET02A : Industrial electronics

This course focuses on electronics used in industries and aims at equipping the students for understanding and application of the same in several key industries:

CO1 POWER DEVICES: Power diode, Power transistor, Power MOSFET, SCR,TRIAC,GTO, IGBT, MCT, Protection of power devices.

CO2 CONVERTERS: Introduction to half wave, full wave and bridge rectifiers, Single phase and three phase, Half controlled and fully controlled converters, Dual converters, Introduction to cyclo converters and ac controllers.

CO3 INVERTER AND CHOPPER: Voltage, current and load commutation, Voltage Source Inverter (VSI) – Series and Parallel inverter, Bridge inverters , Voltage control using PWM – Current Source Inverter (CSI), Choppers – Step up and step down choppers – Chopper classification – Class A,B, C, D, E – AC choppers.

CO4 DC AND AC DRIVES : Steady state characteristic of dc motors, Control of DC motor using converters and choppers, Regenerative and dynamic braking, Closed loop control scheme, Speed-torque characteristic of induction motor, Static stator voltage control, V/f control – Static rotor resistance control, Slip power recovery scheme – Self control of synchronous motor.

CO5 OTHER APPLICATIONS: Electronic timers, Digital counters, Voltage regulators, Online and offline ups, Switched mode power supply, Principle and application of induction and dielectric heating.

M3PHY04-ET02B: Data and Computer Communications

The purpose is to equip the student with knowledge and application of communication based on computers along with understanding/management of data from a fundamental perspective.

CO1 Protocol Architecture: Communication model, Communication Tasks, Data Communication Networking: WAN, LAN, Wireless Networks.

CO2 Basics of Network Software: Protocol and protocol architecture, Protocol functions, Design Issues for the layers, interfaces &Services, Connection oriented and connectionless services, service primitives, relationship of services to protocols , ISO REF Models, TCP/IP Model.

CO3 Data Communications: Data Transmission: Concepts of Frequency, Spectrum, bandwidth, Electromagnetic spectrum and frequencies for data communication, Fourier analysis , Data and signal, Transmission impairments, channel capacity, Nyquist bandwidth, Shannon capacity formula ,decibels and signal strength.

CO4 Transmission media: Coaxial, twisted pair, Comparative study of Categories of cables, Coaxial, Optical Fibers, Wireless transmission: Terrestrials, Microwave, Satellite, Broadcast Radio, Infrared.

CO5 Data Encoding: BCA (NRZ, Bipolar AMI, B8ZS, HDB3,ASK,FSK,PSK,PCM,AM,FM,PM).

CO6 Spread Spectrum. Asynchronous and Synchronous transmission, Full and Half duplex, Interfacing, Functional and Procedural aspects of V.24.

CO7 Data Link Control: Flow control: Stop and Wait, Sliding window, Error detection: Parity Check, CRC.

CO8 Error control: Stop and Wait ARQ, Go back-N ARQ, Selective-Reject ARQ, Brief idea of HDLC and other Data Link control protocols.

CO9 Circuit Switching: Simple switching Network, Circuit Switching Networks, Circuit Switching Concepts: Space Division switching, Time Division Multiplexing, Routing in circuit switching Networks, Control Signaling, In channel & common channel signaling, Brief idea of SS7. Packet Switching: Packet switching principles, Routing,X.25

CO10 LAN Technology: LAN architecture, IEEE 802 standards, Ethernet (CSMA/CD): Medium Access Control, 10, 100, Gigabit Ethernet. Brief survey of other LAN systems (Token ring, FDDI,ATM, Fiber channel). Wireless LANS, Bridges, Latest trends in LAN technologies.

CO11 LAN Devices: Study of specifications of L2 and L3 switches, Structured cabling, Passive components.

CO12 Principles of Internetworking, connection less Internetworking, IP, IPv6, IP multicasting. Routing protocols, TCP, UDP, SNMP,SMTP and MIME, HTTP.

M3PHY04-ET02C Programming Using Java

Since Java programing forms the basic of several other types of customized software, the course intents to give a grounding to be able to independently develop custom required programs as is often required in research in Physics.

CO1 Introduction: Bytecode, features of Java, data types, variables and arrays, operators, control statements.

CO2 Objects & Classes: Object Oriented Programming, defining classes, static fields and methods, object construction

CO3 Inheritance: Basics, using super, method overriding, using abstract classes, using final with inheritance.

CO4 Packages and Interfaces: Defining a package, importing package, defining an interface, implementing and applying interfaces.

CO5 Exception Handling: Fundamentals, exception types, using try and cache.

CO6 Multithreaded Programming: Creating a single and multiple threads, thread priorities, synchronization.

CO7 Applets: Applets basics, applets architecture, applets skeleton, the html applet tag, passing parameters in applets.

CO8 Event Handling: Event classes and event listener interfaces.

CO9 Graphic Programming Introduction to swings.

M3PHY04-ET02D Semiconductor Physics and Devices

The course focuses on various types of devices based on diverse types of semiconductors with emphasis on the Physics behind the working of such devices.

CO1 Chemical equilibrium and mass-action law, charge carriers in semiconductors, dopant and energy levels, extrinsic semiconductors, statistics of donors and acceptors, charge neutrality and position of Fermi levels, carrier drift, carrier diffusion and graded impurity distribution.

CO2	Carrier generation and recombination; characteristics of excess carriers, Ambipolar transport and quasi-Fermi energy levels, Excess carrier lifetime: Shockley-Read-Hall theory of recombination.
CO3	Surface effects, basics of p-n junction, built-in potential barrier, electric field and space charge width, junction capacitance, one-sided p-n junction and non-uniformity doped junction, current, small-signal model of the p-n junction, diode carrier equation and junction breakdown, charge storage and diode transients,
CO4	Schottky barrier diode: metal-semiconductor junction, semiconductor-semiconductor junction, metal-semiconductor Ohmic contacts and hetero-junctions, junction in organic materials.
CO5	The Physics of BJT and the FET, Photo-detectors, Light emitting diodes (LEDs), Laser diodes, Power semiconductors devices, Integrated circuits, High-frequency, high-power and nano-electronic devices, Semiconductor process technology, MBE and MOCVD.
CO6	Physics of Solar cells: Photovoltaic cells and power generation and the characteristics, detailed balance, photo-current, device current, limiting efficiency, effect of band gap and spectrum on efficiency; depletion approximation and calculation of carrier and carrier densities, general solution for J (V),
CO7	The p-n junction in dark and under illumination, effects of parasitic resistance, irradiation, temperature on p-n junction characteristics, lattice matching in epitaxial growth, Epitaxial growth, vapor phase epitaxy; growth of single-crystal ingots, wafer and doping.
CO8	Solar cell devices: Monocrystalline solar cells, Silicon solar cell designs; GaAs solar cell design, thin film solar cells: thin film photovoltaic materials; amorphous Silicon and amorphous Silicon solar cell design, defects in polycrystalline thin film materials, CuInSe2, CdTe and Silicon thin film solar cells
CO9	Organic, dye sensitized and perovskite solar cells,
CO10	Managing light: Photon flux, concentration, effect of concentration on device physics, light confinement, photon recycling, Strategies for high-efficiency.

M3PHY05-CP05: Data Analysis Techniques in Experimental Physics

This practical based course introduces the student to do the following making use of several different types of software with due consideration for limitations of the same. Since the data used is actual research level experimental data, the student is also exposed to methods of extraction of information/analysis.

CO1	To analyse given data by the Gaussian fit and perform pulse height analysis.

CO2 To perform linear fit of given data set for calibration and find error on interchanging axes (say I versus B in Hall measurement set up or Deflection angle versus Temperature in Driven oscillator set up) .

CO3 To determine size of nanoparticles characterised by SEM and X-ray diffraction.

CO4 To analyse VSM spectrum of a sample and to find the magnetic moment.

CO5 To index peaks of XRD pattern of samples with different crystal structures.

CO6 To find lattice constant and the density of a crystalline material using XRD pattern.

CO7 The role of convolution and deconvolution in spectroscopic methods.

M3PHY06-EP01X: Practical-I

M3PHY06-EP01A : Radiation Physics Lab

This laboraroty based course allows the students to simulate and observe various principles they have learnt in their Radiation Physics theory course.

CO1 Experiments based on Monte Carlo simulations for multiple scattering of photons in in-vivo tissues, skeleton bones, water, etc.

CO2 Computation of photon cross-sections and mass attenuation coefficients of various biological tissues and tissue-equivalent materials using XCOM program of J.H. Hubbel

CO3 Use of HPGe detector in analysis of γ-ray spectra such as pulse height analysis using an HPGe detector, find resolution of an HPGe detector, to identify a radionuclide using HPGe detector.

M3PHY06-EP01C: Materials Computation Lab

The purpose of this lab is to model and simulate crystalline materials and their properties based on what they have learnt in the course Theoretical Methods in Condensed Matter Physics

CO1 The student is introduced to simple DFT calculations

CO2 Learn to estimate basic quantities such as the magnetic moment, band gap, refractive index etc.

CO3 Will write programs to calculate DOS, specific heat, thermal conductivity etc. of some simple systems.

CO4 Will simulate formation of bands in variety of crystal potentials.

CO5 Will simulate application of magnetic properties in technological applications.

CO6 Other experiments modelled and simulated with the help of teacher.

M3PHY06-EP01P: Project

Students are allowed to offer a Project work under supervision of a faculty member. The project will be evaluated centrally at the University Department. Most of these projects are generally linked to the type of research work being carried out in the laboratory of the faculty member.

CO1 The student gets training to use sophisticated instruments /techniques.

CO2 The course thus imparts valuable training/exposure to specialized techniques and actual data accumulation methods.

CO3 The student is inspired to pursue active research.

CO4 Student will learn rudiments of document development techniques and putting that into a reality by writing a dissertation on the project work.

M.Sc. (IV Semester)

M4PHY01-CT11 Nuclear and Particle Physics

The student is introduced to a fundamental course in Physics of great theoretical and practical application

CO1 Properties of stable nuclei- Nuclear Size: Different type of radii and brief discussion of methods to determine radii., spin and magnetic moment of nuclei, Quadrupole moment of nuclei.

CO2 Two body problem- Ground state of deuteron: Ground state wave function, Nucleon-Nucleon scattering, Qualitative discussion of n-p and p-p scattering cross section

CO3 The nuclear force- form of nucleon-nucleon potential; Charge-independence and charge-symmetry of nuclear forces, isospin, exchange nature of nuclear force.

CO4 Nuclear Models- Liquid Drop Model, Evidence of shell structure, single- particle shell model, its validity and limitations; Brief discussion of Nuclear Collective model

CO5 Nuclear Reactions- Nuclear Reactions: Energy considerations, Cross section for nuclear reactions : statistical considerations. Compound Nucleus & Direct reactions, Nuclear fission and fusion, Neutron scattering cross section

CO6 Alpha Decay- Range and disintegration energy, Geiger Nuttal law, Fine structure of alpha spectrum

CO7 Beta Decay- Beta particles, experimental information, neutrino hypothesis, Fermi theory of Beta decay, Fermi Kurie plot, Brief survey of ft values : allowed and forbidden transitions, Non-conservation of parity in beta decay, Helicity of Neutrino.

CO8 Gamma Decay- Gamma decay and the transition probability, Internal conversion of gamma rays, Brief discussion of Angular correlation of gamma rays.

CO9 Introduction to Particle Physics-Classification of Elementary Particles, Particle interactions. Different types of elementary particles (Electrons, protons, neutrons, mesons, hyperons and their anti-particles). Conservation laws. Spin and parity assignments, isospin, strangeness. C, P, and T

invariance and applications of symmetry arguments to particle reactions. Parity non-conservation in weak interactions

M4PHY02-CT12 Experimental Techniques in Physics

This course introduces various experimental techniques used in Physics encompassing both electronics and also other measuring/ supporting/characterizing devices/techniques such as microscopy, spectroscopic methods, thin films etc.

CO1 Sensors & transducers: Mechanical and Electromechanical sensors, Thermal Sensors, Magnetic Sensors, Opto- electronic devices: Solar cells, LED, Photo detectors. Radiation detectors: GM detector, Scintillation, Semiconductor pin detector.

CO2 Analog Signal Processing: Signal classifications, functions in analog signal processing, Errors in signal processing, Signal conditioning, Recovery & Conversion, Sample and hold circuits, Impedance matching, filtering and noise reduction, shielding and grounding, Analog to Digital Conversion, Digital to Analog Conversion, Box-car integrator, modulation techniques, Phased locked Loop, lock-in detector, Lock in Amplifier.

CO3 Vacuum Techniques and Thin Films: Introductory vacuum concepts, and measurement of system pressure. Vacuum Pumps: Rotary, Diffusion pumps, UHV pumps and materials for UHV, measurement of vacuum, surface preparation and cleaning procedure.

CO4 Thin film preparation techniques: Thermal evaporation, sputtering, ion-beam, molecular epitaxial and chemical vapor methods.

CO5 Digital Imaging and Basics of Imaging techniques: FET, homo and hetro-junction devices, Charge coupled Devices and its applications.

CO6 Microscopic techniques in Physics- Field Ion Microscopy, Scanning Tunnelling Microscopy, Electron Microscopy: Principle, typical experimental setup and measurement.

CO7 Mass spectroscopy: Principle, spectrometer, and its operation, resolution, Mass spectrum, applications.

CO8 Physical Property Measurements of Solids: Experimental techniques for measurement of Heat capacity, Electrical resistance of metals, thermal conductivity and magnetic susceptibility- Principle, typical experimental setup and measurement.

M4PHY03-ET03A Fundamentals of Nanoscience

This elective course gives an overview of a currently important field in Physics including basic theories/devices and characterization techniques.

CO1 INTRODUCTION Nanoscale Science and Technology - Implications for Physics, Chemistry, Biology and Engineering - Classifications of nanostructured materials - nano particles - quantum dots, Nanowires – ultra – thinfilms - multilayered materials. Length Scales involved and effect on properties: Mechanical, Electronic, Optical, Magnetic and Thermal properties. Introduction to properties and motivation for study (qualitative only).

CO2 PREPARATION METHODS Bottom-up Synthesis -Top-down Approach: Precipitation, Mechanical Milling, Colloidal routes, Self-assembly, Vapour phase deposition, MOCVD, Sputtering, Evaporation, Molecular Beam Epitaxy, Atomic Layer Epitaxy, MOMBE.

CO3 PATTERNING AND LITHOGRAPHY FOR NANOSCALE DEVICES Introduction to optical/UV electron beam and X-ray Lithography systems and processes, Wet etching, dry (Plasma /reactive ion) etching, Etch resists-dip pen lithography

CO4 PREPARATION ENVIRONMENTS Clean rooms: specifications and design, air and water purity, requirements for particular processes, Vibration free environments: Services and facilities required. Working practices, sample cleaning, Chemical purification, chemical and biological contamination, Safety issues, flammable and toxic hazards, biohazards.

CO5 CHARACTERISATION TECHNIQUES X-ray diffraction technique, Scanning Electron Microscopy - environmental techniques, Transmission Electron Microscopy including high-resolution imaging, Surface Analysis techniques - AFM, SPM, STM, SNOM, ESCA, SIMS - Nanoindentation

M4PHY03-ET03B Atmospheric Physics

The course aims to introduce the student to various atmospheric phenomena especially correlating the observed effects to the sun. The emphasis is in understanding the Physics behind such phenomena.

CO1 Radiative transfer in the atmosphere: Temperature of the sun and spectral distribution of solar radiation, blackbody radiation, Passage of solar radiation through the atmosphere, atmospheric windows, emissivity, absorption spectra of atmospheric gases, optically thick and thin approximation, aerosol, scattering, calculation of radiative heating and cooling, terrestrial radiation and its passage through the atmosphere.

CO2 Atmospheric thermodynamics: Laws of thermodynamics, Lapse rate, thermodynamic equations entropy change water-air mixture, moisture variables, potential temperature, virtual temperature, thermodynamic diagram, dry and moist static energy, static stability, convective instability.

CO3 Basic equations of atmospheric dynamics: Equations of motion in spherical coordinates, rotating frame, coriolis force, quasistatic approximation, scale analysis, Rossby number, balanced flow, natural coordinate system, equations of continuity in spherical and Cartesian coordinates. Thermodynamic energy equations, pressure as vertical coordinate.

CO4 Cloud microphysics: Cloud forms and characteristics, formation and growth of precipitation particles, terminal velocity, thunderstorms, artificial rain making.

CO5 Atmospheric Circulation: Circulation, Vorticity, divergence and deformation Circulation theorems and applications, Barotropic and baroclinic fluids, dynamic instabilities.

M4PHY03-ET03C Microwave Electronics

This course is important from the communications point of view and introduces the student to various aspects of behavior, propagation and device applications of microwaves.

CO1 Introduction to microwaves and its frequencies spectrum, Necessity of microwaves and their applications

CO2 Wave Guides: (a) Rectangular wave guides : Wave equation & its solutions, TE and TM modes. Dominant mode and choice of wave guide dimensions, Methods of excitation of wave guide, Power transmission and power losses. (b) Circular wave guides: Wave equation and its solutions, TE, TM and TEM modes, Power transmission and power losses.

CO3 Resonators: Resonant modes of rectangular and cylindrical cavity resonators, Q of the cavity resonators, Frequency meter, Dielectric resonators Striplines: Introduction to mircostrip lines, Characteristic impedance of microstrip lines, Losses in microstrip lines, Quality factor of microstrip lines, Basics of parallel and coplanar strip lines. Transferred electron devices : Gunn effect, Differential negative resistance, Two-valley model theory, Microwave generation using Gunn diode.

CO4 Microwave linear beam tubes: Space charge spreading of an electron beam, Beam focusing, Velocity modulation, Two cavity Klystron, Reflex Klystron and efficiency of Klystrons,

CO5 Slow wave structure of helix TWT, Amplification process and working principle of TWT.

CO6 Microwave crossed field tube: Types and description, Theoretical relations between electric and magnetic field of oscillations for magnetrons. Modes of oscillations and operating characteristics of magnetrons. Construction and working principle of Gyrotron.

CO7 Ferrites: Microwave propagation in ferrites, Faraday rotation, Devices employing Faraday rotation (isolator, gyrator, circulator). Introduction to single crystal ferromagnetic resonators.

CO8 Microwave test equipment: Measurement of power, frequency, attenuation, impedance and VSWR. Reflectometer, Antenna measurements and radiation pattern.

CO9 Complex permittivity of materials and its measurement: Definition of complex permittivity of solids, Dielectric properties of materials using shift of minima method.

M4PHY04-ET04A Materials Science

The course explores various class of materials, their properties, control parameters and uses through mainly an understanding of their phase diagrams. It also includes discussions on some technologically important novel materials.

CO1 Phase diagrams, Solubility limit. Phases, microstructure. Phase equilibria. Equilibrium phase diagram. Binary isomorphous systems. Interpretations of phase diagrams. Binary eutectic systems. Development of microstructures in eutectic alloys. The Fe-Fe; C phase diagram, Development of microstructures in iron-carbon alloys. Phase transformations: Kinetics of phase transformation, metastable vs equilibrium states.

CO2 Ceramics: Ceramic structure, ceramics density calculations, Silicate Ceramics, imperfections in ceramics, ceramic phase diagram of Al2O3-Cr2O3 system, Brittle fracture of ceramics, stress, Qualitative description of strain behaviour.

CO3 Glasses: Properties of glasses, glass forming. Heat treating glasses glass ceramic. Clay products. Characteristics of clay. Composition of clay products. Refractories. Abrasives, Cement.

CO4 Polymers: Hydrocarbon molecules and Polymers. Chemistry of polymer molecules. Molecular configuration. Stress-strain behaviour. Thermoplastic and thermosetting polymers, viscoelasticity. Deformation of elastomers. Impact strength, fatigue, strength and hardness.

CO5 Composites: Particles Reinforced composites, large particles composites, dispersion strengthened composites, Fiber Reinforced Composites: Influence of fiber length, orientation and concentration. The Fiber phase, matrix phase, Polymer-matrix, Metal-Matrix, Ceramic-Matrix Composites,

CO6 Carbon-Carbon composites, laminar composites, sandwich panels.

CO7 Magnetic Materials: Soft magnetic materials, hard magnetic materials, qualitative discussion of magnetic thin films, multilayers - DMS, GMR, and CMR. Magnetic nanoparticles, Measurement of Particle size density- porosity- lattice constant using X-ray. Working principles of magnetic characterization using Mössbauer spectroscopy and VSM technique.

M4PHY04-ET04B Ionosphere Physics

The student is introduced to properties of the ionosphere both from the fundamental Physics and applications point of views.

CO1 Ionosphere propagation and measurement techniques- Effect of Ionosphere on radiowave propagation, Refraction, Dispersion and polarization, Magnetoionic theory, critical frequency and virtual height, Oblique propagation and maximum usable frequency, Ground based techniques : ionosondes, radars, scintillation and TEC, ionospheric absorption, rocket and satellite borne techniques: Langmuir probe, electric field probe mass spectrometer.

CO2 Ionospheric Plasma Dynamics: Basic Fluid equations, steady state ionospheric Plasma motions due to applied forces, generation of Electric field mapping, collision frequencies, Electrical conductivities, Plasma diffusion, Ionospheric dynamo, Equatorial Electrojet & EIA.

CO3 Airglow and its measurement: Night glow, Dayglow, Twilight glow, Aurora, Photometers, Spectrometers and imagers for airglow measurement, applications of Airglow measurement for ionospheric dynamics and composition.

CO4 Ionospheric Plasma irregularities: E-region irregularities associated with electrojet, Sporadic-E, Auroral electrojet and associated irregularities, F-region irregularities, Equatorial Spread F and its various manifestations. Airglow depletions and plasma bubbles, Ground based, rocket borne and satellite based measurement techniques for these irregularities. Theories of ESF.

CO5 Ionospheric modeling and models: IRI, SUPIM, TIGCM, PIM. Brief introduction to ionospheres of Mars, Venus and Jupiter.

M4PHY04-ET04C Astronomy & Astrophysics

This is an introductory course to Astronomy with emphasis on Astrophysics

CO1 Introduction- Basic parameters in Astronomical observations (Magnitude scales , Coordinate system), Stellar classification -H.R. Diagram , Saha's equation , Jean's criteria for stellar formation, Galaxy classification

CO2 Cosmology : Cosmological models , observations , cosmic violence (in nucleus of the Galaxy), Cosmic back-ground radiation, Elementary particles and cosmos, Big-Bang. Model of inflationary Universe (flatness and horizontal problem), Relativistic and Cosmic geometry of space – time and universe.

CO3 Optical and near IR studies of Stars and Galaxies

CO4 Optical Telescopes with CCD's -High angular Resolution Techniques (Speckle, Lunar Occultation adaptive optics).

CO5 Interferometry with Telescopes. Spectral Energy Distribution (in optical Bands) in Stars, Rotation of stars, Study of Binary Stars, Gaseous Nebulae. Extinction curve of interstellar matter, dust-

	Rotation, Curve of galaxies, Spectral Energy Distribution, Colour studies (Imaging of galaxies in Different bands).
CO6	High Energy astronomy- Atmospheric transmission, Detection Techniques for X-rays and Gamma-rays, X-ray-Telescopes with imaging and Spectroscopy -Radiation Processes in Accretion Disks around Black Holes and X-rays Binaries -Active Galactic Nuclei.
CO7	Dark Matter: Evidences of dark matter – Dark matter components in our galaxy, in Halos of the spiral galaxy, in clusters of candidates in dark matter. Baryonic and non-Baryonic candidates in dark matter.
CO8	Radio Telescopes – Radio Interferometry. Very long Base Interferometry (VLBI) of Radio Pulsars, Radio galaxies – Distribution of HI gas in Galaxies – Radiation mechanism
CO9	Black hole Observation, Gravitational lens, Schwarzschild radius, Singularity, X-rays and Gamma rays bursts through cosmic flux detection using photo-multiplier tubes.
CO10	Hubble's law and Hubble's constant, Red shift, distance, age of the Universe Measurements.
CO11	Galactic Structure – Rotation and spiral, Optical, radio, X-rays, Gamma radiation observation.

M4PHY05-CP06 Modern Physics Laboratory

This experimental course introduces the student to the use of instruments used in nuclear and atomic Physics as well as properties of materials

CO1 To study random events for a Co-60 source using a G.M. counter

CO2 To determine end point energy of beta-particles of the given radioactive source

CO3 To study absorption coefficient of lead for cobalt 60 gamma rays using G.M. counter 4. To calibrate the given scintillation counter and measure the energy emitted by an unknown radioactive source

CO4 To calibrate the given scintillation counter and calculate the resolution of the counter using Cesium-137 source

CO5 To determine the d value, Miller indices (h,k,l) and calculate the lattice constant 'a' for Silicon

CO6 To determine the d value, Miller indices (h,k,l) and calculate the lattice constant 'a' for and KCl

CO7 To determine the d value, Miller indices (h,k,l) and calculate the lattice constant 'a' for and NaCl

CO8 To determine the d value, Miller indices (h,k,l) and calculate the lattice constant 'a' for and Al

M4PHY06-EP01X Practical-II

M4PHY06-EP03A Fundamentals of Nanoscience

M4PHY06-EP03B Atmospheric Physics

M4PHY06-EP03C Microwave Electronics

The course is based on the theoretical studies made by the student in Microwave Electronics and provides a practical demonstration of various aspects.

CO1 Study the mode characteristics of reflex Klystron and to determine the mode number, transit time, ETR and ETS.

CO2 Determine the wavelength and frequency of microwaves produced by Klystron source.

CO3 Determine the wavelength and frequency of microwaves produced by Gunn diode source.

CO4 Study of the V-I characteristic of a Gunn diode and to measure its power.

CO5 Determine the dielectric constant of given dielectric material using reflex Klystron.

CO6 To study the radiation pattern of given antenna by plotting polar graph and find out 3 dB parameters.

CO7 To determine the low, medium and high voltage standing wave ratio using Klystron tube.

CO8 Bragg's diffraction based experiments using microwaves.

CO9 To study substitution method for the measurement of attenuation and to study variation in attenuation with the frequency.

CO10 To study square law behavior of a microwave crystal detector and hence to determine operating range and detection efficiency.

M4PHY06-EP04A Materials Science Laboratory

CO1 To calculate the average particle size of the given sample from the given TEM micrograph

CO2 To index the XRD spectrum, calculate the lattice parameter (a) and determine the average size by the Scherrer method of the given sample

CO3 To measure the density and hence calculate the porosity of the given sample

CO4 To calibrate the given Mössbauer spectrum and hence determine the magnetic hyperfine field of Fe

CO5 To calibrate the given Mössbauer spectrum and hence determine the isomer shift and electric field gradient of the given sample

CO6 To determine the magnetic parameters (saturation magnetization, coercivity, retentivity) of the given ferromagnetic sample

CO7 Determination of g-value of electron using ESR

CO8 Measure resistivity of a semi-conductor at different temperatures by Four Probe method

CO9 Measurement of magnetic susceptibility of a paramagnetic solution by Quincke's method.

CO10 Determination of the Curie temperature of the given ferrite sample.

CO11 Study of the surface of the given sample using AFM.

M4PHY06-EP Project Work

Students are allowed to offer a Project work under supervision of a faculty member. The project will be evaluated centrally at the University Department. Whoever has taken project work in the III Semester cannot take project work in the IV Semester. The objective is to inculcate a research aptitude in the student. The major course outcomes are to:

CO1 Conduct and learn literature survey.

CO2 Design, plan and conduct an experiment.

CO3 Give exposure to sophisticated techniques and methods.

CO4	Train to develop a document by writing a dissertation on the project work.
CO5	Inspire a sense of excitement in doing research.

Course Outcomes (CO) M.Sc. (Physics) Programme

Faculty of Social Science

Department of Political Science

Courses offered-

- B.A.
- M.A.

Political Science Syllabus
BA (Pass Course)

(wef. academic session 2021-22)

Programme Objectives:

This programme consists of six courses: *Foundations of Political Science, Indian Political Thought, Constitutionalism and Modern Representative Constitutions, Freedom Struggle and Constitution of India, Western Political Thought, International Relations and the 20th Century World History.* These courses are formulated with an objective to introduce basic themes and discourses in the discipline. It is expected that the programme will ignite a sense of critical enquiry and curiosity about the political world among the students and will enable them to undertake higher studies and research.

FIRST YEAR

PAPER I

Code: 1481

Revised Syllabus

FOUNDATIONS OF POLITICAL SCIENCE

Course Objective:
The course introduces students to basic issues and concepts in the discipline. Unit I and Unit II are designed to acquaint the students with an idea of what constitutes Political Science; what are its disciplinary boundaries and what are its key concepts. The following three units are formulated with an objective to provide a fair understanding of modern nation-state, its various institutions and government types.

Unit I-
Meaning, Nature and scope of Political Science;
Key Approaches and Debates- Normative, Historical and Empirical;
Behaviouralism and Post-behaviouralism;
Debates on Decline and Resurgence of Political Theory.

Unit II-
Concepts: Liberty, Equality, Justice, Power, Authority, Legitimacy;

Political Development and Political Decay, Political Modernisation, Political Culture, Political Socialization.

Unit III-
State: Theories of the Origin of State- Divine Origin, Social Contract and Evolutionary Theory;
Debates on Modern Nation-state- Sovereignty, Citizenship and Political Obligation.

Unit Iv-
Democracy- Participation and Representation;
Dictatorships;
Parliamentary and Presidential Systems; Federal and Unitary Systems.

Unit V-
Organs of Government- Executive, Legislature and Judiciary;
Theory of Separation of Powers and Checks and Balances; Political Parties and Pressure Groups; Civil Society and Human Rights.

References:

Heywood, Andrew (2004), *Political Theory: An Introduction,* New York: Palgrave Macmillan.
Ray, Amal and Bhattacharya, Mohit (2013), *Political Theory Ideas and Institutions*: Kolkata: The World Press Pvt Ltd.
Asirvatham, A and Misra, K K (2018), *Political Theory*, New Delhi: S. Chand Publishing.
Bhargava, R and Acharya, A. (eds.) (2008), *Political Theory: An Introduction,* New Delhi: Pearson.
Bellamy, R. (1993) (ed.), *Theories and Concepts of Politics,* New York: Manchester University Press.
Vincent, A. (2004), *The Nature of Political Theory,* New York: Oxford University Press.
McKinnon, Catriona (2012), *Issues in Political Theory*, New York: Oxford University Press.
Marsh, D. and Stoker, G. (eds.) (1995), *Theory and Methods in Political Science*. London: Macmillan.
S P, Varma (2018), *Modern Political Theory,* New Delhi: Vikas Publication House Pvt Ltd.
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भार्गव, राजीव एवं आचार्य, अशोक (संपादक) (२०११), *राजनीति सिद्धांत एक परिचय,* नई दिल्ली: पीयर्सन।
डॉ श्री राम वर्मा (2018), *राजनीति विज्ञान के मूल आधार,* जयपुर: कॉलेज बुक सेंटर।

Code: 1482

Revised Syllabus

PAPER-II

INDIAN POLITICAL THOUGHT

Course Objective:

The course is designed to introduce key strands of ancient as well as modern Indian political thought, spanning a period of almost five thousand years. Though the focus is on individual thinkers, each unit is knit around a specific theme. Unit I introduces ancient Indian musings on *rashtra*, *dharma* (duties), kingship, and polity; Unit II is about renaissance and reformation in the 19th century India; Unit III and Unit IV are meant to discuss the emergence of Indian nationalism and its various undercurrents; Unit V gives a broader understanding of socialist thought in independent India. Overall, the course is meant to provide an overview of themes and thinkers that constitutes the essence of Indian political thought.

Unit I- Manu, Kautilya Shukra, Ved Vyas (Shanti Parva).

Unit II- Raja Ram Mohan Roy, Swami Vivekanand, Dayanand Saraswati, Sir Syed Ahmed Khan.

Unit III- Gopal Krishna Gokhale, Bal Gangadhar Tilak, Rabindranath Tagore, Aurobindo.

Unit IV- M.K. Gandhi, J.L. Nehru and Dr. B.R. Ambedkar, Deendayal Upadhyaya.

Unit V- M.N. Roy, Jai Prakash Narain and Dr. Ram Manohar Lohia, Acharya Narendra Dev.

References:

T. Pantham, and K. Deutsch (eds.) (1986), *Political Thought in Modern India,* New Delhi: Sage Publications.

A. Altekar (1958), *State and Government in Ancient India*, 3rd edition, Delhi: Motilal Banarsidass.

Chaturvedi, B. (2006), *The Mahabharata: An Inquiry in the Human Condition,* Delhi: Orient Longman.

Olivelle, P. (ed. & trans.) (2006), *Manu's Code of Law: A Critical Edition and Translation of the Manava- Dharamsastra,* New Delhi: Oxford University Press.

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Hardiman, David (2014), *Gandhi in His Time and Ours*, New Delhi: Orient Blackswan.
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Parel, Anthony J. (2010), *Gandhi Hind Swaraj and Other Writings*, Cambridge: Cambridge University Press.
Parekh, Bhikhu (2001), *Gandhi: A Very Short Introduction*, New Delhi: Oxford University Press.
Rodrigues, Valerian(2004), *The Essential Writings of B R Ambedkar*, New Delhi: Oxford University Press.
V R, Mehta (1996), *Foundations of Indian Political Thought: An Interpretation*, New Delhi: Manohar Publishers.
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कमल , के एल (2015), *भारतीय राजनीतिक चिंतन*, जयपुर: राजस्थान हिंदी ग्रंथ अकादमी।
चतुर्वेदी, मधुकर श्याम (1999), *भारतीय राजनीतिक विचारक*, जयपुर: कॉलेज बुक डिपो।
श्री राम वर्मा (2018),*भारतीय राजनीतिक विचारक,* जयपुर: कॉलेज बुक डिपो।
नागर, पुरुषोत्तम (1999), *आधुनिक भारतीय राजनीतिक एवं सामाजिक चिंतन*, जयपुर:राजस्थान हिंदी ग्रंथ अकादमी ।
अवस्थी एण्ड **अवस्थी** (2015), *आधुनिक **भारतीय** सामाजिक एवं **राजनीतिक चिंतन***, रिसर्च पब्लिकेशन: जयपुर।

Wef. Academic Session 2022-23

BA (Pass) SECOND YEAR

Code: 2482

Revised Syllabus

PAPER II

FREEDOM STRUGGLE AND CONSTITUTION OF INDIA

Course Objective: The purpose of this course is to understand the Indian Constitution in the context of colonial rule and freedom struggle since roots of many institutions and processes central to Indian politics can be traced to its tumultuous past. Further, the course acquaints students with the basic structure of state institutions as given in the Constitution, with an objective to underline tensions and conflicting impulses which have unfolded over the past decades.

Unit I- Colonial Legacies:

a. **Impact of Colonial Rule and Rise of Indian Nationalism;**

b. **Phases of the Nationalist Movement: Liberal constitutionalist, Swadeshi and the Radicals;**
Gandhi and Mass Mobilisation- Non-Cooperation, Civil Disobedience, and Quit India Movement- Their Impact on National Consciousness; Communalism in Indian politics- Formation of the Muslim League, Two-Nation Theory, negotiations over Partition.

Unit II- Constitutional Developments:

Constitutional developments and the Colonial State- Special Reference to the British India Act of 1909, the Act of 1919 (Salient Features, Dyarchy) and, the Act of 1935 (Salient Features, Provincial Autonomy and Federal Structure).

Unit III- The Constituent Assembly and the Constitution:

a. Formation of the Constituent Assembly- Selected Debates;
b. Philosophy of the Constitution and its Main Features, Process of Constitutional Amendment;
c. Fundamental Rights, Fundamental Duties and Directive Principles of State Policy.

Unit IV- Organs of Government:

a. The Legislature: Parliament, State Legislative Assembly;
b. The Executive: President, Prime Minister, Chief Minister, Governor;
c. The Judiciary: The Supreme Court, High Courts.

Unit V- Federalism and Decentralisation:

a. Centre-state Relations- Division of Powers; Emergency Provisions; Special Provisions for Some States and the Fifth and Sixth Schedule Areas;
b. Mechanisms of Cooperation- Union Public Service Commission, Election Commission of India, Finance Commission;
c. Third Tier of Government: Panchayati Raj; Urban Local Bodies.

References:

Chandra, Bipin (1999), *Essays on Colonialism*, Hyderabad. Orient Longman.
Chandra, Bipin (1988), (Hindi & English), *India's Struggle for Independence*, New Delhi. Penguin.
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मंगलानी, रूपा (२०१७), *भारतीय शासन एवं राजनीति*, जयपुर: राजस्थान हिंदी ग्रंथ अकादमी।

Wef. Academic Session 2022-23

BA (Pass) SECOND YEAR

Code: 2481

Revised Syllabus

PAPER I

CONSTITUTIONALISM AND MODERN REPRESENTATIVE CONSTITUTIONS

Course Objective: The course introduces comparative study of various modern constitution types across the world. Study of each type is substantiated by an example of a working constitution. The purpose is to familiarise students with the evolution and functioning of different models of liberal-democratic and communist constitutions.

Unit I-
Constitutionalism: Meaning and evolution; Emergence of Modern Constitutions- Liberal Democratic and Socialist/Communist types; Flexible and Rigid, Written and Unwritten.

Unit II-
Parliamentary Type- Constitution of UK: Historical Context/Evolution, Conventions, Rule of law, Crown, Prime Minister and Cabinet, Parliamentary Sovereignty, Delegated Legislation and Party System.

Unit III-
Presidential Type- Constitution of USA: Constitutional Developments, Federalism, Principles of Separation of Powers and Checks and Balances, President, Congress, Supreme Court, Judicial Review and Party System.

Unit IV-
Federal Type- Constitution of Canada: Constitutional Acts and Amendments, Federalism, Language and Rights of Aboriginals, Constitution of Switzerland: Federal Assembly, Federal Council, Federal Judiciary and Direct Democracy.

Unit V-
Unitary Type- Constitution of China: Communist Revolution, Chinese Communist Party , President, National People's Congress, One State Two Systems.

References:

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Faculty of Social Science

Department of Psychology

Courses offered-

- M.A.

2.6.1 Program Outcome, Program Specific Outcomes and Course Outcomes for all courses in a word file/ PDF

M.A. PSYCHOLOGY

SEMESTER I

M1/ PSY 01- CT01: Theoretical Perspectives of Psychology

Course Outcomes: on the completion of this course students will be able to learn the following:

CO1: Students will understand the Brief history of psychology and will learn application of Freudian and Neo- Freudian approach.

CO2: Students will understand the Behaviouristic perspective and basic concepts of personality

CO3: Students will get a better understanding of Hedonism ,purpovism and implications of Hormic Psychology

CO4: Students will study the theories related to Cognitive balance and dissonance,Brehm Dissonance,Bandura social learning theory and its application.

CO5: Students will understand Humanistic and Existential Perspectives and its application

M1/ PSY 02- CT02: Advanced Experimental Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will have the knowledge of procedure of experiment and will develop basic understanding of perception, and determinants of perception.

CO2: Students will be able to understand dynamics of perception

CO3: Students will have understanding of different theories of learning, role of reinforcement in learning, and factors affecting learning.

CO4: Students will understand basic concepts of verbal learning, memory and forgetting and their factors

CO5: Students will understand the concept of motivation and emotion

M1/ PSY 03- CT03: - Biopsychology

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will understand the concepts of Biopsychology.They will alsobe able to learn the various research methods used in Biopsychology for assessing various phenomena.Students willbe able to know the detailed knowledge about endocrine glands that is its types and functions and how they affect our behavior.

CO2:This will help students to have a detailed concept clarity about neuron structure, types and functions.They will get an understanding of structure and functions of Central nervous system and peripheral nervous system.They willbe able to have the understanding of Synaptic transmission and neurotransmitters.

CO3:Students will have a conceptual clarity neural mechanisms of learning and memory process.They will be studying the various disorders of memory.They willbe able to learn about the stages of sleep and various disorders of sleep.

CO4:Students will be able to get a better understanding of cerebral lateralization of Brain. They will learn the functions of left and right hemispheres.They will also learn the cortical localization of language and language disorders.

CO5:Students will learn about the emotions and autonomic nervous system.They will be able to understand the emotions and facial expression.They willbe able to understand the mechanisms of human emotion and also the mechanisms of hunger and thirst.

M1/ PSY 04- CT04: Research Methodology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1:Students will understand fundamental concepts of research and will learn application of scientific research. Students will study different steps involved in research process.

CO2:Students will study basic concepts of variables and hypothesis.Students will understand concept of probability with the normal probability curve

CO3:Students will have conceptual clarity of sample design and different determinants of sample size.Students will understand different data collection methods

CO4: Students will be able to differentiate between different experimental, quasi experimental and non-experimental designs

CO5: Students will get a better understanding of basics of report writing and features of a good report.Conceptual details of APA format of writing report.

M1/ PSY 01- CP01: Practical- I: Experimental Psychology

CO1: Students will be able to design and conduct experiments on perception, motivation, learning, emotions,memory,forgetting

CO2: Students will be able to observe different phenomena of perception, motivation, learning and memory

M1/ PSY 02- CP02: Practical- II: Research Methods

CO1:Students will be able to identify and formulate problems, hypothesis and variables.

CO2: Students will be able to plan research having experimental designs ,factorial design etc.

CO3: Students will be able to prepare synopsis.

CO4: Students will learn to write research reports.

CO5: Students will learn to used different techniques of data collection.

SEMESTER II

M2/PSY 01- CT05: Cognitive Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will understand the fundamental concepts of attention and perception

CO2: Students will understand the concepts of intelligence and creativity and their theories

CO3: Students will develop understanding regarding consciousness and its functions

CO4: Students will have theoretical and practical knowledge of Language and Executive processes.

CO5: Students will have a better understanding and Practical applications of Problem solving, Reasoning and Decision Making.

M2/PSY 02- CT06: Applied Social Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1:Students will have theoretical and practical knowledge of social psychology fundamental concepts. Students will study different research methods in social psychology

CO2: Students will have knowledge of developmental views of eminent researchers and a deep understanding of attribution.Students will develop understanding regarding establishing new relationship and impression formation

CO3: Students will have orientation towards theoretical and practical framework of leadership styles.Dimensions of violence and maintenance of relationship.

CO4:Students will be able to apply different strategies of Anger Management. Students will understand structural and functional characteristics of a group.

CO5:Students would gain basic understanding of origin and maintenance of prejudice.Students will understand theoretical and practical framework of attitude.

M2/ PSY 03- CT07: Psychological Testing

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will learn the meaning, types, uses and ethical issues of psychological testing

CO2: Students will understand the procedure of construction and standardization of psychological tests

CO3: Students will develop understanding of reliability, validity and norms

CO4: Students will have knowledge of different intelligence, aptitude, interest and achievement tests

CO5: Students will become aware of different personality tests.

M2/ PSY 04- CT08: Psychological Statistics

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to learn about the normal distribution, its properties and its importance.They will alsobe able to learn about the Normal probability distribution, skewness and kurtosis.

CO2:Students will be able to understand the concept of correlation and types of correlation. They will also be able to calculate some advanced correlation.

CO3:Students will be able to learn about the Analysis of Variance, its general uses and limitations.They will be able to learn the F test, t test and z test and interpretation.

CO4:Students will be understand the difference between non parametric and parametric statistics. They will also be able to learn types of non-parametric tests.

CO5:Students will be able to learn about the regression, its types and uses. They will also be understanding Factor analysis, its types and uses.

M2/PSY 01- CP03: Practical – I Social Psychology and Testing

Course Outcomes: on the completion of this course students will be able to learn the following:

CO1: Students will have Practical knowledge of Interpersonal attraction and Impression Formation.

CO2: Students will learn how to control the aggression and release the stress in the circumstances.

CO3: Students will understand the theoretical and practical knowledge of social psychology and its fundamental concepts

CO4: Students will learn how to communicate with other people and to handle the group pressure wherever needed

CO5: Students will learn how to measure the intelligence of an individual by the help of Wechsler intelligence test battery/ Bhatia's battery.

CO6: Students will learn how to behave in social settings and develop a personality.

M2/PSY 01- Skill 01: Understanding Self

Course Outcomes-

CO1: Understand and explore one's own self

CO2: Understanding the self-concept and the factors affecting it

CO3: Measurement of own self-concept

CO4: To understand about various aspect of self through exercises

CO5: To know and understand one's own strengths, weakness, opportunities and threats

CO6: To identify and measure own career preferences and personality

CO7: To understand various aspects of self-concept such as motivation, intelligence

SEMESTER III

M3/ PSY 01- CT09: Personality Theories

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will understand the Personality theories and current issues in personality theories

CO2: Students will understand concept of personality proposed by Psychoanalytic and Post Freudian theorists

CO3: Students will get a better understanding of personality from Post Neo Freudian and trait theorists' perspectives

CO4: Students will study the personality from behaviourists and socio cognitive perspectives

CO5: Students will understand Humanistic phenomenological theories of personality

M3/ PSY 02- CT10: Positive Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will understand goals of positive psychology and western and eastern perspectives on positive psychology

CO2: Students will learn about classification and measures of human strengths

CO3: Students will understand the concepts of positive emotional states and processes.

CO4: Students will develop understanding of positive cognitive states and processes. They will learn about self-efficacy, optimism, hope, mindfulness, wisdom, spirituality

CO5: Students will learn about pro-social behaviour. Students will understand building positive environment and institutions.

M3/ PSY 03-ET11A: Clinical Psychopathology

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to understand the concepts of normality and pathology.They will be able to understand the paradigm of vulnerability, resilience and coping.They will also learn about the mental health and mental disorder and about various models of abnormality.

CO2:Students will be able to classify the mental disorder according to APA and WHO classification and also the advantages and disadvantages of classification system.They will also be able to learn about the causal factors like biological, psychosocial and socio cultural factors behind the abnormal behavior.They will also learn the diathesis- stress model.

CO3:Students will gain a knowledge of mood disorders, depression and bipolar disorders.They will also be able to learn about anxiety disorders like panic disorder, phobic disorders, PTSD, Generalized anxiety disorders.

CO4:Students will be able to get a better understanding the psychotic diseases like schizophrenia and its types.They will also be able to learn about the memory related disorders, sleep disorders and personality related disorders.

CO5:Students will be able to get to know about somatoform disorders, substance abuse disorders, learning disorders, eating disorders.They will also be able to learn about the prevention of mental disorders and its levels also the situation focused and competency focused prevention.

M3/ PSY 03- ET11B: Organisational Behaviour

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will develop general awareness of history, importance, challenges and opportunities of industrial and organizational psychology

CO2 Students will learn about factors, importance & techniques of job satisfaction and measurement and methods of boosting morale

CO3 Students will understand different theories of motivation in reference to employees

CO4 Students will have better understanding of human performance, and accident proneness and prevention

CO5 Students will learn theories of leadership and leadership styles

M3/ PSY 03- ET11C: Educational Psychology

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to understand the concepts of educational psychology.Students will also be able to learn the importance and developmental characteristics of child development with relation to different aspects.

CO2:Students will be able to understand the concept of learning.They will be able to learn the different approaches of the learning.They will be able to learn the educational concept of motivation.They will be able to learn the motivational devices for classroom teaching.

CO3:Students will have a deep understanding of individual differences in the classroom.They will have a deeper understanding of intelligence and its theories.They will also be able to learn the concept of emotional intelligence and its theories.They will also be able to utilize various psychological test and intelligence test, both verbal, non- verbal and performance test.

CO4:Students will be able to get a better understanding of teaching and learning principles of teaching approaches.

CO5:Students will be able to gain the knowledge regarding the various methods of teaching.They will also be able to understand the differences based on cognitive abilities in children.

M3/ PSY 04- ET12A: Psychological Therapies -I

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1:Students will have theoretical and practical knowledge of psychological intervention. Its professional and ethical issues.Students will get a better understanding regarding characteristics of a good therapist. Students will study different psychotherapeutic development. Yoga and Buddhistic traditions

CO2: Students will have knowledge of psychoanalytical therapies and their evaluation.Students will develop understanding regarding Neo Freudian approach

CO3: Students will have orientation towards Humanistic Existential approach. Dimensions of Rogerian and gestalt.

CO4:Students will be able to apply different group therapy. Students will understand practical issues of family therapy and its types.

CO5:Students would gain basic understanding of community based intervention. Students will understand theoretical and practical framework of crisis intervention and rehabilitation.

M3/ PSY 04- ET12B: Human Resource Management

CO1: Understand the role, importance and functions of human resource management in organizations

CO2: Understanding recruitment and selection processes in organizations

CO3: Understanding the strategies for effective communication in organizational setup

CO4: To know and understand employee management through conflict resolution through effective HR policies

CO5: To understand the techniques of performance appraisal and its implementation

CO6: To understand the concept and types of organizational structure

CO7: To understand and apply psychological tools and techniques for employee selection in organizations

M3/ PSY 04- ET12 C: Disorders of Childhood and adolescents

Course Outcomes: On the completion of this course students will be able to learn about the various disorders including nature, types, clinical picture and causal factors which are mainly occurring in the stage of in childhood and adolescents and the topics are as follows:

CO1:Students will be able to understand about mental retardation.

CO2:Students will be able to understand about learning and motor skills disorders.

CO3:Students will have a conceptual clarity on attention- deficit and disruptive behavior disorders.

CO4:Students will be able to get a better understanding of pervasive developmental and communication disorders.

CO5:Students will also be able to understand about eating disorders and obesity.

CO6:Students will be able to gain the knowledge regarding sexual variants.

M3/PSY 01- CP05: Practical- I

Course Outcomes: on the completion of this course students will be able to learn the following:

CO1: Students will able to assess the strengths of an individual.

CO2: Students learn and develop the self-assessment techniques i.e.self-concept method or bysocial adjustment method.

CO3: Students will learn to measure the creativity by different techniques

CO4: Students will able to understand to behave in social setting and develop a personality andalso can measure the personality by personality assessment techniques.

CO5: students can learn to write the case study of the recently issue highlighted in the media.

M3/ PSY 02- EP06 A: Practical II Clinical Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1:Students will have practical knowledge of issues related to mental health.

CO2: students will get a better understanding regarding Characteristics of a scientific clinical interview.

CO3: Students will have knowledge of different aspects of health by conducting PGI health scale

CO4:Students will be able to apply progressive muscle relaxation for physical and mental relaxation

CO5: students will have practical knowledge of projective technique like TAT, Rorschach

CO6: students will have practical guide of analyzing biofeedback responses.

CO 7: students will study how to take a detailed case history.

M3/ PSY 02- EP06B: Practical II- Industrial Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1 Students will develop skills to do job analysis

CO2 Students will learn to assess job satisfaction, and leadership

CO3 Students will learn identification of team role

CO4 Students will learn to measure risk taking behaviour

CO5 Students will learn to do performance appraisal

CO6 Students will be able to study organisational structure in the field

CO7 Students will be able to experience the climate of organisation

M3/PSY 02- EP06C: Practical- II Educational Psychology

CO1:Students will able to assess the social adjustment, emotional adjustment/ emotional quotient, intelligence.

C02:Students will be able to learn to prepare the case study related to intelligence, aptitude and interest test.

CO3:Students will able to apply the intervention therapies like rational emotive therapy.

CO4:Students will get a better knowledge that is having a different socio cultures background affect the learning of children.

CO5:Students will able to formulate the case study of a child with learning difficulties..

CO6:Students will be able to apply the counseling interview techniques.

SEMESTER IV

M4/PSY 01- CT13:Psychometrics and Scaling

CO1: Understand meaning and application of psychophysics

CO2: Understand basic concepts such as Absolute Limen, Difference Limen, and Point of Subjective Equality etc.

CO3: Understand the various laws of psychophysics

CO4: Understand the types and role of scaling methods in measurement in Psychology

CO5: Understand and differentiate among various methods of classical psychophysics

CO6: Understand various experiments involved in calculation of various human sensitivity measures through classical methods

CO7: To be able to differentiate between classical and modern psychophysical methods

CO8: Understand signal detection theory and its applications

CO9: Understand Likert and Thurston scaling methods

CO10: To be able to apply the principles of scaling in construction of test items

M4/ PSY 02- CT14: Developmental Psychology

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will understand the scope of developmental psychology, and method of studying developmental behaviour. They will also become aware of influences of development

CO2: Students will learn the concept of self and self-identity

CO3: Students will be able to understand psychoanalytic and psychodynamic theories, social learning and cognitive theories

CO4: Students will understand functions and development of emotional expression and temperament. Students will also learn theories of moral development

CO5: Students will learn different theories of aging and building blocks of successful aging.

M4/ PSY 03- ET 15 A: Clinical Assessment

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to understand the concepts of clinical assessment and in which scenario there is so much need of clinical assessment.Students will also be able to learn the assessment process and about formal and informal assessment.

CO2:Students will be able to understand the concept of Clinical interview, and the skills needed for the clinical interview and what should be the environment when the interview is taking place.

CO3:Students will have a conceptual clarity on the Projective tools of assessing personality like TAT, Draw a person test, Rorschach test and others.

CO4:Students will be able to get a better understanding neuropsychological assessment. And also how to assess sensory, motor and perceptual problems.Students will also be able to understand about GSR, EEG, ERP, PET and MRI.

CO5:Students will be able to gain the knowledge regarding the objective test and techniques of personality and intelligence.They will also be able to understand about the ethical issues in assessment.They will also be able to understand about the cross cultural tests and child assessment techniques.

M4/ PSY 03- ET15B: Training and Development

C01: To know and understand the concept, importance, and process of employee training in organizations
CO2: To understand the training needs identification, designing a training program
CO3: To understand and apply various methods of delivering training program and evaluating its effectiveness
CO4: To understand and impart training programs on leadership, emotional intelligence and team work
CO5: To understand the importance of assessment centres
CO6: To learn and administer psychological tools such as MBTI, Big five, 16 PF for assessment purposes

M4/PSY 03- ET15C: Vocational Psychology

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to understand the concept of vocational psychology including definition, meaning, and subject matter.Students will also be able to learn about vocational choice and what are its determinants.

CO2:Students will be able to understand the theoretical perspectives of vocational psychology.

CO3:Students will have a better understanding of vocational choice and what are the problems faced during vocational choice.They will also learn about the career decision making processes.

CO4:Students will be able to get a better learning to other dimensions of vocational choice.They will be able to learn the systems of defining vocational problems.They will bale to learn about vocational indecision and vocational unrealism.

CO5:Students will be able to gain the knowledge regarding the clients with special needs that are individuals with disabilities.They will also learn about the clients that are women in workforce, displaced workers and economically disadvantaged group.

CO6:Students will also be able to understand about the ethical issues and competencies needed for career development.They will also be able to understand about the future concerns of vocational development.

M4/PSY 04- ET16A: Psychological Therapies II

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1:Students will understand fundamental concepts of behavior modification and will learn its application. Students will study different operant methods in self-control. By developing

different modules they will understand the use of self-control methods in obesity, study behavior

CO2:Students will study basic procedure of aversion therapy. Students will understand its different methods like ECT, covert sensitization. Progressive muscle relaxation will be explained along with its practical therapy sessions

CO3:Students will have conceptual clarity of systematic desensitization. Students will understand its nature, implications and empirical findings.

CO 4: Students will be able to differentiate between different behavior styles and the superiority of Assertive style over the others. Students will understand the basic procedure of Assertive training and behavior rehearsals. Fundamental procedure of modelling will be explained

CO 5:Students will get a better understanding of cognitive therapies like CBT, REBT, Thought Stopping etc.Conceptual details of sex therapy will be explained.

M4/ PSY 04- ET16B: Entrepreneurship Psychology

CO1: To understand the concept, importance and factors of Entrepreneurship Psychology

CO2: To understand the psychological theoretical framework of entrepreneurship

CO3: To understand the measurement of entrepreneurship skills in an individual

CO4: To understand the psychological characteristics requires for an entrepreneur

CO5: To implement the entrepreneurship education/ development programs to create an entrepreneurial mind-set

CO6: To understand the social responsibility of entrepreneurs

CO7: To understand the concept of tele-preneurship and tech-preneurship

CO8: Understanding skill development challenges and Global entrepreneurship monitor (GEM) in Indian context

M4/PSY 04- ET16C: Counseling Psychology

Course Outcomes: On the completion of this course students will be able to learn in following:

CO1:Students will be able to understand the concepts of counseling. Students will also be able to learn the counsellor's roles and functions.Students will able to understand the ethics and legal concerns related to the theme.

CO2:Students will be able to understand the broadened perspective of counseling process and skills.Students will able learn the counseling relationships. Will able to learn the counseling interview and about basic communications skills which involves rapport building, assessment

of problem, setting goals, selecting and designing interventions.Students will be able to learn when to terminate the counseling process.

CO3:Students will have a conceptual clarity about different theories related to counseling. Students will able to learn about different therapies related to counseling.

CO4:Students will be able to get a better understanding of group techniques which include group guidance, group counseling.They will be able to learn to deal with many types of groups.They will get a better understanding of group process and group dynamics.

CO5:Students will be able to gain the knowledge regarding the counseling for career planning and decision making.They will get a knowledge about current interest in career planning.They will be able to understand the development of human potential and career planning and decisions making in schools.They will also learn about the career counseling in non-school settings.

M4 /PSY 01 –CP07: Practical I: Psychophysics and Developmental Psychology

Course Outcomes: On the completion of this course students will be able to do the following:

CO1: Students will able to determine illusion, AL, DL with different psychophysical methods

CO2: Students learn and develop Likert and Thurston type scale

CO3: Students will learn to develop reliability, validity and norms of a psychological test

CO4: Students will able to understand cognitive development of a child

M4 /PSY 02 –EP08A Clinical Practical II

Course Outcomes: on the completion of this course students will be able to learn the following:

CO1: Students will able to assess the stress/anxiety and will learn the stress management techniques.

CO2: students will learn about the etiology of the Depression and to implement the therapy regarding the Depression

CO3: students will assess the mental health and well-being of general population during COVID-19

CO4: students will understand the theoretical and practical knowledge of about RCBT (Loneliness)

CO5: students will learn the diagnostic features and factors behind anorexia nervosa and also the implications of operant method (Behaviour Therapy).

M4/ PSY 02- EP08B: Industrial Practical II

Course Outcomes: On the completion of this course students will be able to learn the following:

CO1: Students will be able to assess training need

CO2: Students will learn to administer and interpret MBTI/FIRO-B/ 16PF

CO3: Students will understand leadership & entrepreneurship through case study method

CO4: Students will have better understanding of team work exercises

CO5: Students will learn about corporate social responsibility

CO6: Students will to use role play /simulation in training

M4/PSY 02- EP08C: Educational Practical II

CO1:Students will able to assess the problematic children in classroom and will be able to apply the therapy regarding the problem.

C02:Students will be able to learn to construct the objective type tests in a school subject.

CO3:Students will able to give the career counseling according to the assessment of aptitudes and interest in a school.

CO4:Students will get a better knowledge that how by the feedback, rewards, reinforcement and punishment have a proper pace in learning.

CO5:Students will able to give a personal counseling to adolescent or child for some persona behavioral problem.

CO6:Students will be able to group counsel in school by giving career talks or by implementing the various activities of life skills.

M4 /PSY 01 –Skill 02: Counselling Interview

Course Outcomes: On the completion of this course students will be able to do the following:

CO1: Students will be able to perform attending behaviour in counselling interview

CO2: Students will be able to listen actively and frame right type of questions in counselling interview. They will also learn paraphrasing and summarizing in interview session.

CO3: Students will develop skills of noting and reflecting feeling and conduction of counselling interview

CO4: Students will be able to confront, and eliciting & reflecting meaning

CO5: Students will learn to apply influencing skills and strategies used in counselling interview

Faculty of Social Science

Department of Public Administration

Courses offered-

- M.A.
- B.A.

Programme and Course Outputs

Dept of Pub. Adm.

Name of Programme -MA- Public Administration, CBCS, Semester, 2 years and 4 semesters.

Programme outputs / aim-

1. After the completion of the programme the students will be able to understand theoretical and practical aspects of Public Administration existing at international, national, state and local levels which will ultimately make them the aware citizens and suitable candidates for civil services.
2. Be able to learn and demonstrate the office administration and office automation techniques through skill oriented add –on papers and enhance their employability.
3. Be able to analyze organizational behavior, group dynamics, decision making, leadership and motivational aspects and to use that in professional and personal life.

Course or paper –wise outcomes

First Semester

MIPAD01-CT-01- Administrative Theories

1. Will be able to discuss origin, meaning, importance of Public Administration and its principles, theories and organizational behavior aspects.
2. Will be able to describe various tools and methods of administrative improvements.

MIPAD02-CT-02- Administrative Thinkers

1. Will be able to describe the administrative thoughts of various thinkers.
2. Will be able to analyze the utility of administrative thoughts in present era.

MIPAD03-CT-03-Public Personnel Administration

1. Will be able to explain the concept and theories of personnel policy and aspects of personnel administration in civil services.
2. Will be able to describe the Administrative reforms policies and processes in personnel administration.

MIPAD04-CT-04- Comparative Public Administration

1. Will be able to explain the evolution, concept and importance of comparative public administration with the ecological aspects.
2. Will be able to describe and compare the constitutional and administrative mechanism of UK, USA and France.
3. Will be able to describe the *Weberian and Riggsian* theories.

MIPAD05-CT-05-Constitution and Administration

1. Will be able to explain basics of the Indian Constitution and its impacts of Indian Administration.
2. Will be able to explain the functioning of constitutional administrative bodies.

MIPAD06-CT-06- Governance and Administration

1. Will be able to describe the concept and importance of the state, democracy, good governance and participatory governance.

2. Will be able to analyze the impact of ICT and digital revolution over public administration working**.**

Second Semester

M2PAD01-CT-07 - Indian Administrative System- I

1.Will be able to discuss the evolution, basic features and functioning of Indian Union executive and some ministries with centre-state relationships.

2. Will be able to describe the role of civil services in the betterment of a developing society.

M2PAD02-CT-08- Administrative Law

1. Will be able to discuss the concept of natural justice, administrative law, administrative adjudication and delegated legislation.
2. Will be able to explain the concept and functioning of administrative tribunals.

M2PAD03-CT-09- State Administration

1. Will be able describe basic features, importance of the state administration and its political and administrative executive machinery at state and regional levels.

2. Will be able to describe the importance and personnel system of state civil services.

M2PAD04-CT-10-Development Administration

1. Will be able to describe the basic ideas behind development administration and administrative development.
2. Will be able to analyze the role of citizens in development administration, sustainable development and SDG.

M2PAD05-CT-11-Urban Governance

1.Will be able to explain the concept of urban governance and urban planning with its entrusted machinery.

2. Will be able to describe the functioning of municipal bodies of various types.

M2PAD06-CT-12- International Organizations

1. Will be able to describe the concept of international administration, international disputes and negotiations, pacts and agreements.
2. Will be able to explain the importance, evolution, functioning and role of United Nations and its agencies.

M2PAD01-Skill- 01- Office Administration

1. Will be able to describe conceptual aspects of office administration and its utility.
2. Will be able to demonstrate the basic skills required as an assistant in dealing a modern administrative office.

Third Semester

M3PAD01-CT-13-Indian Administrative System-II

1. Will be able to describe various constitutional obligations, value premises, transparency measures and problematic issues of Indian administration.

2. Will be able to analyze the issues and challenges before Indian administration emerged due to LPG era.

M3PAD02-CT-14-Economic Policy and Administration

1. Will be able to discuss main features of a developing economy, economic development and planning process in India and Rajasthan.

2. Will be able to explain various economic policies of the country and impact of globalization.

M3PAD- A1 -ET-15- Public Policy

1. Will be able to explain the meaning, concept, importance, formulation, implementation and evaluation processes of public policies.

2. Will be able to describe theories and approaches of public policy analysis.

M3PAD- A2 -ET-16--Social Administration

1. Will be able to explain the concepts of social welfare, social change, social justice and social administration.

2. Will be able to describe the machinery working of social administration and civil society's efforts for welfare activities.

3. Will be able to discuss social welfare and development programmes, schemes and policies in India.

M3PAD- A3-ET-17-Health Administration

1. Will be able to explain the concept, evolution and scope of health administration discipline in India.

2. Will be able to describe public policy and machinery working at union and state level.

M3PAD- A4- ET-18-Environment Policy and Administration

1. Will be able to describe basics of environment, eco-system and biodiversity with the role of judiciary, civil and common man in environment protection.
2. Will be able explain environment policies and administrative machinery working for the environment in India.

M3PAD- B1- ET-15-Disaster Management

1. Will be able to analyze the natural and manmade disasters and need of a sound disaster management system
2. Will be able to explain the legislation and machinery working for disaster control, preparedness and management and also the disaster awareness.

M3PAD- B2- ET-16- Rural Governance

1. Will be able to describe the evolution, concept and importance of democratic decentralization.
2. Will be able the three tier system of panchayati raj institutions and their financial, personnel and control mechanism.

M3PAD- B3- ET-17-Police Administration

1. Will be able to describe the need and concept of police administration in India.

2. Will be able to explain police administration machinery working at union, state and district level.

M3PAD- B4- ET-18-Educational Administration

1. Will be able to describe the concept and importance of educational administration in India.
2. Will be able to explain the education policy, administrative machinery, problems, innovations and reports of various commissions and committees on education.

Fourth Semester

M4PAD01-CT-19-Research Methodology in Public Administration

1. Will be able to explain the concept and importance of social research and scientific method.
2. Will be able to describe hypothesis, variables, data collection and analysis techniques, processing of data and hypothesis testing tools.

M4PAD01-CT-20- Project work- Dissertation

1. Will be able to select a theme for administrative research and write a project report or dissertation on it.

M4PAD- A1 -ET-21- Financial Administration

1.Will be able to describe the basics and concept of financial administration in various types of economies.

2. Will be able to explain the budget preparation, approval, execution and control mechanism in India.

M4PAD- A2 -ET-22- Public Sector Administration

1. Will be able to discuss the evolution, need and importance of nationalization and public sector enterprises in India.

2. Will be able to explain various types, their functioning and control mechanism of PSUs in India.

M4PAD- A3 -ET-23-Values and Ethics in Administration

1. Will be able to describe the values, ethics, public interests and philosophical aspects of values in administration.
2. Will be able to discuss the need of training for administrative values and role of each stakeholder.

M4PAD- A4 -ET-24- Administrative Reforms and Innovations

1. Will be able to explain the concept, tools and need of administrative reforms and innovations in India.
2. Will be able to describe the reports of commissions and committees constituted for the administrative reforms in India after independence.

M4PAD- B1 -ET-21-E. governance

1. Will be able to describe the concept and importance of e.governance with its recent trends and implementation plan and policy of the government.
2. Will be able to analyze the role of citizens in e.governance and mobile governance process.

M4PAD- B2 -ET-22-Administrative Control and Accountability

1. Will be able to define meaning ad tools of control over administration and its applications.

2. Will be able to describe the role of media, social media and civil society in controlling administrative malpractices and utility of public interest litigations**.**

M4PAD- B3 -ET-23- ***Public Grievances Redressal Mechanism***

1. Will be able to discuss the concept of public complaints and grievances and its redressal machinery in India.
2. Will be able to analyze the processes and importance of public portals, Lokpal, RTI,CVC, CBI and other agencies.

M4PAD- B4 -ET-24-Administration of Public Distribution System

1. Will be able to describe the importance of public distribution system, food supply and security, food supply policy and its concerned administrative mechanism in India.
2. Will be able to explain the accountability, responsiveness, food safety standards and related poverty alleviation issues.

M4PAD01-Skill- 02- ***Office Automation***

1. Will be able to describe the basics, tools, techniques, conceptual framework and importance of office automation in modern world.

2. Will be able to demonstrate the technology driven automation of various office activities.

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Programme and Course Outputs

Dept of Pub. Adm.

Name of Programme -MA- Public Administration, CBCS, Semester, 2 years and 4 semesters.

Programme outputs / aim-

4. After the completion of the programme the students will be able to understand theoretical and practical aspects of Public Administration existing at international, national, state and local levels which will ultimately make them the aware citizens and suitable candidates for civil services.
5. Be able to learn and demonstrate the office administration and office automation techniques through skill oriented add –on papers and enhance their employability.
6. Be able to analyze organizational behavior, group dynamics, decision making, leadership and motivational aspects and to use that in professional and personal life.

Course or paper –wise outcomes

First Semester

MIPAD01-CT-01- Administrative Theories

3. Will be able to discuss origin, meaning, importance of Public Administration and its principles, theories and organizational behavior aspects.
4. Will be able to describe various tools and methods of administrative improvements.

MIPAD02-CT-02- Administrative Thinkers

3. Will be able to describe the administrative thoughts of various thinkers.
4. Will be able to analyze the utility of administrative thoughts in present era.

MIPAD03-CT-03-Public Personnel Administration

3. Will be able to explain the concept and theories of personnel policy and aspects of personnel administration in civil services.
4. Will be able to describe the Administrative reforms policies and processes in personnel administration.

MIPAD04-CT-04- Comparative Public Administration

4. Will be able to explain the evolution, concept and importance of comparative public administration with the ecological aspects.
5. Will be able to describe and compare the constitutional and administrative mechanism of UK, USA and France.
6. Will be able to describe the *Weberian and Riggsian* theories.

MIPAD05-CT-05-Constitution and Administration

3. Will be able to explain basics of the Indian Constitution and its impacts of Indian Administration.
4. Will be able to explain the functioning of constitutional administrative bodies.

MIPAD06-CT-06- Governance and Administration

3. Will be able to describe the concept and importance of the state, democracy, good governance and participatory governance.

4. Will be able to analyze the impact of ICT and digital revolution over public administration working**.**

Second Semester

M2PAD01-CT-07 - Indian Administrative System- I

1.Will be able to discuss the evolution, basic features and functioning of Indian Union executive and some ministries with centre-state relationships.

2. Will be able to describe the role of civil services in the betterment of a developing society.

M2PAD02-CT-08- Administrative Law

3. Will be able to discuss the concept of natural justice, administrative law, administrative adjudication and delegated legislation.
4. Will be able to explain the concept and functioning of administrative tribunals.

M2PAD03-CT-09- State Administration

3. Will be able describe basic features, importance of the state administration and its political and administrative executive machinery at state and regional levels.

4. Will be able to describe the importance and personnel system of state civil services.

M2PAD04-CT-10-Development Administration

3. Will be able to describe the basic ideas behind development administration and administrative development.

4. Will be able to analyze the role of citizens in development administration, sustainable development and SDG.

M2PAD05-CT-11-Urban Governance

1.Will be able to explain the concept of urban governance and urban planning with its entrusted machinery.

2. Will be able to describe the functioning of municipal bodies of various types.

M2PAD06-CT-12- International Organizations

3. Will be able to describe the concept of international administration, international disputes and negotiations, pacts and agreements.

4. Will be able to explain the importance, evolution, functioning and role of United Nations and its agencies.

M2PAD01-Skill- 01- Office Administration

3. Will be able to describe conceptual aspects of office administration and its utility.

4. Will be able to demonstrate the basic skills required as an assistant in dealing a modern administrative office.

Third Semester

M3PAD01-CT-13-Indian Administrative System-II

3. Will be able to describe various constitutional obligations, value premises, transparency measures and problematic issues of Indian administration.

4. Will be able to analyze the issues and challenges before Indian administration emerged due to LPG era.

M3PAD02-CT-14-Economic Policy and Administration

3. Will be able to discuss main features of a developing economy, economic development and planning process in India and Rajasthan.

4. Will be able to explain various economic policies of the country and impact of globalization.

M3PAD- A1 -ET-15- Public Policy

3. Will be able to explain the meaning, concept, importance, formulation, implementation and evaluation processes of public policies.

4. Will be able to describe theories and approaches of public policy analysis.

M3PAD- A2 -ET-16--Social Administration

4. Will be able to explain the concepts of social welfare, social change, social justice and social administration.

5. Will be able to describe the machinery working of social administration and civil society's efforts for welfare activities.

6. Will be able to discuss social welfare and development programmes, schemes and policies in India.

M3PAD- A3-ET-17-Health Administration

3. Will be able to explain the concept, evolution and scope of health administration discipline in India.

4. Will be able to describe public policy and machinery working at union and state level.

M3PAD- A4- ET-18-Environment Policy and Administration

3. Will be able to describe basics of environment, eco-system and biodiversity with the role of judiciary, civil and common man in environment protection.
4. Will be able explain environment policies and administrative machinery working for the environment in India.

M3PAD- B1- ET-15-Disaster Management

3. Will be able to analyze the natural and manmade disasters and need of a sound disaster management system
4. Will be able to explain the legislation and machinery working for disaster control, preparedness and management and also the disaster awareness.

M3PAD- B2- ET-16- Rural Governance

3. Will be able to describe the evolution, concept and importance of democratic decentralization.
4. Will be able the three tier system of panchayati raj institutions and their financial, personnel and control mechanism.

M3PAD- B3- ET-17-Police Administration

1. Will be able to describe the need and concept of police administration in India.

2. Will be able to explain police administration machinery working at union, state and district level.

M3PAD- B4- ET-18-Educational Administration

3. Will be able to describe the concept and importance of educational administration in India.

4. Will be able to explain the education policy, administrative machinery, problems, innovations and reports of various commissions and committees on education.

Fourth Semester

M4PAD01-CT-19-Research Methodology in Public Administration

3. Will be able to explain the concept and importance of social research and scientific method.

4. Will be able to describe hypothesis, variables, data collection and analysis techniques, processing of data and hypothesis testing tools.

M4PAD01-CT-20- Project work- Dissertation

2. Will be able to select a theme for administrative research and write a project report or dissertation on it.

M4PAD- A1 -ET-21- Financial Administration

1.Will be able to describe the basics and concept of financial administration in various types of economies.

2. Will be able to explain the budget preparation, approval, execution and control mechanism in India.

M4PAD- A2 -ET-22- Public Sector Administration

3. Will be able to discuss the evolution, need and importance of nationalization and public sector enterprises in India.

4. Will be able to explain various types, their functioning and control mechanism of PSUs in India.

M4PAD- A3 -ET-23-Values and Ethics in Administration

3. Will be able to describe the values, ethics, public interests and philosophical aspects of values in administration.
4. Will be able to discuss the need of training for administrative values and role of each stakeholder.

M4PAD- A4 -ET-24- Administrative Reforms and Innovations

3. Will be able to explain the concept, tools and need of administrative reforms and innovations in India.
4. Will be able to describe the reports of commissions and committees constituted for the administrative reforms in India after independence.

M4PAD- B1 -ET-21-E. governance

3. Will be able to describe the concept and importance of e.governance with its recent trends and implementation plan and policy of the government.
4. Will be able to analyze the role of citizens in e.governance and mobile governance process.

M4PAD- B2 -ET-22-Administrative Control and Accountability

3. Will be able to define meaning ad tools of control over administration and its applications.

4. Will be able to describe the role of media, social media and civil society in controlling administrative malpractices and utility of public interest litigations**.**

M4PAD- B3 -ET-23- ***Public Grievances Redressal Mechanism***

3. Will be able to discuss the concept of public complaints and grievances and its redressal machinery in India.
4. Will be able to analyze the processes and importance of public portals, Lokpal, RTI,CVC, CBI and other agencies.

M4PAD- B4 -ET-24-Administration of Public Distribution System

3. Will be able to describe the importance of public distribution system, food supply and security, food supply policy and its concerned administrative mechanism in India.
4. Will be able to explain the accountability, responsiveness, food safety standards and related poverty alleviation issues.

M4PAD01-Skill- 02- ***Office Automation***

3. Will be able to describe the basics, tools, techniques, conceptual framework and importance of office automation in modern world.

4. Will be able to demonstrate the technology driven automation of various office activities.

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Programme and Course Outputs

Dept of Pub. Adm.

Name of Programme -BA- Public Administration, Annual , 3 years.

Programme outputs / aim-

7. After the completion of the programme the students will be able to understand theoretical and in-practice part of existing Public Administration and government mechanism.
8. Will be able to perform in a better way in the competitive examinations especially in civil service exams.

Course or paper –wise outcomes

First year

Paper- I – Elements of Public Administration

1. Will be able to describe basics of Public Administration.
2. Will be able to explain organizational theories and principles.

Paper- II – Public Administration in India

1. Will be able to discuss the historical and present scenario of Indian administration.
2. Will be able to describe organizational structure and functions of various administrative institutions working at union level.

Second Year

Paper- I- Administrative Institutions

1. Will be able to explain the concept of administrative institutions, welfare state, relationship between legislature, executive and judiciary; and pressure groups etc.
2. Will be able to discuss the working and role of various national level administrative institutions.

Paper- II- State Administration in India

1. Will be able to describe the evolution and constitutional aspects of state administration in India.
2. Will be able to assess the roles and responsibilities of state political and administrative executive bodies.

Third Year

Paper- I- Comparative Administrative Systems

1. Will be able to explain the evolution, concept and importance of comparative public administration.
2. Will be able to describe constitutional and administrative working of UK, USA and France.

Paper- II- Local Administration

1. Will be able to discuss the concept and utility of democratic decentralization in India.
2. Will be able to describe structural and functional aspects of Urban and Rural local bodies.

Faculty of Humanities

Department of Sanskrit

Courses offered-

- B.A.
- B.A. Honours
- M.A.

Program outcomes

बी.ए. संस्कृत 2020-2021

1. आवश्यक संस्कृत व्याकरण का सूत्रात्मक एवं प्रायोगिक ज्ञान प्राप्त होना।
2. हिंदी से संस्कृत एवं संस्कृत से हिंदी भाषा के अनुवाद में दक्षता सिद्ध होना।
3. संस्कृत शब्दकोश के ज्ञान में अभिवृद्धि होना।
4. प्राचीन भारतीय संस्कृति एवं ग्रंथों का परिचय प्राप्त होना।
5. संस्कृत साहित्य के इतिहास से परिचित होना।
6. विश्व के प्राचीनतम ग्रंथ ऋग्वेद के कतिपय सूक्तों का अध्ययन-लाभ होना।
7. कठोपनिषद् एवं श्रीमद्भगवद्गीता का अल्प अध्ययन लाभ होना।
8. भारतीय दर्शन परंपरा का परिचय प्राप्त होना।
9. नीतिपद्यों एवं नीतिकथाओं से व्यवहार-ज्ञान में अभिवृद्धि होना।
10. संस्कृत साहित्य के प्रसिद्ध कवियों के अन्तर्गत महाकवि भास, महाकवि कालिदास, महाकवि भर्तृहरि, नारायण पंडित, महाकवि बाणभट्ट एवं महाकवि भारवि की रचनाओं के कतिपय भागों का मूलपाठ के साथ ज्ञानार्जन होना।
11. प्रमुख छंद एवं अलंकारों का ज्ञान प्राप्त होना।
12. संस्कृत विषय में उच्च अध्ययन करने हेतु प्रारंभिक एवं आवश्यक ज्ञान की प्राप्ति होना।

Course Outcomes

बी.ए. प्रथम वर्ष संस्कृत 200-2021

प्रश्नपत्र कूट संख्या - 1641

प्रथम प्रश्न पत्र: काव्य, नाटक एवं प्रायोगिक व्याकरण

1. संस्कृत सुभाषित परम्परा के उत्कृष्ट ग्रन्थ नीतिशतकम् का अधिगम।
2. संस्कृत साहित्य की नाटक परंपरा में महाकवि भास के प्रसिद्ध नाटक स्वप्नवासवदत्तम् का अधिगम।
3. संस्कृत व्याकरण का प्रायोगिक ज्ञान प्राप्त करना।

प्रश्नपत्र कूट संख्या - 1642

द्वितीय प्रश्न पत्र: गद्य, व्याकरण एवं अनुवाद

1. संस्कृत साहित्य के प्रसिद्ध कथा ग्रंथ नारायण पंडित विरचित हितोपदेश (मित्रलाभ) की कथाओं एवं शिक्षाओं का अधिगम।
2. वरदराज आचार्य विरचित लघुसिद्धांतकौमुदी के संज्ञाप्रकरण एवं संधिप्रकरण का सूत्रसहित अधिगम।
3. संस्कृत व्याकरण के मूलभूत बिंदुओं यथा- समास, कारक एवं शब्दरूपों का अध्ययनलाभ।
4. हिंदी से संस्कृत अनुवाद में दक्षता प्राप्त करना।

बी. ए. द्वितीय वर्ष संस्कृत परीक्षा 2020-2021

प्रश्नपत्र कूट संख्या - 2641

प्रथम प्रश्न पत्र: नाटक, छन्द एवं अलंकार

1. महाकवि कालिदास के विश्वप्रसिद्ध नाटक अभिज्ञानशाकुंतलम् का संपूर्ण अध्ययन।
2. अभिज्ञानशाकुंतलम् नाटक में प्रयुक्त मुख्य छंदों का अधिगम।
3. काव्यदीपिका (अष्टम शिखा) ग्रंथ के अनुसार प्रमुख अलंकारों के लक्षणों का सोदाहरण अधिगम।

प्रश्नपत्र कूट संख्या - 2642

द्वितीय प्रश्न पत्र: प्राचीन भारतीय संस्कृति, धर्मशास्त्र व्याकरण, अनुवाद एवं निबन्ध

1. प्राचीन भारतीय संस्कृति के प्रमुख बिंदुओं का अध्ययन।
2. संस्कृत धर्मशास्त्र परंपरा के प्रमुख ग्रंथ मनुस्मृति के द्वितीय अध्याय (श्लोक 1 से 150 तक) का अधिगम।

3. वरदराज आचार्य विरचित लघुसिद्धांतकौमुदी ग्रंथ के अनुसार व्यंजन संधि एवं विसर्ग संधि के सूत्रों का सोदाहरण अध्ययन।
4. संस्कृत भाषा दक्षता में वृद्धि करने हेतु प्रमुख शब्दरूपों एवं धातुरूपों का अध्ययन।
5. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।
6. संस्कृत एवं अन्य विषयों पर निबंध लेखन में दक्षता प्राप्त करना।

बी. ए. तृतीय वर्ष संस्कृत परीक्षा 2020-2021
प्रश्नपत्र कूट संख्या - 3641
प्रथम प्रश्न पत्र: वैदिक व लौकिक काव्य एवं गद्य

1. ऋग्वेद के कतिपय प्रमुख सूक्तों एवं कठोपनिषद् का प्रारंभिक ज्ञानार्जन।
2. संस्कृत साहित्य की गद्य परंपरा के प्रतिनिधि ग्रंथ कादम्बरी के शुकनासोपदेश का अधिगम।
3. महाकवि भारविविरचित किरातार्जुनीयम् महाकाव्य के प्रथम सर्ग का अध्ययन।

प्रश्नपत्र कूट संख्या - 3642
द्वितीय प्रश्न पत्र: इतिहास, दर्शन, अनुवाद, व्याकरण एवं निबन्ध

1. संस्कृत साहित्य का ऐतिहासिक परिचय प्राप्त करना।
2. भारतीय दर्शन के प्रतिनिधि ग्रंथ श्रीमद्भगवद्गीता के द्वितीय अध्याय का अधिगम।
3. प्रमुख भारतीय दर्शनों के प्रमुख सिद्धांतों का अधिगम।
4. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।
5. संस्कृत व्याकरण के प्रचलित प्रत्ययों का अध्ययन।
6. संस्कृत माध्यम से निबंध लेखन में दक्षता प्राप्त करना।

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Program outcomes

बी. ए. ऑनर्स (संस्कृत) 2020-2021

1. आवश्यक संस्कृत व्याकरण का सूत्रात्मक एवं प्रायोगिक ज्ञान प्राप्त होना।
2. संस्कृत व्याकरण के अन्तर्गत सन्धि (हल् एवं विसर्ग), समास (अव्ययीभाव, तत्पुरुष, बहुव्रीहि, कर्मधारय, द्विगु तथा द्वन्द्व), कारक (प्रमुख सूत्र), प्रत्यय (प्रमुख कृदन्त, तद्धित एवं स्त्रीप्रत्यय), शब्दरूप एवं धातुरूप का विशिष्ट ज्ञान होना।
3. हिंदी से संस्कृत एवं संस्कृत से हिंदी भाषा के अनुवाद में दक्षता सिद्ध होना।
4. संस्कृत शब्दकोश के ज्ञान में अभिवृद्धि होना।
5. संस्कृत भाषा में निबंध लेखन की दक्षता सिद्ध होना।
6. भाषा विज्ञान का सामान्य अध्ययन-लाभ होना।
7. प्राचीन भारतीय संस्कृति एवं ग्रंथों का परिचय प्राप्त होना।
8. संस्कृत साहित्य एव वैदिक साहित्य के इतिहास एवं विशिष्टताओं से परिचित होना।
9. विश्व के प्राचीनतम ग्रंथ ऋग्वेद एवं यजुर्वेद तथा अथर्ववेद के कतिपय सूक्तों का अध्ययन-लाभ होना।
10. सम्पूर्ण कठोपनिषद् एवं श्रीमद्भगवद्गीता के प्रथम एवं द्वितीय अध्याय का अधिगम होना।
11. भारतीय दर्शन परंपरा का परिचय एवं मूल अवधारणाओं का अध्ययन-लाभ प्राप्त होना।
12. दर्शनशास्त्र में तर्कसंग्रह ग्रन्थ का मूलपाठ के साथ अधिगम होना।
13. नीतिपद्यों एवं नीतिकथाओं से व्यवहार-ज्ञान में अभिवृद्धि होना।
14. संस्कृत साहित्य के प्रसिद्ध कवियों के अन्तर्गत महाकवि अश्वघोष, महाकवि भास, महाकवि कालिदास, महाकवि भर्तृहरि, महाकवि बाणभट्ट, महाकवि भारवि, पं. विष्णु शर्मा एवं पं. अम्बिकादत्त व्यास की रचनाओं के कतिपय भागों का मूलपाठ के साथ ज्ञानार्जन होना।
15. प्रमुख छंद एवं अलंकारों का ज्ञान प्राप्त होना।
16. काव्यशास्त्र के सरल ग्रंथ काव्यदीपिका का अधिगम होना।
17. भरतमुनिविरचित नाट्यशास्त्र के प्रथम एवं द्वितीय अध्याय का अधिगम होना।
18. संस्कृत विषय में उच्च अध्ययन करने हेतु विशिष्ट ज्ञान की प्राप्ति होना।
19. संस्कृत विषय की विभिन्न प्रतियोगी परीक्षाओं हेतु पूर्वसज्जता सिद्ध होना।
20. भारतवर्ष की प्रतिष्ठास्वरूप संस्कृत एवं संस्कृति का सम्यक् ज्ञान होना।

Course outcomes

बी. ए. ऑनर्स (संस्कृत) पार्ट-1 परीक्षा 2020-2021

प्रश्नपत्र कूट संख्या - 1651

प्रथम प्रश्न पत्र - संस्कृत काव्य

1. संस्कृत साहित्य के प्राचीन कवियों के अंतर्गत महाकवि अश्वघोष, महाकवि कालिदास तथा महाकवि भर्तृहरि के कवित्व का परिचय।
2. महाकवि अश्वघोषविरचित बुद्धचरितम् (प्रथम सर्ग), महाकवि कालिदासविरचित कुमारसंभवम् (पंचम सर्ग) तथा महाकवि भर्तृहरिविरचित सम्पूर्ण नीतिशतक का अधिगम।
3. संधि, समास एवं प्रकृति-प्रत्ययविवेक आधारित प्रायोगिक व्याकरण का ज्ञानार्जन।

प्रश्नपत्र कूट संख्या - 1652

द्वितीय प्रश्न पत्र - संस्कृत नाटक

1. महाकवि भासविरचित स्वप्नवासवदत्तम् तथा दूतवाक्यम् रूपकों का अधिगम।
2. उपर्युक्त रूपकों के आधार पर संधि, समास एवं प्रकृति-प्रत्ययविवेक आधारित प्रायोगिक व्याकरण का ज्ञानार्जन।

प्रश्नपत्र कूट संख्या - 1653

तृतीय प्रश्न पत्र - संस्कृत गद्य

1. संस्कृत साहित्य के विश्वप्रसिद्ध कथाग्रंथ पंचतंत्र (मित्रभेद) का अधिगम।
2. संस्कृत साहित्य के प्रसिद्ध ऐतिहासिक उपन्यास शिवराजविजयम् (प्रथम विराम के दो निःश्वास) का अधिगम।
3. उपर्युक्त पुस्तकों के आधार पर संधि, समास एवं प्रकृति-प्रत्ययविवेक आधारित प्रायोगिक व्याकरण का ज्ञानार्जन।

प्रश्नपत्र कूट संख्या - 1654

चतुर्थ प्रश्न पत्र - व्याकरण अनुवाद एवं निबंध

1. लघुसिद्धांतकौमुदी के आधार पर हल् संधि एवं विसर्ग संधि का सूत्रोदाहरण सहित अधिगम।
2. संस्कृत व्याकरण के प्रमुख प्रत्ययों का सूत्रोदाहरण सहित अधिगम।
3. अव्ययीभाव, तत्पुरुष, बहुव्रीहि, कर्मधारय, द्विगु तथा द्वन्द्व समास का अधिगम।
4. प्रमुख शब्दरूपों एवं धातुरूपों का अधिगम।
5. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।

6. संस्कृत भाषा में निबंध लेखन की दक्षता प्राप्त करना।

बी. ए. ऑनर्स संस्कृत पार्ट-2 परीक्षा 2020-2021
प्रश्नपत्र कूट संख्या - 2651
प्रथम प्रश्न पत्र - संस्कृत काव्य (गद्य एवं पद्य)

1. महाकवि कालिदास, महाकवि भारवि एवं महाकवि बाणभट्ट के कवित्व का परिचय।
2. रघुवंशम् (13वाँ सर्ग), किरातार्जुनीयम् (प्रथम सर्ग) तथा शुकनासोपदेश का अधिगम।

प्रश्नपत्र कूट संख्या - 2652
द्वितीय प्रश्न पत्र - नाटक, छन्द एवं अलंकार

1. महाकवि कालिदास के विश्वप्रसिद्ध नाटक अभिज्ञानशाकुंतलम् का संपूर्ण अध्ययन।
2. अभिज्ञानशाकुंतलम् नाटक में प्रयुक्त मुख्य छंदों का अधिगम।
3. काव्यदीपिका (अष्टम शिखा) ग्रंथ के अनुसार प्रमुख अलंकारों के लक्षणों का सोदाहरण अधिगम।

प्रश्नपत्र कूट संख्या - 2653
तृतीय प्रश्न पत्र - प्राचीन भारतीय संस्कृति एवं संस्कृत साहित्य का इतिहास

1. प्राचीन भारतीय संस्कृति के विविध बिंदुओं का अधिगम।
2. रामायण एवं महाभारत महाकाव्य का परिचयात्मक अध्ययन-लाभ।
3. संस्कृत साहित्य के इतिहास के अंतर्गत महाकाव्य, नाटक, गद्यकाव्य, कथा साहित्य, गीतिकाव्य, सुभाषित एवं अलंकार शास्त्र का परिचयात्मक अध्ययन-लाभ।

प्रश्नपत्र कूट संख्या - 2654
चतुर्थ प्रश्न पत्र - भाषाविज्ञान, व्याकरण, अनुवाद एवं निबंध

1. भाषाविज्ञान का सामान्य अधिगम।
2. लघुसिद्धांतकौमुदी के अन्तर्गत अजन्त पुलिंग प्रकरण (राम तथा सर्व शब्द), अजन्त स्त्रीलिंग प्रकरण (रमा एवं मति शब्द) तथा अजन्त नपुंसकलिंग प्रकरण (ज्ञान एवं वारि) का सूत्र एवं सिद्धियों सहित अधिगम।
3. कारक प्रकरण के प्रमुख सूत्रों एवं वार्त्तिकों का सोदाहरण अधिगम।
4. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।
5. संस्कृत माध्यम से निबंध लेखन में दक्षता प्राप्त करना।

बी. ए. ऑनर्स संस्कृत पार्ट-3 परीक्षा 2020-2021
प्रश्नपत्र कूट संख्या - 3651
प्रथम प्रश्न पत्र - वैदिक साहित्य

1. ऋग्वेद, यजुर्वेद एवं अथर्ववेद के कतिपय सूक्तों का अधिगम।
2. संपूर्ण कठोपनिषद् का अधिगम।
3. वैदिक साहित्य का परिचयात्मक अधिगम।

प्रश्नपत्र कूट संख्या - 3652
द्वितीय प्रश्न पत्र - भारतीय दर्शन

1. सम्पूर्ण तर्कसंग्रह ग्रन्थ के मूलपाठ का अधिगम।
2. भगवद्गीता के प्रथम एवं द्वितीय अध्याय का अधिगम।
3. भारतीय दर्शन की मूल अवधारणाओं का परिचयात्मक अधिगम।

प्रश्नपत्र कूट संख्या - 3653
तृतीय प्रश्न पत्र - काव्यशास्त्र एवं नाट्यशास्त्र

1. काव्यशास्त्र के अंतर्गत काव्यदीपिका (अष्टम शिखा एवं परिशिष्ट अंश को छोड़कर) ग्रंथ का अधिगम।
2. भरतमुनिविरचित नाट्यशास्त्र के प्रथम एवं द्वितीय अध्याय का अधिगम।

प्रश्नपत्र कूट संख्या - 3654
चतुर्थ प्रश्नपत्र - व्याकरण, अनुवाद एवं निबन्ध

1. लघुसिद्धान्तकौमुदी के तिङन्त प्रकरण के अन्तर्गत भ्वादिगण की भू धातु की सभी लकारों में रूप सिद्धि का अधिगम।
2. लघुसिद्धान्तकौमुदी के तद्धित प्रकरण के प्रमुख प्रत्ययों का सूत्रोदाहरणसहित अधिगम।
3. लघुसिद्धान्तकौमुदी के स्त्रीप्रत्ययों के अन्तर्गत टाप्, ङीप्, ङीष् एवं ङीन् प्रत्ययों का सोदाहरण अधिगम।
4. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।
5. संस्कृत माध्यम से निबंध लेखन में दक्षता प्राप्त करना।

Program outcomes

एम.ए. संस्कृत (सी.बी.सी.एस.), 2020-2021

1. वैदिक साहित्य के इतिहास एवं विशेषताओं से परिचय के साथ ऋग्वेद एवं अथर्ववेद के कतिपय सूक्तों, निरुक्त (प्रथम अध्याय), ईशावास्योपनिषद् तथा बृहदारण्यकोपनिषद् (तृतीय अध्याय) का अधिगम।
2. प्राचीन भारतीय संस्कृति के विविध बिन्दुओं, विशेषताओं एवं संस्कृत शास्त्रों के इतिहास का अधिगम।
3. रामायण एवं महाभारत के परिचयात्मक अध्ययन के साथ श्रीमद्भगवद्गीता (द्वितीय अध्याय) तथा याज्ञवल्क्यस्मृति (आचाराध्याय) का अधिगम।
4. संस्कृत विषय में निबंधलेखन दक्षता प्राप्त करना।
5. हिंदी से संस्कृत अनुवाद करने में दक्षता प्राप्त करना।
6. संस्कृत शब्दकोश एवं भाषाज्ञान में वृद्धि होना।
7. भाषाविज्ञान का विशिष्ट अधिगम होना।
8. कारकप्रकरण (सिद्धान्तकौमुदी का), समासप्रकरण (लघुसिद्धान्तकौमुदी का) तथा तद्धित प्रकरण (लघुसिद्धान्तकौमुदी में शैषिक पर्यन्त) का विशेष अधिगम।
9. संस्कृत साहित्य के प्रसिद्ध कवियों एवं संस्कृत साहित्य के इतिहास का विशिष्ट अधिगम।
10. महाकवि कालिदास के व्यक्तित्व एवं कृतित्व का विशेष अध्ययन-लाभ।
11. संस्कृत काव्यशास्त्र के आचार्यों एवं संप्रदायों का अधिगम।
12. भारतीय नाट्यशास्त्र परंपरा में नाट्यशास्त्र (प्रथम, द्वितीय एवं षष्ठ अध्याय) तथा दशरूपक (प्रथम एवं तृतीय प्रकाश) का अधिगम।
13. काव्यशास्त्र के प्रमुख ग्रंथों में साहित्यदर्पण (प्रथम, द्वितीय एवं तृतीय परिच्छेद), काव्यप्रकाश (प्रथम से अष्टम उल्लास पर्यन्त), रसगंगाधर (प्रथम आनन), ध्वन्यालोक (प्रथम उद्योत) एवं वक्रोक्तिजीवितम् (प्रथम उन्मेष) का विशिष्ट अधिगम।
14. संस्कृत महाकाव्यों के अन्तर्गत रघुवंशम् (सर्ग 1,2,6 एवं 13), कुमारसंभवम् (सर्ग 1 से 5), शिशुपालवधम् (प्रथम सर्ग) तथा नैषधीयचरितम् (प्रथम सर्ग) का अधिगम।
15. अन्य पद्य साहित्य में मेघदूतम्, ऋतुसंहारम् (बसन्त ऋतु) तथा नीतिशतकम् का अधिगम।
16. संस्कृत रूपक साहित्य के अन्तर्गत कर्णभारम्, मृच्छकटिकम्, उत्तररामचरितम् एवं वेणीसंहारम् का सम्पूर्ण मूलपाठ सहित अधिगम।
17. संस्कृत गद्य साहित्य के अन्तर्गत कादम्बरी (कथामुख तक) तथा शिवराजविजयम् (प्रथम विराम के प्रथम एवं द्वितीय निःश्वास) का अधिगम।
18. भारतीय दर्शनशास्त्र परम्परा के अन्तर्गत सांख्यकारिका, वेदान्तसार, तर्कभाषा (प्रामाण्यवाद पर्यन्त), सर्वदर्शनसंग्रह (चार्वाक, जैन एवं बौद्ध मत), ब्रह्मसूत्र शांकरभाष्य (चतुःसूत्री एवं द्वितीय अध्याय में द्वितीय पाद के 1-45 सूत्र), सांख्यतत्त्वकौमुदी (1 से 72 कारिका तक), न्यायसिद्धान्तमुक्तावली (78 वीं कारिका तक), अर्थसंग्रह, योगसूत्र (समाधिपाद, साधनपाद और

विभूतिपाद के 1 से 6 सूत्र), विवेकचूडामणि, आचार्य शंकर का व्यक्तित्व-कृतित्व और वेदान्त दर्शन एवं उसके प्रमुख आचार्यों का अधिगम।

19. संस्कृत विषय में उच्च अध्ययन एवं शोधकार्य करने हेतु विशिष्ट ज्ञान की प्राप्ति होना।
20. संस्कृत विषय की विभिन्न प्रतियोगी परीक्षाओं हेतु पूर्वसज्जता सिद्ध होना।
21. भारतवर्ष की प्रतिष्ठास्वरूप संस्कृत एवं संस्कृति का सम्यक् ज्ञान होना।
22. व्यावहारिक रूप से संस्कृतनिष्ठ सदाचार, विद्या एवं विनय की प्राप्ति होना।

Course outcomes

एम.ए. संस्कृत (सी.बी.सी.एस.)

एम.ए. सेमेस्टर I (संस्कृत) 2020-2021

प्रश्न पत्र कूट संख्या M1 SAN 01 CT01

प्रश्न-पत्र - I वैदिक साहित्य

1. वैदिक साहित्य के इतिहास ज्ञानसहित कतिपय संहिता सूक्तों के अध्ययन में निपुणता ।

प्रश्न पत्र कूट संख्या M1 SAN 01 CT02

प्रश्न-पत्र - II सांख्य दर्शन

1. भारतीय दर्शन शास्त्र की सांख्य दर्शन परंपरा का परिचय एवं प्रमुख ग्रन्थ सांख्यकारिका का अधिगम।

प्रश्न पत्र कूट संख्या M1 SAN 01 CT03

प्रश्न-पत्र - III वेदान्त दर्शन

1.भारतीय दर्शन शास्त्र की वेदान्त दर्शन परंपरा का परिचय एवं प्रमुख ग्रन्थ वेदान्तसार का अधिगम ।

प्रश्न पत्र कूट संख्या M1 SAN 01 CT04

प्रश्न-पत्र - IV - नाटक एवं नाट्य शास्त्र

1.संस्कृत की काव्यशास्त्रपरंपरा में नाट्यशास्त्र तथा नाटक साहित्य का अधिगम ।

प्रश्न पत्र कूट संख्या M1 SAN 01 CT05

प्रश्न-पत्र V - व्याकरण एवं अनुवाद

1.संस्कृत की व्याकरणशास्त्रपरंपरा में लघुसिद्धान्तकौमुदी का अधिगम ।

प्रश्न पत्र कूट संख्या M1 SAN 01 CT06

प्रश्न-पत्र VI - संस्कृत शास्त्रों का इतिहास, संस्कृति एवं निबन्ध

1.संस्कृत के शास्त्रीय इतिहास एवं भारतीय संस्कृति का अधिगम तथा निबंधलेखन में निपुणता ।

एम.ए. सेमेस्टर II (संस्कृत) 2020-2021

प्रश्न पत्र कूट संख्या M2 SAN 01 CT01

प्रश्न-पत्र -I उपनिषद् साहित्य

1.उपनिषद् साहित्य के परिचयसहित प्रमुख उपनिषदों के मूल पाठ का अध्ययन |

प्रश्न पत्र कूट संख्या - M2 SAN 01 CT02

प्रश्न-पत्र II - न्यायदर्शन

1.भारतीय दर्शनशास्त्र की न्यायदर्शनपरंपरा के प्रमुख ग्रन्थ तर्कभाषा का अधिगम ।

प्रश्न पत्र कूट संख्या - M2 SAN 01 CT03

प्रश्न-पत्र III - काव्य एवं साहित्य -शास्त्र

1.संस्कृत काव्यशास्त्र तथा खंडकाव्य के अध्ययन में निपुणता |

प्रश्न पत्र कूट संख्या - M2 SAN 01 CT04

प्रश्न-पत्र IV - साहित्यशास्त्र के आचार्य एवं सम्प्रदाय

1.संस्कृत के साहित्य शास्त्र के प्रमुख आचार्य तथा उनके सम्प्रदायों का अधिगम ।

प्रश्न पत्र कूट संख्या - M2 SAN 01 CT05

प्रश्न-पत्र V - भाषा विज्ञान, व्याकरण एवं अनुवाद

1.भाषा विज्ञान, व्याकरणशास्त्रीय ग्रन्थ तथा अनुवाद का अधिगम ।

प्रश्न पत्र कूट संख्या - M2 SAN 01 CT06

प्रश्न-पत्र VI - आर्ष काव्य एवं स्मृति

1.रामायण एवं महाभारत के परिचयसहित धर्मशास्त्रीय परंपरा के प्रमुख ग्रन्थ याज्ञवल्क्यस्मृति के प्रारंभिक अंश का अधिगम ।

प्रश्न पत्र कूट संख्या - M2 SAN 07 AU01

प्रश्न-पत्र VII - प्राचीन संस्कृत साहित्य

1.विश्व के साहित्य की प्राचीनतम परंपरा और भारतीय साहित्यिक धरोहर का परिचय ।

एम.ए. सेमेस्टर III (संस्कृत) 2020-2021

प्रश्न पत्र कूट संख्या - M3 SAN 01 CT01

प्रश्न-पत्र I - गद्य, काव्य एवं पुराण

1. संस्कृत गद्यकाव्यपरंपरा के प्रमुख ग्रन्थ शिवराजविजय तथा नैषधीयचरित के प्रारंभिक अंशों के अध्ययनसहित पुराणों के परिचय का अधिगम।

प्रश्न पत्र कूट संख्या - M3 SAN 01 CT02

प्रश्न-पत्र II - संस्कृत कवि

1. संस्कृत साहित्य के प्रमुख कवि तथा उनके साहित्य का परिचय।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP03 (A)

प्रश्न-पत्र III - काव्य शास्त्र

1. संस्कृत काव्यशास्त्र परंपरा के प्रमुख ग्रन्थ काव्यप्रकाश का अधिगम।

एम.ए. सेमेस्टर III (संस्कृत) 2020-2021

प्रश्न पत्र कोड संख्या M3 SAN 01 EP03 (B)

प्रश्न-पत्र III - वेदान्त दर्शन

1. दर्शनशास्त्र परंपरा में वेदान्तदर्शन के प्रतिनिधि ग्रन्थ ब्रह्मसूत्र के प्रारंभिक अंश तथा उस पर आचार्य शंकर के भाष्य का अधिगम।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP04 (A)

प्रश्न-पत्र IV- साहित्य शास्त्र

1. संस्कृत साहित्यशास्त्र परंपरा के प्रतिनिधि ग्रन्थ रसगंगाधर तथा ध्वन्यालोक के प्रारंभिक अंशों का अधिगम।

प्रश्न पत्र कूट संख्या M3 SAN 01 EP04 (B)

प्रश्न-पत्र IV - सांख्य दर्शन

1. संस्कृत दर्शनशास्त्रीय परंपरा में सांख्यदर्शन के प्रतिनिधि ग्रन्थ सांख्यकारिका की टीका - सांख्यतत्त्वकौमुदी के अधिगमसहित सांख्यशास्त्रीय तत्वों का परिचय।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP05 (A)

प्रश्न-पत्र V- संस्कृत नाटक

1. संस्कृत साहित्य की दृश्यकाव्य परंपरा में महाकवि भवभूति एवं भास की प्रतिनिधि रचनाओं उत्तररामचरितम् एवं कर्णभारम् का अधिगम।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP05 (B)
प्रश्न-पत्र V- न्याय वैशेषिक दर्शन

1. संस्कृत दर्शनशास्त्रीय परंपरा में न्यायदर्शन के प्रमुख ग्रन्थ न्यायसिद्धान्तमुक्तावली के प्रत्यक्ष खण्ड का अधिगम।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP06 (A)
प्रश्न-पत्र VI- विशेष अध्ययन - कालिदास (खंडकाव्य एवं नाटक)

1. भारतीय और संस्कृत साहित्य के प्रमुख महाकवि कालिदास एवं उनके साहित्य का अधिगम।

प्रश्न पत्र कूट संख्या - M3 SAN 01 EP06 (B)
प्रश्न-पत्र VI- वेदान्त दर्शन के प्रमुख आचार्य

1. भारतीय दर्शनशास्त्रीय परंपरा में वेदान्तदर्शन का परिचय एवं उसके प्रमुख आचार्यों के योगदान का अधिगम।

एम.ए. सेमेस्टर IV (संस्कृत) 2020-2021
प्रश्नपत्र कूट संख्या M4 SAN 01 CT01
प्रश्न-पत्र I . काव्य (गद्य, पद्य , और निबन्ध)

1. संस्कृत की गद्यकाव्य एवं महाकाव्य परंपरा की प्रतिनिधि रचनाओं का अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 01 CT02
प्रश्न-पत्र II - चार्वाक,बौद्ध एवं जैन दर्शन

1. भारतीय दर्शनशास्त्रीय परंपरा में नास्तिक दर्शन - चार्वाक, जैन एवं बौद्ध दर्शन का सर्वदर्शनसंग्रह ग्रंथानुसार अधिगम |

प्रश्नपत्र कूट संख्या M4 SAN 01 EP03 (A)
प्रश्न-पत्र III - साहित्य -शास्त्र - II

1. संस्कृत साहित्य शास्त्र के प्रमुख ग्रन्थ काव्यप्रकाश एवं वक्रोक्तिजीवितम् के प्रमुख अंशों का अध्ययन।

प्रश्नपत्र कूट संख्या M4 SAN 01 EP03 (B)

प्रश्न-पत्र III - मीमांसा दर्शन

1. भारतीय दर्शनशास्त्र परंपरा में मीमांसा दर्शन के प्रतिनिधि ग्रन्थ अर्थसंग्रह का अधिगम |

प्रश्नपत्र कूट संख्या M4 SAN 01 EP04 (A)

प्रश्न-पत्र IV- नाटक एवं काव्य

1. संस्कृत की दृश्य एवं श्रव्यकाव्य परम्परा में वेणीसंहार नाटक एवं रघुवंश महाकाव्य के प्रथम सर्ग का अधिगम |

प्रश्नपत्र कूट संख्या M4 SAN 01 EP04 (B)

प्रश्न-पत्र IV - योग दर्शन

1. भारतीय दर्शनशास्त्र परंपरा में योगदर्शन के प्रतिनिधि ग्रन्थ योगसूत्र का अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 01 EP05 (A)

प्रश्न-पत्र V- नाट्यशास्त्र

1. संस्कृत कि नाट्यशास्त्रीय परंपरा में प्रमुख ग्रन्थ नाट्यशास्त्र एवं दशरूपक का अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 01 EP05 (B)

प्रश्न-पत्र V - न्याय वैशेषिक दर्शन -II

1. भारतीय दर्शन परंपरा में न्याय दर्शन के प्रमुख ग्रन्थ न्यायसिद्धान्तमुक्तावली का अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 01 EP06 (A)

प्रश्न-पत्र VI - विशेष अध्ययन - कालिदास (महाकाव्य)

1. संस्कृत साहित्य के महाकवि कालिदास एवं उनकी रचनाओं का विशेष अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 01 EP06 (B)

प्रश्नपत्र VI - विशेष अध्ययन - शंकर

1. भारतीय दर्शन की अद्वैतवेदान्तपरंपरा के प्रमुख आचार्य शंकराचार्य के व्यक्तित्व एवं कृतित्व का विशेष अधिगम।

प्रश्नपत्र कूट संख्या M4 SAN 07 AU02

प्रश्नपत्र VII - प्राचीन भारतीय संस्कृति एवं श्रीमद्भगवद्गीता

1. प्राचीन भारतीय संस्कृति का परिचय एवं श्रीमद्भगवद्गीता का अधिगम।

Faculty of Social Science

Department of Sociology

Courses offered-

- MSW

MASTER OF SOCIAL WORK

COURSE CURRICULUM AND STRUCTURE

(2020 - 2022)

Choice Based Credit System

MOHANLAL SUKHADIYA UNIVERSITY

Department of Sociology

University College of Social Sciences and Humanities

MOHANLAL SUKHADIYA UNIVERSITY

Schemes and Syllabus of Social Work

Master of Social Work (M.S.W.)

Title: The title of the course is 'Master of Social Work'

Objectives:

The objectives of the course are to impart knowledge, develop skills and create suitable attitudes and behavior patterns required for effective Provisions of welfare, development as well as empowerment services, the career in social work is all about giving and helping others in need. From various NGOs (non-government organisations) across the nation to social development, a master's in social work will provide a candidate an in-depth knowledge about the work put into the development of humanity and social welfare. after completed MSW degree candidate can work as social worker Project coordinator, counselor academics and HR compliances, labour welfare etc.

Duration:

The total duration of the course shall be of two years spread over in four semesters.

Seats:

The total number of students to be admitted to the course shall be 60 in a year.

Eligibility:

Any candidate with three years of graduation degree in any stream and with minimum 45% for General Candidates and 40 % for SC/ST/OBC candidates shall be eligible for admission to the course. Reservation rule follow as per university.

Reservation: As per university / State Government's norms

New Education Policy Benefits:

The MSW course will be implemented in MLSU as per India's New Education Policy. The course strictly put an emphasis on conceptual understanding and critical thinking to encourage logical decision-making and innovation. The MSW course encourages to develop life skills such as communication, cooperation, teamwork and resilience.

As per the New Education Policy, following are the benefits received by students over the period of two years:

1. If a student leaves the course in 6 months of time for some reason, then the student can obtain a certificate in Social Work from the University.
2. If a student leaves the course in one year for some reason, then the student will receive Post Graduation Diploma in Social Work.
3. If a student attends and complete entire course, then a Master Degree in Social Work will be provided from the University.

Pedagogy:

Class instruction, field instruction, individual conferences, group conferences, specific theme related camps, visits, group work, short surveys (individual or team), supervised non-credit courses, extension lectures by guest/ visiting faculty, individuals or group student support, exit/ follow-up meeting, informal investigations and reviews, seminars, use of information technology, special sessions on project formulation, assignments during holidays, functional English and career development will constitute the pedagogy of the course.

Orientation Programmes:

Orientation programmes will be organized in the beginning of the academic session for both MSW Previous and Final. The objective of the programme is to acquire students with the nature of professional social work education, practice settings in

social work, programme of academic institution, concurrent field work, practice skills and fields of social work. For the MSW Final Year students the orientation programme will be organized immediately when the university will reopen after summer vacation is with the objective to sharpen students/ awareness in integrated social work practice.

Course Contents: The curriculum will be divided into two parts:

(i) Theory papers
(ii) Field practicum
(iii) Research Project report
(iv) Skill Development
(v) Aanandam (Social Work)

1. **Theory Papers:**

There shall be five theory papers in each of the four semesters. The students will be required to opt for two elective papers out of the specializations in semester-III and semester-IV.

2. **Field Practicum:**

Field education or practicum is the cornerstone of Social Work Education and allows social work students to put classroom learning into practice. The field practicum experience offers an opportunity to students to put into practice, the objectives of the programme. It is designed to create an environment where the student can grow professionally assisted by some experimental activity. Thus, individual growth and development in the work situation is what field practicum is all about. Students are provided with an opportunity for a planned learning experience or in a community and social service agency or in organization.

The entire field work practicum has been categorized in following major companies.

1. Concurrent field practicum
2. Observation visits
3. Rural/ Urban camp
4. Summer placement (Optional)
5. Study tours
6. Block placement

1. **Concurrent Field Work:** It is a compulsory component of all four semesters of the MSW Programme. This involves placement for a full academic year (Two Semesters) in an open community or in a selected structured social welfare/ development agency where students work twice a week under the supervision of faculty members of the educational institution.

   During concurrent field work, students are expected to perform the field practicum in intervals of 15 hours per week for entire semester. These 15 hours are spent by the students in writing of field work reports and in attending scheduled individual conferences at educational institution, which is taken into consideration in addition to the time spent in the agency/ open community.
2. **Observation Visits:** Students enrolled in the course often drawn from diverse disciplines with inadequate or negligible acquaintance of social work or social service organizations. So, students are provided an opportunity to visit and see various fields and agency settings of social welfare and social service. As also industrial selling's. Such visits are arranged in the first semester and few in third semester separately.

3. **Rural/ Urban Camp:** Education-cum-work camps may be organized in

rural (including tribal)/ urban areas. The duration may range from five days to ten days and arrangements are made to organize the camp in collaboration with some NGO or environment agency so that project or programme-based experience can also be availed.

4. **Summer Placement (Optional):** At the end of second semester, students will have option to undergo summer placement training for a period of four/six weeks in an NGO or social welfare organization or government organization or open community or industrial setting of their choice. This is undertaken immediately on completion of the second semester examinations during the summer vocations. Though, summer placement is an optional component of MSW Programme, students are however normally encouraged to undergo this training.
5. **Study Tours:** Normally, students of second/ fourth semester are taken for study tour in order to get exposure to other schools of social work/nodal agencies/communities/ programmes.
6. **Block Placements:** At the end of two year post graduate programme i.e., after forth semester and immediately after fourth semester and examinations held during May-June] block placement is an integral and mandatory component of field practicum, it comprises six-week pre-employment training programme in different social welfare/ development agencies/ industrial and business establishment/ open community. It is conducted full time basis. The student will submit weekly report of the work done to the supervisor and on his/ her recommendation mark sheet/ degree will be released.

3. **Research Project Report:**

Each student shall be required to prepare and submit a project report on the theme (to be decided in consultation with the faculty) before the commencement of the examination for Semester IV.

4. **Skill Development:**

Candidate should be pass in Skill (English Communication) but not include in final mark sheet.

5. **Aanandam:**

The candidate needs to ensure social work of 30Hrs during the semester. for the same, candidate will produce photograph as evidence and also certificate from that ward parshad/ sarpanch/school principle/Medical officer etc. During the semester one teacher will be mentor for the students.

Viva-Voce Examinations:
There shall be two types of viva-voce.

a) **Field Practicum Viva-voce:** This viva-voce will be conducted at the end of each semester.
b) **General viva-Voce:** There will be a General Viva-voce examination of 100 marks to ascertain the comprehension of the subject and ability to communicate in face-to-face situations.

Programme Structure:

The MSW Programme is divided into two parts as under. Each part will consist of two semesters to be known as Semester-1 and Semester-2

Year	Semester-Odd	Semester-Even
First Year	Semester-1	Semester-2
Second Year	Semester-3	Semester-4

Mechanism for exit points and awards

Semester / Year	Credits	Awards
One Semester	30	Certificate
Two Semesters	60	P.G. Diploma
Four Semesters	123	P.G. Degree

Attendance:

Seventy five percent attendance of theory papers and ninety percent in field practicum shall be compulsory.

The Schedule of papers prescribed for various semesters shall be as follows.

Semester-I

Paper Code	Title of Paper	Credits	Per Week Interaction in Hrs	Semester Marks	Continuous Internal Assessment	Maximum Marks
SW101	Indian Society and Culture	4	4	80	20	100
SW102	Personality Development and Human Behaviour	4	4	80	20	100
SW103	Introduction to Social Work	4	4	80	20	100
SW104	Social Case Work	4	4	80	20	100
SW105	Social Group Work	4	4	80	20	100
SW106	Field work Practicum	6	6	100	50(viva)	150
SW107	Skills (English Communication)	2	2	40	10	50
SW 108	Anandam	2	30 Hrs in a semester	Needs to audit pass		
Total		**30**		**500**	**150**	**650**

Candidate should be passed in Skill (English Communication) but it will not be included in final mark sheet.

Semester-II

Paper Code	Title of Paper	Credits	Per Week Interaction	Semester Marks	Continuous Internal Assessment	Maximum Marks
SW201	Community Organization and Community Development	4	4	80	20	100
SW202	Social Work Research Methods	4	4	80	20	100
SW203	Social Statistics and Computer Applications	4	4	80	20	100
SW204	Social Welfare Administration and Social Action	4	4	80	20	100
SW205	Social Disorganization and Social Problems	4	4	80	20	100
SW206	Field work Practicum	6	6	100	50(viva)	150
SW 207	Rural Camp	2		50		
SW208	Aanandam	2	30 Hrs in a semester	Needs to audit pass		
Total		30		500	150	**650**

Candidate should attend and pass the Rural Camp but the marks will not be included in final mark sheet.

Semester – III

Paper Code	Title of Paper	Credits	Per Week Interaction	Semester Marks	Continuous Internal Assessment	Maximum Marks
SW301	Social Policy, Planning and Development	4	4	80	20	100
SW302	Social Inclusion, Human Rights and Social Justice	4	4	80	20	100
SW303	Tribal Movement, Culture and Legislation	4	4	80	20	100
SW308	Field work Practicum	6	6	100	50(viva)	150
SW309	Aanandam	2	30 Hrs in a semester	Needs to audit pass		
Specialization (Elective two papers from Specialization) (select any one)						
Specialization (A) Human Resource Management						
SW304	Organizational Management	4	4	80	20	100
SW305	Labour Legislation in India	4	4	80	20	100
Specialization (B) Development Management						
SW306	Developmental Issues	4	4	80	20	100
SW307	Social Advocacy and Networking	4	4	80	20	100
Extra course						
Life Skill Education		**2**		**Need to Pass**		
Total		**30**		**500**	**150**	**650**

Candidate should be passed in Life Skill Education Subject but the score will not be included in final mark sheet.

Semester – IV

Paper Code	Title of Paper	Credits	Per Week Interaction	Semester Marks	Continuous Internal Assessment	Maximum Marks
SW401	Training and Development	4	4	80	20	100
SW402	Project Planning and Development	4	4	80	20	100
SW409	Field work Practicum	6	6	100	50(viva)	150
SW 410	Research Project (Dissertation)	5	60 Hrs in Specialization Period	80 (External)	20	200
	General Viva-Voice			100		
SW 411	Aanandam	2	30 Hrs in a semester	Needs to audit pass		
Specialization (Elective two papers from Specialization)						
Specialization (A) Human Resource Management						
SW403	Introduction to Human Resource Management	4	4	80	20	100
SW404	Trade Unions and Industrial Relations	4	4	80	20	100
SW405	Employee Welfare and Social Security	4	4	80	20	100
Specialization (B) Development Management						
SW406	Management of Human Service Organization	4	4	80	20	100
SW407	Development Support systems	4	4	80	20	100
SW408	Development Paradigms	4	4	80	20	100
Total		**33**		**680**	**170**	**850**

Total Marks – 650+650+650+850 = 2800

Elective papers:

In the beginning of the respective semesters, the elective papers in Semester III and Semester IV will be offered by students.

Elective papers can be chosen in two specialized areas:

1. **Human Resource Management**

Curriculum engages students on core areas of Human Resources Management related to acquisition, performance management, labour relations, compensation, management and development of human resources including areas such as employee empowerment and engagement, employee support and assistantship programmes, , work life balance and management, personal and laws related to family and children. A balanced mixture of both practical and theory will be provided in the course.

2. **Development Management**

Development Management is a specialized field which will provide students with an opportunity to enter in the development sector by working with several state, national and International level organizations. Students will also have opportunities to work in the field of Corporate Social Responsibility. Students during the specialization over the period of one year will study and under various developmental issues, support systems and paradigms, management of human service organization and will develop social advocacy and networking skills.

Scheme of Examinations:

(i) English/ Hindi shall be the medium of instruction of Examination.

(ii) Examinations shall be concluded at the end of each semester as per academic examination calendar of university.

(iii) Each theory paper will be valued for 100 marks, out of which 20 marks is for continuous internal assessment (CIA) and 80 marks will be for end semester written examination. In each semester, the field practicum will be assessed for 150 marks of which 100 marks are for the field practicum and 50 marks is for viva-voce examination to be evaluated by external examination. Project report will be evaluated by both

internal examiner in 20 marks and external examination in 80 marks. Lastly, these will be general viva-voce of 100 marks to be conducted by external examiner. In assessing students for continuous Internal Assessment.

(IA) in each paper the following method will be followed

Internal Test	10 marks
Attendance and Class presentation	(5+5)10 marks
Total	20 marks

- To pass a semester, a Student has to secure minimum 40 percent marks in aggregate and 36 percent marks in individual theory paper.
- Pass marks in concurrent field work in minimum 40 percent.
- Student is required to pass theory and field practicum separately. If he/she fails in field practicum, he/she will be declared as fail in semester.
- If student fails in aggregate or in concurrent field practicum or both, then he/she has to take re-admission in perspective semester when due.
- Promotion to next semester: a student should have cleared at least three theory papers in the preceding semester. A student who has failed to clear minimum three theory paper in a semester will be detained and will have to clear that semester for promotion to the next semester. Student failing in a paper or more in any semester will have the opportunity to clear the same when university holds examination for that semester. There will be no separate supplementary examination arrangement other than the regular examination arrangement other than the regular examination schedule.
- A student will be declared passed only if he/she has cleared all the

papers in all the semesters. Students will have to pass in all theory papers and field practicum separately to be declared passed.

In case of failure in field practicum, even if student clears all theory papers, the student has to repeat both practical and all theory papers of that semester for promotion to the next semester.

In case of failure in semester students will have to repeat all theory papers and field practicum of that semester by attending regular classes.

- The duration of examination for theory paper will be of three hours.
- As regards project report, the scheme of evaluation shall be
    - Project Report shall begin from the semester III and
    - Shall be evaluated by an external examination of 100 marks and 50 marks would be evaluated internally by the respective guide under whom the student is placed for the guidance of project report.

SEMESTER – I

SW101 – Indian Society and Culture

Objective:

- Orientation regarding basic sociological concepts.
- Development of Insight into social structure and social institutions.
- Understand control and change mechanism.
- Know about culture.

Course Contents:

Unit – I

- Society: Concept, Meaning, Man and Society Relationship, Theories of Society: Structuralism and Functionalism.
- Social values and Norms.

Unit – II

- Social System: Concept and Theories, Basic Social Institutions: Marriage, Family, Groups: Concept and Types.
- Basic Sociological Concepts: Caste, Religion, Community, Association.

Unit – III

- Socialization: Concept and Process
- Social Stratification: Concept and Theories
- Social Disorganization: Concept and Causes
- Social Control: Importance, Meaning, Levels, Institutions and Forms.

Unit – IV

- Social Change: Importance and Meaning, Factors and Theories.
- Concept, Causes and Implications of Communalism, Regionalism, Migration, Casteism and Dalit Assertion.

Unit – V

- Culture: Concept, Nature and Functions, Cultural Fusion - Cultural Values, Cross Cultural Contact, Cultural Conflict, Culture and Civilization, Cultural Lag – Meaning, Characteristics and Relevance in Social Work Practice.

Reference Books:

- King Sley Davis: Human Society.
- MacIver and Page: Society: An Introductory Analysis.
- Vidya Bhushan and D.R. Sachdeva: An Introduction to Sociology.
- Ramnath Sharma: Introductory Sociology.
- Nadeem Hasnain: Indian Society and Culture: Continuity and Change.
- दोशी, एम.एल ईवम जैन, पी.सी.: भारतीय समाज
- रवींद्र कुमार मुखर्जी : भारत वर्श में सामाजिक परिवर्तन
- मनोज कुमार सिंह: भारत वर्श में सामाजिक परिवर्तन
- अरुण कुमार सिंह: समाजशास्त्र की मूलभूत अवधारणाएं

SW102 – Personality Development and Human Behaviour

Objectives:

- Impart Knowledge about personality.
- Know about different dimensions of human behaviour.
- Understand about concepts of normalcy and abnormally
- Know about basic psychological process.

Course Contents:

Unit – I

- Personality: Concept, Stages of Development with Special Reference to Indian Concept of life Span, Types, Determinants, Heredity and Environment.

Unit – II

- Theories of Personality: Sigmund Freud, Carl Jung, Alfred Adler, Careen Harney, Sullivan and Otto Rank.

Unit – III

- Basic Socio-Psychological processes: Sensation, Perception, Attribution, Learning, Socialization, Motivation, Attitudes, Beliefs, Prejudices and Stereotypes.

Unit – IV

- Human Behavior: Concept, Determinants and Reflectors, Behavioral Problems in Different Stages of Personality
- Development.
- Adjustment: Concept, Characteristics and Factors.
- Leadership: Concept, Types and Functions.

Unit – V

- Concept of Normalcy and Abnormally, Defense Mechanism.
- Etiology of Abnormal Behavior, Types of Abnormal Behavior: Psychosis and Psychoneurosis
- Management of Mental Disorders.

Reference Books:

- Baron and Byrne: Social Psychology.
- Hall, Lindsay and Campbell: Theories of Personality.
- Allen, B.P.: Personality Theories.
- Sharma Rajendra K. and Sharma, Rachna: Social Psychology.
- Mayers: Psychology.
- Hilgard Esnest and Alkinson: Introduction to Psychology.
- Robinson, Lena: Psychology for Social Workers.
- William James: Principles of Psychology.
- संजीव महाजन: सामाजिक मनोविज्ञान
- लवानिया, एल. एम: सामाजिक मनोविज्ञान

SW103 – Introduction to Social Work

Objectives:

- Understand conceptual framework and development of Social Work.
- Know about philosophical foundation of Social Work.
- Acquaint with different models of Social Work practice.
- Understand fields of Social Work Practice.

Course Contents:

Unit – I

- Social Work: Misconceptions, Definitions, Related concepts – Social Welfare, Social Service, Social Reform, Social.
- Development and Empowerment, Social work as a Profession.

Unit – II

- Development of Social Work in U.K., USA and India.
- Contribution of Social Sciences Theory and Research to Social Work and Visa-Versa.
- Social Work: Assumptions, Principles and Goals (ameliorative, remedial, rehabilitative, promotional, developmental and transformational).

Unit – III

- Philosophy and Values of Social Work.
- Perspectives in Social Work Practice: Ecological, Feminist, Existential, Rational Emotive, System, Gandhian, Marxian.
- Rights Perspective and Integrated.

Unit – IV

- Approaches to Social Work Practice: Psycho-Social, Functional, Problem Solving, Crisis Intervention, Family therapy.
- Socialization, Behavior Modification, Task Centered, Evidence Based and Approach.

Unit – V

- Social Work Settings: Institutional and Non-institutional.
- Fields of Social Work: Family and Child Welfare, Labour Welfare, Medical and psychiatric Social Work, School Social Work, Correctional Social Work, Community Development, Roles of Social Worker.

Reference Books:

- Friedlander: Concepts and Methods of Social Work.
- Desai, Murli: Ideologies and Social Work.
- Pincus and Minaham: Social Work Practice, Models and Methods.
- Khinduka, S.K. – Social Work in India.
- Jacob, K.K. (Ed.): Social Work Education in India: Retrospect and Prospect.
- Goldsiein: Social Work Practice – Unitary Approach.
- Dubois and Miley: Social Work – An Empowering Profession.
- Surendra Singh Soodan K.S.: Horizon of social Work.
- Adams, Robert: The Short Guide to Social Work.
- Soodan, K.s.: social Work: Theory and Practice.
- Nitesh Dawan: Social Work Prospective – Philosophy and Methods.
- Singh, D.K. and Bhatiya, A.K.: Social Work –Concepts and Methods.
- Misra, P.D. : Social Work Profession in India.
- Pathak, Shanker: Social Work and Social Welfare.
- Turner,F.J. (Ed.): Social Work Treatment: Interlocking Theoretical Approaches.
- मिर्जा अहमद: समाजकार्य, दर्शन एवम प्रणालियाँ
- सुरेंद्र सिंह एवं आर. बी. एस. वर्मा: समाजकार्य के क्षेत्र
- किरपाल सिंह सूडान: समाजकार्य - सिद्धांत एवं व्यवहार

SW104 – Social Case Work

Objectives:

- Understand Social Casework as method of Social Work.
- Orientation of students regarding individualized approach to problem solving.
- Acquire knowledge of different models of treatment and enhancing problem solving skills.
- Develop Skills in motivational interviewing, counseling, recording and therapeutic intervention.

Course Contents:

Unit – I

- Social Casework: Concepts, Objectives, Components, Basic Assumptions, Phases, Principles and Development of Social Casework in USA and India.
- Social Case Work Practice in Different Settings.

Unit – II

- Social Case Work Process: Intake, Study, Diagnosis, Treatment, Termination and Evaluation.
- Social Case Work Practice: Use of Relationship, Concepts of Transference and Counter Transference and Their Significance, Use of Authority, Transactional Analysis.
- Schools of Social Casework: Functional and Diagnostic.

Unit – III

- Counselling: Introduction, Meaning, Need, Goals, Scope, Models and Process of Counselling
- Techniques of Counselling: Supportive, Behavioural, Cognitive and Psychoanalytical
- Issues involved in Counselling

Unit – IV

- Techniques and Skills of Social Case Work: Observation, Questioning, Interviewing, Home Visit, Resource Mobilization,
- Referral, Environmental Modification, Supportive Technique,
- Collateral Contacts, Casework Relationship and Communication, Counseling and Psychotherapy.
- Recording and Evaluation in Social Case Work.

Unit – V

- Models of Case Work Practice: Social Diagnostic (Richmond), Supportive and Modificatory (Hamilton), Problem Solving (Pearlman), Crisis Intervention (Rappaport), Classified Treatment Method (Florence Hollies) and Competency Based Approach (Elleen Grabrle)

Reference Books:

- Aptekar, H.H.: Dynamics of Casework and Counselling.
- Biestek: Case Work Relationship.
- Hamilton, Gordon: Theory and Practice of Social Casework.
- Perlman, H.H.: Social Casework – A Problem Solving Process.
- Pincus and Minahan: Social Work Practice – Models and Methods.
- Richmond, M.E.: What is Social Casework – An Introductory Description.
- Richmand, M.E. : Social Diagnosis.
- Roboerts, R.W. and Nee, R.H.: Theories of Social Casework.
- Upadyay, R.K.: Social Casework – A Therapeutic Approach.
- Timms, N. : Social Case Work – Principles and Practice.
- पी. डी. मिश्रा: वैयक्तिक सेवा कार्य

SW105 – Social Group Work

Objectives:

- Acquire knowledge about social group work as method of social work.
- Understand group formation and group leadership.
- Understand group process and effective use of programme media.
- Know about social group process.

Course Contents:

Unit – I

- Social Group Work: Meaning, Definition, Objectives, Principles, Skills and Values.
- Development of Social Group Work in US and India.

Unit – II

- Social Group Work Process: Intake, Study, Objectives, Goal Setting, Assessment, Stages of Group Development,
- Termination, Programme Planning and Development, Use of Programme.

Unit – III

- Models of Social Group Work Practice: Remedial, Mediating or Reciprocal, Developmental and Social Goal Model.
- Techniques of Group Work: Acceptance, Recognition, Loving, Sharing, Playing, Helping and Limiting.

Unit – IV

- Group Process: Meaning, Group Dynamics, Member's Behavior, Leadership, Decision Making and Problem Solving.

Unit – V

- Social Group Work Practices, Agencies, Different Settings in Indian Perspective, Recording and Evaluation in Social Group Work.

Reference Books:

- Siddiqui, H.Y.: Group work – Theories and Practices.
- Trecker, H.B. : Social Group Work – Principles and Practice.
- Konopka, G. : Social Group Work : A Helping Process.
- Wilson and Ryland: Social Group Work Practice. The Creative Use of Social Process.
- Toseland, R.W. and Rivas, R.F. : Introduction to Group Work Practice.
- Northern H. and Kurland: Social Work with Groups.
- Balgopal and Vasseil: Groups in Social Work –An Ecological Perspective.
- Shulman, L: The Skills of Helping Individuals, Families, Group and Communities.
- Misra, P.D. : Social Group Work.
- वनमाला शास्त्री: सामाजिक सामूहिक कार्य

SW107 – Skills English Communication

Unit - I

- **Listening Section**-I These include questions which test student's ability to understand main ideas and detailed factual information, ability to understand the opinions and attitudes of speakers, ability to understand the purpose of an utterance and ability to follow the development of ideas.
- A conversation between two people on an everyday, social topic. this means that student will listen to two people talking to each other about arranging a trip. Organizing an event, etc.
- This is a talk by one speaker on a general topic. this means that student listens to one person given information about a public event, a service provided, etc.

Unit -II

Listening Section-II:

- This is a conversation between two to four people in an educational or training context. This means that student listens to up to four people talking to each other about an assignment for a course. an academic subject in seminar, etc.
- This is a monologue on an academic or study-related topic. this means student will listen a person given lecture or talk, which is focused academically.

UNIT-III

Reading section-III:

These including reading for gist, reading for main ideas, reading for detail, skimming, understanding logical argument, recognizing writers' opinions, attitudes and purpose.

UNIT-IV

Writing section-IV:

The student needs to know the rules or writing and structure of writing. how does one write reflect how one process one's thoughts? to develop students writing style, students need to stick to the rules and practice writing a lot. Here teacher needs to explain to writing section of the IELTS in Detail.

UNIT-V

Speaking section-IV:

It involves a one-to-one interaction between the student and an examiner.
This section includes three parts, which give student the examiners a chance to check the student's range of different speaking skills.

Reference book: Cambridge English for IELTS

SEMESTER – II

SW201 – Community Organization and Community Development

Objectives:

- Develop a conceptual understanding of Community and Community power dynamics.
- Develop understanding of community organization as a method of social work.
- Develop skills in the use of various techniques and models of community organization.
- Promote attitude Conductive to participatory practice in community development.

Course Contents:

Unit –I

- Community: Concept, Types- Rural, Urban, Tribal, Slum, Migrant and Marginalized, Community Power Structure and Dynamics.

Unit –II

- Community Organization: Concept, Principles, Techniques, Skills, Assumptions, Models, Strategies and Process.
- Indigenous Approaches to Community Organization: Sarvodaya, Gandhian Re-construction Programme, Bhoodan and Gramdan.

Unit – III

- Role of social worker/ External Agent in the Process of Community Organization.
- Community Leader: Traditional Vs. Modern, Formal Vs. Informal, Qualities of a Community Leader and Leadership Development.
- Recording in Community Organization.

Unit – IV

- Community Development Programmes in India: Concept, Approaches, Policies, Programmes and Critical Assessment of Rural Community Development and Urban Community Development People's Participation.

Unit – V

- Participatory Techniques in Development: Concept, RRA, PRA and PLA and limitation of Participatory Methods.

Reference Books:

- Ross, M.G.: Community Organisation.
- Durham, Arthur: Community Welfare Organisation.
- Murphy, G.G: Community Organisation Practice.
- Gandrade, K.D.: Community Organisation in India.
- Siddique, H.Y.: Working with Communities: An Introduction to Community Work.
- Peter Baldock: Community Work and Social Work.
- Mukharjee, N.: Participatory Rural Appraisal: Methodology and Application
- Arthur Hillman: Community Organisation and Planning.
- Marie Weill: Handbook of Community Practice.
- वर्मा, आर. बी. ए. एवं अतुल प्रताप सिंह: सामूदायिक संगठन व्यवहार

SW202 – Social Work Research Methods

Objectives:

- Understand Scientific method and its application in Social Work Research.
- Learn about research designs, sampling, and processing and research report.
- Know different tools of data collection.
- Inculcate attitude of scientific enquiry and objectivity.

Course Contents:

Unit – I

- Scientific Method: Meaning, Assumptions and Steps, Ethics in Research
- Social Research: Concept, Nature and Scope.
- Social Work Research: Concept, Scope and Difference with Social Research.
- Participatory Research: Concept and Application.

Unit – II

- Planning and Execution of Research Project: Formulation, Literature Review, Conceptualization, Determination of Objectives, Hypothesis, Methodology, Methods and Tools of Data Collection, Processing of Data, Analysis and Interpretation, Reporting.
- Hypothesis Formulation: Need, Meaning, Sources, Types and Characteristics of a Good Hypothesis.

Unit – III

- Research Design: Concept, Need, Types – Exploratory, Descriptive, Evaluative, Diagnostic, Experimental and Action Research, Cross-Sectional, Ex-post Facto.
- Qualitative and Quantitative Research Design.
- Sampling Methods: Need and Meaning of Sampling, Types – Stratified and Non-Stratified.

Unit – IV

- Data Collection: Sources, Methods and Techniques: Observation, Interview, Questionnaire, Interview Schedule, Case Study, Measurement and Scaling.

Unit – V

- **Research Report Writing:** Objectives, Contents and Qualities of Good Research Report.

Reference Books:

- Jahoda, D. and Cook: Research Methods in Social Relations.
- Polansky, N.A.: Social Work Research.
- Bailey, Kenneth: Methods of Social Research.
- Blalock and Blalock: Methodology in Social Research.
- बी. एम. जैन: रिसर्च मेथोडोलॉजी
- रामनाथ शर्मा एवं राजेंद्र कुमार शर्मा: सामाजिक सर्वेक्षण एवं अनुसन्धान में विधियां एवं प्रविधियां
- सुनील गोयल एवं संगीत गोयल : सामाजिक अनुसन्धान के मूल तत्व
- विजय हज़ारे: शोध प्रणाली
- संजीव महाजन: सामाजिक अनुसंधान, सर्वेक्षण एवं सांख्यिकी

SW203 – Social Statistics and Computer Applications.

Objectives:

- Understand Scope and use of Statistics in Social Work.
- Develop Capacities for application of Statistical methods in social work.
- Develop basic computer skills.
- Learn Microsoft office software.

Course Contents:

Unit – I

- Statistics: Meaning, Uses, Limitations in Social Work Research, Diagrammatic Representation of Data, Measures of Central Tendency.

Unit – II

- Measures of Dispersion, Co-efficient of Correlation, Chi-Square Test, T-Test

Unit – III

- Fundamentals of Computer: History of Computers, Components, Generation of Computer, Language, Applications of Computers, Operating System.

Unit – IV

- MS-DOS, MS-Windows, and Internet
- MS-Office: MS Word, MS Excel, Power Point.

Unit – V

- Internet Fundamentals: Scope and Application of Management Information System, FoxPro and Role of Internet Application in Social Work.

Reference Books:

- Cohen, Lilian: Statistical Methods for Social Sciences.
- Macmillan: Statistical Methods of Social Work.
- Gupta, S.P.: An Introduction Statistical Method.
- Gupta, U.P.: Fundamental of Statistics.
- रविंद्रनाथ मुख़र्जी: सामाजिक शोध एवं सांख्यिकी
- संजीव महाजन: सामाजिक अनुसंधान, सर्वेक्षण एवं सांख्यिकी

SW204 – Social Welfare Administration and Social Action

Objectives:

- Understand administration as method of Social Work.
- Acquire Knowledge about the basic principles and processes of administration.
- Develop an understanding of social action as a method of social work.
- Impart knowledge about approaches and techniques of social action.

Course Contents:

Unit – I

- Social Welfare Administration: Meaning, Definition, Scope, Process and Skills.
- Social Welfare Administration in Government and Non- government Organizations
- Social Welfare Administration and Related Concepts: Social Administration, Social Service Administration, Social Security Administration, Welfare Administration, Social Work Administration, Social Agency Administration and Public Administration.

Unit –II

- Elements of Administration: Policy Making, Planning, Organising, Staffing, Directing, Coordination, Reporting, Budgeting, Communication, Reporting, Cost Benefit Analysis.

Unit –III

- Policies and Programmes regarding Welfare and Development of Weaker and Vulnerable Sections of Society. Administration of Social Welfare Dept. at Central and State Levels. Central Social Welfare Board.
- Fund Raising and Problems of Voluntary Organisation.

Unit –IV

- Social Action: Concept, Objectives, Principles and Strategies
- Models of Social Action: Concept and Types - Gandhian and Marxist, Legislative action model, Economic sanction model, Dialectical model, Physical action model, Conscientisation model, Institutional State, State Institutional, Populist Model of Social Action.

Unit –V

Process and Techniques of Social Action, Social Action as a method of Social Work, Social Action and Social Reform, Skills Involved in Social Action, Social Action in India

Reference Books:

- Goel, S.L. and Jain, R.K.: Social Welfare Administration (Vol. I and II)
- Chaudhary, D. Paul: Social Welfare Administration.
- Dubey, S.N.: Administration of Social Welfare Programmes in India.
- Kohli, A.S. : Administration of Social Welfare.
- Pathak, S.: Social Work and Social Welfare.
- Patti, Rino, J.: Social Welfare Administration: Managing Social Programmes in a Developmental Context.
- Sachdeva, D.R.: Social Welfare Administration.
- Skidmore: Social Work Administration.
- Siddique, H.Y. (Ed.): Social Work and Social Action.
- Moorthy, M.V.: Social Action.
- Verma, R.B.S.: An Introduction to Social Administration.

SW205 –Social Disorganization and Social Problems

Objectives:

- Understand Concepts of Social Disorganization and Social Problem.
- Know about approaches and interventions to study of social disorganization and social problems.
- Develop Understanding of Contemporary National Problems.
- Develop Capacity to analyze social problems.

Course Contents:

Unit – I

- Social Disorganization: Concept, Forms, Causes and Approaches.
- Concept of Social Organisation and its Difference with Social Disorganization.

Unit – II

- Juvenile Delinquency and Crime: Concepts, Theories, Prevention and Control.
- Changing Facets of Crime –White Collar Crime and Organized Crime, Social Deviance.

Unit – III

- Social Problem: Concept, Causes and Effects. Contemporary Problems in India: Corruption, Beggary, Prostitution, Substance Abuse, Poverty, Unemployment, Casteism, Communalism.

Unit – IV

- Violence: Forms, Theories and Control Strategies
- Atrocities against Weaker Sections: Women, Schedule Castes and Scheduled Tribes, Domestic Violence, Child Abuse.

Unit – V

- Problem of HIA/AIDS, Inter-Generation Conflict, Terrorism, Violation of Human Rights, Problem Related to Environment.
- Role of Social Workers and NGO in Redressal of Social Problems.

Reference Books:

- Elliot and Merrill: Social Disorganisation.
- Memoria, C.B.: Social Problems and Social Disorganization.
- Mowrer: Disorganization: Personal and Social.
- Ahuja, R.: Social Problems in India.
- Daniel and Ronrethi: Social Problems.
- Pandey, Rajendra: Social Problems of Contemporary India.
- संजीव महाजन: भारत में सामाजिक विघटन|
- रामजी यादव: सामाजिक समस्याएं
- मंजुलता छिल्लर : सामाजिक समस्याएं
- जी. आर. मदन : भारतीय सामाजिक समस्याएं
- तोमर, आर. बी. : सामाजिक संगठन

SEMESTER – III

SW301 –Social Policy, Planning and Development

Objectives:

- Understand nature and sources of social policy.
- Develop appreciation of relevance of social planning and social development to social work practice.
- Under development and social development.
- Know about sustainable development.

Course Contents:

Unit – I

- Social Policy: Concept, Scope, Objectives, Sources, Models and Process of Formulation of Social Policy.
- Social Policy and Indian Constitution.

Unit – II

- Social Planning: Concept, Objectives, Scope and Models.
- Inter-relationship between Policy, Planning and Development.
- Social Planning under Five Year Plans, Machinery and Process of Social Planning in India.

Unit – III

- Social Policy Related to Women, Children, Youth, Aged Education, Health, Housing and Family Welfare.
- Social Planning and Social Change
- Major Pitfalls in Social Planning in India.

Unit – IV

- Development and Under Development: Meaning Criteria, Factors of Development, Economic, Social, Cultural,
- Psychological and Political Models of Development –Capitalism, Socialism, Mixed Economy.
- Strategies of Development.

Unit – V

- Social Development: Concept, Dimensions, Strategies, Indicators and Values.
- Participatory Approach to Social Development, Sustainable Development: Concept, Evaluation, Components, Factors.
- Millennium Development Goals, Gandhian Approach to Development.

Reference Books:

- Blakemere Ken, Blakemore, Kenneth and Griggs, E.: Social Policy: An Introduction.
- Hill, M.J.: Understanding Social Policy.
- Midgley, James and Livermore, M.: The Handbook of Social Policy.
- Titmus, R.M.: Social Policy.
- Chakraborty, S: Development Planning: Indian Experience.
- Sharma, P.N. and Shastri, C.: Social Planning, Concepts and Techniques.
- Gore, M.S.: Social Aspects of Development.
- Jacob, K.K.: Social Development Prospective.
- Rogers, P.P., Jalal K.F. and Boyd, J.A.: An Introduction to Sustainable Development.
- Kulkarni, P.D. and Nanavaty, M.C.: Social Issues in Development.
- Singh, R.R. (Ed.): Whither Social Development.
- Srivastava, S.P. (Ed.): The Development Debate: Critical Perspectives.
- Varma, R.B.S. and Singh, Atul Pratap: Inclusive Development in India.
- Singh, Atul Pratap and Singh, Arun Kumar: Social and Human Development.
- सिंह, सुरेंद्र पी डी मिश्र एवं ए. एन. सिंह : भारत में सामाजिक नीति, नियोजन एवं विकास

SW302 – Social Inclusion, Human Rights and Social Justice

Objectives:

- Understand Concepts of social inclusion, human rights and social justice.
- Examination of institutional mechanism available for different vulnerable groups.
- Develop Knowledge and Skills for the just and inclusive social order.
- Develop appropriate attitudes and commitments required to work for a Just and equitable society.

Course Contents:

Unit – I

- Social Exclusion: Concept, Dimensions, Mechanisms and Factors.
- Social Inclusion: Meaning and Measures. Government and Civil Society Initiatives for Social Inclusion.

Unit – II

- Vulnerability: Meaning, Forms, Problems and Issues faced by Dalits, Tribal's, OBC, Minorities, Woman, Differently Abled Persons, Unorganised Workers, Child Workers and Displaced Persons.

Unit – III

- Human Rights: Concept, Theories and Principles, Un-Declaration of Human Rights.
- Human Rights and Indian Constitution.
- Human Rights Act, 1993
- National Human Rights Commission and State Human Rights Commission.
- Social Work and Human Rights.

Unit – IV

- Social Justice: Concept, Philosophy, Features and Forms.
- Instruments of Social Justice: Constitutional Base of Social Justice, Positive and Protective Discrimination, Public Interest Litigation, Legal Literacy, Free Legal Aid, Right to Information.

Unit – V

- Statutory Bodies/ Organs for Justice: National and State Commissions for

Women, Minorities, SCs & STs.

- Approaches of Interventions for Social Justice: Policy Initiatives, Legislative Programmes and Schemes.
- Role of Social Workers in Promoting Social Justice and Social Inclusion.

Reference Books:

- Bryne, David: Social Exclusion.
- De Hasan, Arjan: Social Exclusion: Towards a Holistic Understanding of Deprivation.
- Verma, H.S. (Ed.): The OBCs and The Dynamics of Social Exclusion in India.
- Sen, Amartya: Social Exclusion: Concept, Application and Scrutiny.
- Stoer, Stephen R., Theories of Social Exclusion, European Social Inclusion Series.
- Smonides, J.: Human Rights: Concept and Standards.
- Gupta, U.N.: The Human Rights: Converts and Indian Law.
- श्रीवास्तव, सुधारानी : भारत में मानव अधिकारी की अवधारणा

SW303 –Tribal Movement, Culture & Legislation

Objectives:

Orientation to Student about Social Movements. Understanding about issue of tribal movement in India. Orientation to student about constitutional and legislative safeguards available for Schedule Tribes. Orientation about the traditional Customary laws of STs.

Course Contents:

Unit - I

- Social Movement, Concept, Definition, Characteristic, Types, Theories, Stages, Differentiation between old and new Social Movement.

Unit - II

- Tribal Movement in India: Movements related to Land, Water and Forest, Tribal Agrarian Movement, Right based Movement, Tribal Movements before the Independence and after the Independence.

Unit - III

- Constitutional Safeguards for Tribes: Article 15(4), Article19(5), Article 23, Article 29, Article 164, Articles 330,332 and 334, 335, Article 338, Article 339(1), Article 341, Article 342, Article 366, Article 371 (ABC) Provisions, Practices &Problems.

Unit - IV

- Legislations for Tribes in India: Panchayat Raj System (Extension to Scheduled Tribe Area), Forest Right Act., The Schedule Caste and The Schedule Tribes (Prevention of Atrocities) Act 1989

Unit - V

- Tribal Customary Laws Nata Pratha, Bride price, Customs related to Marriage, Traditional Panchayat Systems, Justice System, Moutana Pratha.

Reference Books:

- Singh, Rejendra: Old and New Social Movement.
- Tilly Charles: Social Movement.
- Toch: The Social Psychology of Social Movements.
- जैन, पी सी : सामाजिक आंदोलनों का समाजशास्त्र, नेशनल पब्लिशर्स
- Tourinn: An Introduction to the Study of Social Movements.
- चौधरी, सुनील: पुरातन एवं नवीन जनजातीय आंदोलन
- सिंह, जन्मेजय सिंह, वी, एन: भारत में सामाजिक आंदोलन
- Verma, RBS, Choudhary Sunil, Jat Lalaram: Panchayat System in Scheduled Tribal Areas.

Specialization (Elective) Papers.

Human Resource Management

SW304 – ORGANIZATIONAL MANAGEMENT

Objectives –

- To develop understanding about concept of management and its application in different organizations.
- To develop understanding and basic skill of different managerial functions.
- To develop understanding, skills and insight of environmental and situational analysis.
- To develop understanding and basic skills of office management.
- To develop understanding of application of electronic media in organizational communication system and their role in decision making.

Course Contents

UNIT – I

Management: Concept, Definition, Theory and Principles, Professionalization of Management in India: Management as a Science and as an Art; Ethical Responsibilities of Management Towards Society: Role of Managers. Basic Managerial Functions – POSDCORB; Difference between Management and Administration.

UNIT – II

Planning and Organizing: In Business Organization and NGOs; SWOT– Analysis; Objectives and Policy Formulation; Strategic Planning; Decision Making: Strategic Planning - Steps; Implementation and Evaluation; Basic Issues in Organizing, Techniques and Approaches to Organizing.

UNIT – III

Staffing & Directing: H.R. Planning – Definition, Objectives, Steps; Recruitment & Selection; Scope of H. R. Planning in NGOs; Directing– Definition, and Principles, Different Techniques and Approaches in Directing; Informal Communication –Its Scope and importance in Management.

UNIT – IV

Office Management & MIS: Concept, Definition and Principles of Office Management: Factors Influencing Office Management, Record Keeping and Documentation; Public Relation.

MIS: Definition, Objectives, Scope; Decision-Making; Financial Information System; Personnel Information System; Application of INTERNET and E-MAIL etc.; MIS as a Communication System.

UNIT – V

Controlling: Concept, Definition, Steps, Behavioral and Economic Aspects of Controlling, Control Areas; Budgetary Control; H.R. Audit: Management of Aids and Donation.

Reference Books:

- Ashwathapa, K. 2005: Human Resource and Personnel, Tata.
- Kumbhat, J. R. and Mittal, S.K. 1982: Management and Industrial Relations (Hindi), Allahabad: Kitab Mahal.
- Memoria CB 1996: Personnel Management Bombay: Himalaya Publishing House.
- Monappa, Arun and Saiyadain, Mirza S. 1994: Personnel Management New Delhi: Tata McGraw Hill Publishing Company Limited.
- Tripathi, P.C. 2006: Human Resource Development, New Delhi: Sultan Chand and Sons

SW305 – Labour Legislation in India

Objectives:

- Providing working knowledge of labour laws.
- Explaining Concept and need for labour legislation.
- Discuss main provisions of important Acts related to labour.
- Know about international labour organisation.

Course Contents:

Unit – I

- Labour legislation: Need, Concept and Sources International Labour Organisation: Structure and Functioning.
- Impact of ILO on Indian Labour Legislation.

Unit – II

- The Factories Act, 1948, Mines Act, 1952, The Plantations Labour Act, 1951.

Unit – III

- The Payment of Wages Act, 1936, The Minimum Wages Act, 1948, The Payment of Bonus Act, 1965.

Unit – IV

- The Industrial Employment (Standing Orders) Act, 1946
- Inter-State Migrant Workman (Regulation of Employment and Conditions of Services) Act, 1979
- The Child Labour (Prohibition and Regulation) Act, 1986

Unit – V

- Building and Other Constitution Workers (Regulation of Employment and Conditions of Service) Act, 1996, The Equal Remuneration Act, 1948, The Contract Labour (Regulation and Abolition) Act, 1970.

Reference Books:

- Malik, P.L.: Industrial Law
- Concerned Bare Acts.

Development Management

COURSE 306 – DEVELOPMENT ISSUES

(Specialized Elective Course-DM)

OBJECTIVES

•To impart knowledge about the concept, strategies and the latest trends of development.
•To make the trainee aware of the determinants of poverty and the policies of poverty alleviation.
•To impart knowledge about the problems and the challenges faced by different types of communities in the context of globalization, privatization and structural adjustment programmes.

Course Contents

UNIT – I

Introduction to Development: Concepts and theories of Development, Models, Principles and pre-requisites of development, Approaches and facets of development, Social change and modernization, sustainable development.

Social Development: Models, Strategies and major areas, People's participation in development, Development through five year plan, current development concern, Partners in Social Development – Government, NGOs, Panchayat etc.

Human Rights and Development: Empowerment – Concept, methods and importance. Human Rights – Concepts, Principles and theories of human rights, Human rights approach to development, Human rights activism and role of NGOs.

UNIT – II

Poverty: Concept structural determinants of poverty, Poverty theories, Different Facets of poverty, Approaches and policies for poverty alleviation, Poverty and New World order.

New Economic Policy and Restructuring: Globalization, Structural adjustment and new economic policy, their impact on society in general and socially disadvantaged group in particular, need for social safety net.

UNIT – III

Tribal Development: Status of tribal in India, Demographic and spatial distribution, Economic, Cultural and ethnic construct of tribal identity, Impact of urbanization and intercultural contacts, Tribal rights related to land, water and forest. Land and Forest legislation created to tribal.

UNIT – IV

Rural Development: Perspectives and Problems of rural development, Land reforms, Agrarian development and related issues, Policies and Programmes of rural development.

UNIT – V

Urban Development: Urbanization in India, Demographic, occupational and economic aspects, problems of urbanization and slums, Urban community – development in India, Urban Municipal administration, 74th amendment and urban planning.

Reference Books:

- Sharma, P.D. : Ecology and Environment.
- Sapru, P.K. (Ed.) : Environment Management in India.
- Policy Related to Development, Displacement and Rehabilitation.
- Sharma, S.L.: Development: Socio-Cultural Dimension.
- Subramaniam, S. : Human Rights: International Challenges.
- Saksena, K.P.: Human Rights Perspective and Challenges.
- Rao, R.B.: World Summit for Social Development.
- Nayak, R.K. and Siddique, H.Y. (Eds.): Social Work and Social Development.

- Midgle, J.: Social Development: The Development Perspective in Social Welfare.
- Verma, R.B.S., Sunil Choudhary, Lal Ram Joy (Eds.): Panchayat System in Scheduled Tribal Areas

SW307 – SOCIAL ADVOCACY AND NETWORKING

(Specialized Elective Course-DM)

Objectives:

- Providing knowledge about the concept and issues related to social advocacy.
- Generating awareness among students regarding legal and administrative machinery related to issues of social advocacy.
- Know about different systems related to advocacy.
- Getting Knowledge about mass communication.

Course Contents:

Unit – I

- Social Advocacy: Concept, Importance, Steps, Principles and Means.
- Advocacy Issues: Related to Children, Women, Differently Abled Persons, Displaced Persons, Unorganised Workers, Human Rights and Right to Information.
- Legal and Administrative Machinery related to Issues of Social Advocacy.

Unit – II

- Constitutional Provisions: Preamble, Fundamental Rights, Directive Principle of State Policy, Mechanism of Introduction, Amendment and Replacement of Laws.

Unit – III

- Different Systems: Executive, Judiciary, Police Administration.
- Legal Support Mechanism: Public Interest, Litigation, Legal Aid System, Procedural and Practical Aspects of Dealing with Police and Local Administration.

Unit – IV

- Lobbying and Propaganda: Political System and Social Advocacy, Public Opinion, Political Parties, Interest Groups and Pressure groups.
- Strategic Alliance/ Networking: Inter-relationships and Alliances with Administration, Government Organisations, NGOs, Funding Agencies, Corporate, Educational Institutions.
- Generic and Issue Based Networking, State Networking and National and International Scenario.

Unit – V

- Mass Communication and Media Relations: Importance, Concept, Strategies and Techniques (Traditional and Modern).
- Use of Information Technology and Social Advocacy.
- Types of Mass Media, Strategic Choice of Media, Media Relations, Sensitizing Media and Media Documentation (Writing News, Features, Stories etc.)

Reference Books:

- Kohnke, M.F. : Advocacy : Risks and Relatives.
- Hyam Mcehael: Advocacy Skills.
- Keith Evans : Golden Rules and Advocacy.
- Munkano, J.H.: Techniques of Advocacy.
- Indian Constitution
- Indian Penal Code.
- Deshta, Sunil: Lok Adalats in India

SEMESTER – IV
COURSE 401 – TRAINING AND DEVELOPMENT

Objectives-

•To develop a understand about the concept & importance of training & development & its scope in social work practice.

•Sensitized about the training needs, management & execution of training programme, concept of fearing, choosing of training methods & techniques during the training programme.

•To develop skills in formulation of training programme for different kind of Beneficiaries & sectors.

Course Contents

UNIT – I

Training – Meaning, Objectives & Importance. Different between Training, Education & Development. Roles & Responsibilities of State Organization & Ministry in Formulating Training Policies & Programmes.

Roles and Responsibility: Training Department & Training Manager.

UNIT – II

Types of Training: Within organization and by outside agencies by Management Institute, Productivity Council, and Professional Bodies & Consultants.

Learning: Concept & Principles of Learning Training at various levels for different functionaries.

UNIT – III

Process of Training: Designing and its Steps.

Roles & Responsibilities & Competency of Training Manager Pre, During & after the training.

UNIT – IV

Training Needs: Objectives, Significance, Methods of Determining Training Needs.

Training Methods and Techniques: Selection of Appropriate Training Methods, Types of Training Methods, Enhancing Knowledge, Attitude & Skills.

Training Modules & Training of Trainers, It's Needs.

Important of Communication in Training Programme, Meaning, Types.

UNIT – V

Implementation and Evaluation:

Implementation: Objectives, Training Policy, Training Schedule, Implementing Strategies, Preparation of Sessions, Implementation Skills, Monitoring and Evaluation.

Evaluation: Need, Objectives, Trainers, Skills & Knowledge for Evaluation, Steps of Evaluation.

Reference Books:

➢The Training Managers (A Hand Book) 2003, Eddie Davies Crest, Publishing House, New Delhi. ➢Deva Vasu "Training & Development", Ajay Verma, New Delhi – 110002

➢Soni Shyam Sunder "Training & Development, Indian Society for Training & Development, New Delhi – 110016

➢Vohra Munish "Management Training & Development 2006", Anmol Publications Pvt. Ltd; New Delhi – 110002 (India)

➢Devendra Agochya "Every Trainers Handbook" 2001, Sage Publications India Pvt. Ltd.

➢Martyn Sloman "A Handbook for Training Strategy" (1998) Third Edition, Jaico Publishing House, Mumbai.

➢S. Kapur "Planning & Conducting A Training Programme, 2002, Infinity Books, New Delhi.

➢Ralf P Lynton, Udai Pareek "Training & Development," Part-I & II for policy makers & change managers, Sage Publications, New Delhi.

SW402 – Project Planning &Development

Objectives:

- Orientation of Student regarding development projects.
- Imparting Knowledge to Student regarding formulation of project.
- Imparting basic knowledge regarding man-power planning in project.
- Understanding the monitoring and evaluation of project and project funding in India.

Course Contents:

Unit – I

- Project: Concept, Definition, Nature Characteristics, Importance and Scope, Types and Differentiation between Programme, Project and Activities.

Unit – II

- Project Planning and Formulation: Identification of Project Idea, Screening of Project Idea, Feasibility Study, Project Proposal, Components of the Project Proposals – Research Project, Action Project.

Unit – III

- Manpower Planning in Project: Types of Manpower in Project, Manpower Requirement Analysis, Recruitment, Selection Training & Development, Project Team Formulation, Project
- Leadership – Skills & Qualities of Project Leader.

Unit – IV

- Monitoring and Evaluation: Evaluation Objectives, Types and Methodology Monitoring Tools, Performance Evaluation. logical Framework Analysis.

Unit – V

- Project Funding in India: Government Agencies, Health Dept., Panchayat Raj & Rural Development Dept., UN Agencies: UNICEF, UNDP, UNFPA etc.

Reference Books:

- Vasant Desai: Project Management.
- Prasoonn Chandra: Project Planning & Analysis.
- Sharma and Agrawal : Project Management.
- Gray Lerson: Project Management – The Managerial Areas.

Specialization (Elective) Papers.

Human Resource Management

SW403 – Introduction to Human Resource Management

(Specialized Elective Course-HR)

Objectives:

- Impart knowledge about, concept, principles and functions of HRM.
- Develop competence among students regarding human resource management Issues.
- Providing Knowledge regarding wage and salary administration.
- Impart knowledge about the disciplinary procedure of organization.

Course Contents:

Unit – I

- Human Resource Management: Definition, Significance, Evolution, Philosophy, Objectives, Scope, Principles and Functions.
- Qualities of HRM Functionary.

Unit – II

- Human Resource Planning, Forecasting Requirement, Sources of Manpower Supply, Recruitment and Selection, Induction and Placement, Transfer, Promotion, Training and Development.

Unit – III

- Job Analysis, Job Evaluation, Performance Appraisal: Objectives, Methods, Performance Counselling and Potential Appraisal.

Unit – IV

- Wage and Salary Administration: Factors Influencing Wage and Salary, Methods of Wage Fixation in India, Incentive Wages.

Unit – V

- Discipline: Concept and Purpose, Employee Discipline and Disciplinary Procedure, Workers' Participation in Management, Industrial Social Work.
- Emerging Perspective on Human Resource Management.

Reference Books:

- Flippo : Personnel Management.
- Memoria, C.B.: Personnel Management.
- Storey, John: Managing Human Resource.
- Tripathi, P.C.: Human Resource Management.
- Monappa and Saiyadan: Personnel Management.
- Ashwathapa K.: Human Resource and Personnel.
- वर्मा, आर. बी. एस एवं अतुल प्रताप सिंह: मानव संसाधन विकास एवं प्रबंधन की रूपरेखा
- नौमा, बी. पी: औद्योगिक संबंध एवं सामाजिक सुरक्षा
- वर्मा, आर. बी. एस. एवं अतुल प्रताप सिंह: उद्योगों में अनुशासनात्मक प्रक्रिया

SW 404 - Trade Unions and Industrial Relations

(Specialized Elective Course-HR)

Objectives:

- Know about the concept of trade union and its role in industrial organisation.
- Acquaint to trade union leadership.
- Give knowledge about concept and importance of industrial relations.
- Provide knowledge about collective bargaining and redressal of industrial conflict.

Course Contents:

Unit – I

- Trade Union: Concept, Objectives, Functions. History of Trade Union Movement in India.
- Trade Union Leadership.

Unit – II

- Theories of Trade Union.
- Central Labour Organizations.
- Political Affiliation of Trade Union.
- Trade Union Rivalry – Intra and Inter.
- The Indian Trade Union Act, 1926

Unit – III

- Industrial Relations: Concept, Objectives, Scope, Approaches, Determinants and Reflectors.
- The Industrial Disputes Act, 1947

Unit – IV

- Collective Bargaining: Definition, Objectives, Principles, Forms, Methods and Theories.
- Legal Framework of Collective Bargaining.

Unit – V

- Industrial Conflict: Meaning, Approaches and Style of Managing Industrial Conflicts.
- Grievance: Meaning, Grievance Procedure
- Workers' Participation: Concept and Practices.

- Trusteeship: Concept and its Influence on Industrial Relations in India.
- Changing Socio-Economic Scenario and Industrial Relations in India.

Reference Books:

- Pramod Verma and Mukerjee, S. : Trade Union in India.
- Khare, H.P.: Current Trends in Indian Trade Union Movement.
- Punekar : Labour Welfare, Trade Union and Industrial Relations.
- Venkata Ratnam C.S. : Industrial Relations.
- Tripathi, P.C. : Industrial Relations.
- Malik, P.K.: Industrial Laws Vol.1 and Vol.2
- Goswami, B.G.: Labour and Industrial Laws.
- Singh, B.P. and Chhabra, T.N.: Personnel Management and Industrial Relations.
- वर्मा, आर. बी. एस. एवं अतुल प्रताप सिंह: उद्योगों में अनुशासनात्मक प्रक्रिया

SW405 – Employee Welfare and Social Security

(Specialized Elective Course-HR)

Objectives:

- Knowledge about concept and importance of labour welfare.
- Acquaint to various agencies of labour welfare.
- Explain the importance and concept of Social Security.
- Give working knowledge about social security laws.

Course Contents:

Unit – I

- Labour Welfare: Concept, Importance, Objectives, Scope, Philosophy and Principles.

Unit – II

- Approaches to labour welfare.
- Historical Development of Labour Welfare in India.
- Status and Duties of Labour Welfare Officers in Industrial Organisation.

Unit – III

- Constitution and Legal Framework regarding Labour Welfare.
- Agencies of Labour Welfare: Roles of State Employer and Trade Union in Promotion of Labour welfare.
- Programmes and Policies of Labour Welfare in India.

Unit – IV

- Social Security: Concept, Importance and Forms.
- Policies, Programmes and Perspectives of Social Security in India.
- The Workers Compensation Act, 1973

Unit – V

- The Employees State Insurance Act, 1948.

- The Employees Provident fund and Miscellaneous Provisions Act, 1952.
- The Maternity Benefit Act, 1961.
- The Unorganised Workers' Social Security Act, 2008

Reference Books:

- Punekar, et.al.: Labour Welfare, Trade Unionism and Industrial Relations.
- Vaid, K.N.: Labour Welfare in India.
- Sharma, A.M.: Aspects of Labour Welfare and Social Security.
- Moorthy, M.V.: Principle sof Labour Welfare.
- Malik, P.K.: Industrial Laws Vol.I and Vol.II.
- Misra, B.N.: Dynamics of Social Security Administration.
- Concerned Bare Acts.
- सुरेंद्र सिंह: स्वदेश एवं विदेश में सामाजिक सुरक्षा (वॉल. १ एवं वॉल ३)
- वर्मा, आर. बी. एस. एवं अतुल प्रताप सिंह: श्रम कल्याण एवं सामाजिक सुरक्षा

Development Management

SW406 – Management of Human Service Organisation

(Specialized Elective Course-DM)

Objectives:

- Knowledge about legal framework about human service organisation.
- Awareness about staffing pattern of human service organisation.
- Knowledge about financial management of human service organisation.
- Understand, need and importance of social security measures of human service organisation.

Course Contents:

Unit – I

- Legal Provisions regarding Human Service Society, Trust, Charitable and Endowment Organisation, Cooperative Societies and Charitable Company.

Unit – II

- Human Resources for Human Service Organisation: Policy, Planning, Functions, Office Management, Record Keeping.

Unit – III

- Fundamentals of Financial Management, Budgeting, Fund Raising, FCRA.
- Monitory and Evaluation Techniques related to Human Service Organisation.

Unit – IV

- Institutional growth and Development: Organisation Development, Team Building, Accountability, Transparency,
- Organisation Culture.
- NGO Networking and Alliances of Different levels.

Unit – V

- Social Security Measures for Employees of Human Service Organisation.
- Policy related of Human Service Organisations.

- Role of NGOs in Development and Nation Building.
- Recent Trends.

Reference Books:

- Sharma, K.K. : Modern Office Management.
- Den. Yer J.C. : Office Management.
- Aswathappa K.: Human Resource and Personnel Management.
- Monoppa, Arun et.al.: Personnel Management
- Chaudhary, D. Paul: Social Welfare Administration in India.
- Verma, R.B.S.: Social Administration.

SW407 – Development Support Systems

(Specialized Elective Course-DM)

Objectives:

- Knowledge about development administration and related machinery.
- Generation of awareness about organisations related to development.
- Know about social networking.
- Acquaint about micro credit system.

Course Contents:

Unit – I

- Public Systems: Concept of State and Civil Society, Constitution and Government Systems. Division of Subjects and Devaluation of Functions among Union, State and Local Government.
- Administrative System and Machinery in Districts.
- Panchayat Raj System: District, Block and Village Level and their Role in Development.

Unit – II

- Structure of Development Administration of Centre and State: Central Ministers and Their Programmes: Human Resource Development, Social Justice and Empowerment, Rural Development, Urban Development, Labour, Tribal etc.

Unit – III

- Organisations related to Development.
- Government Organisations: Planning Commission, CAPART, RCI, National Commissions of Women, Human Rights and Children.
- Non-Government Organisations.

Unit – IV

- International Institutions: UNDP, UNICEF, UNIFEM, UNHCR, WHO, ILO, World Bank.

Unit – V

- Micro Credit and Banking Institution: Role of Nationalized Banks, Cooperative

Banks, Grameen Banks, Housing Bank, Micro-Credit Societies and their role in Development

Reference Books:

- Development Support System (Study Material USSW)
- Mehta, Vasant : Panchayat Raj.
- मधुसूदन त्रिपाठी: भारत में लोक प्रशासन
- उपाध्याय, आर. बी. एवं शर्मा, ओमप्रकाश: सहकारिता एवं सामुदायिक विकास

SW 408 – DEVELOPMENT PARADIGMS

(Specialized Elective Course-DM)

Objectives –

- To develop on understanding regarding human relation to environment and present NRM concerns.
- To inculcate basic knowledge regarding disaster management within students.
- To sensitize the students regarding development issues.
- To impact knowledge and skills to students regarding usage of participatory techniques in development.

Course Contents

UNIT – I

- **Natural Resource Management:** Human relationship to environment, Challenges to human survival, Issues related to natural resources, Forest, Water and energy and their management, Climate change and its effects, Brief Introduction about Indian activism in environmental issues.

UNIT – II

- **Displacement, Development and Technology:** Perspectives to Development and Displacement, Social Cost of Development, National Rehabilitation Policy, Rights to Displaced Person, Social Work Rehabilitation Strategy in the Rehabilitation of Displaced Persons.

UNIT – III

- **Disaster Management:** Disasters – Definition, Types and Its Management, Disasters and Disadvantages, Psycho-Social Intervention with Disaster Affected People.

UNIT – IV

- Concept of Gender and Gender Issues in Indian Society, Concept of Gender Budgeting, Reproductive Health, Present Status and Scope for Intervention, Development Issues Related to Education, Issues Related to Right to Food.

UNIT – V

- **Introduction to Participatory Methods:** The Concept of Participatory and its Importance to People Centered Development, Participatory Working Techniques – RRA and PRA, Concept and Usage Participatory Research, Monitoring and Evaluation.

Reference Books:

- चौधरी, बी एल एवं अन्य: पर्यावरण अध्ययन अपैक्स पब्लिशिंग हाउस
- नरैनी प्रकाश नारायण, लिंग एवं समाज, रिसर्च पुब्लिकेशन्स, नइ दिल्ली
- Mukherjee Neela, Participatory Rural Appraisal Methodology and Application, Concept Publishing Company New

Faculty of Management Studies
Tourism and Hotel Management

Courses offered-

- MTTM

VIRTUAL COURSE IN MASTER OF TRAVEL & TOURISM MANAGEMENT

Two Year (Four Semesters) Degree Course

SYLLABUS

MTTM

Duration : Four Semesters (Two Years), Full Time Course.
Course Structure : The List of Papers offered during the programme shall be as under :-

MTTM- Semester I

Module No.	Title	Hours
101	Management Concepts	30
102	Tourism Concepts & Impacts	30
103	Information Technology	30
104	Accounting for Managers in Tourism	30
105	Travel Agency& Tour Operations Management	30
106	Self-Development & Interpersonal Skills	30

MTTM- Semester II

Module No.	Title	Hours
201	Geography for Tourism	30
202	Human Resource Management for Tourism	30
203	Financial Management	30
204	Tourism Resources of India	30
205	IT and E-Tourism	30
206	Language French-I	40

MTTM- Semester III

Module No.	Title	Hours
301	Tourism Marketing	30
302	Tourism Policy and Planning	30
303	Airline Ticketing	30
304	Research for Tourism	30
305	Tour Guiding& Escorting Skills	30
306	Language French-II	40

MTTM- Semester IV

Module No.	Title	Hours
401	Air Cargo Operations	30
402	Indian Culture and Society	30
403	MICE Tourism	30
404	Industrial Training & Project Report	

First Semester

MTTM 101- MANAGEMENT CONCEPTS

Objective: This Course introduces the learner to the basic concepts and principles of management and why it is important for a business including a tourism business. Faculty would use examples and cases from tourism industry to return home useful learning.

Course Contents:

Unit I	**Management**- Concept, Nature, Process and Functions, Management Levels, Managerial self's roles. The external environment, Social Responsibilities and ethics.
Unit II	**Planning:** Nature, Purpose, Types and Process. Management by Objectives-strategies and policies. Decision making process, tools and techniques. Decision making Models
Unit III	**Organizing:** Concept of organizing and organization. Line and Staff, Authority and responsibility, span of control, delegation, decentralization, conflict and co-ordination. Organizational structure and design.
Unit IV	**Directing:** Communication-Process, types, barriers and principles of effective communication.
Unit V	**Controlling:**Process, Methods and Techniques. Managing international business. **MIS:** Introduction, definition, status, framework of understanding and designing MIS.

Suggested Readings:

1. Essentials of Management - Harold Koontz and Heinz Weirich.
2. Principles and Practice of Management – L.M. Prasad

MTTM 102 – TOURISM CONCEPTS & PRINCIPLES

Objective: This will be an introductory module giving the basis of tourism studies. This will give an overview of tourism industry and various organizations.

Course Contents:

Unit I	**Introduction:** What is Tourism? Definition and Concepts. Types of Tourists, Visitor, Traveller and Excursionist- Definition and differentiation. Tourism, recreation and leisure, their inter- relationships. Tourism Impacts**:** socio-cultural, economic, environmental impacts, EIA, ecotourism, sustainable tourism, ecotels, eco-resorts, theme parks.
Unit II	**Accommodation:** Concepts, types, linkages and significance with relation to tourism, emerging dimensions of accommodations of accommodation industry-heritage hotels, motels and resort properties, time share establishments. **Hotel and Hoteliering:** origin and growth, classification, registration and gradation of hotels. Organizational structure, functions and responsibilities of the various departments of standard hotel/ other catering outlets, viz, bars, restaurants, fast food centers, in flight catering
Unit III	**Types and Forms of Tourism:** Inter-regional and Intra-regional tourism, inbound and outbound tourism, domestic, international tourism. Typology and Forms of Tourism: Religious, Historical, Social, Adventure, health, business conferences, conventions, incentives, sports and adventure, senior tourism. Special interest tourism like culture or nature oriented, ethnic or 'roots' tourism and VFR, Tribal tourism.
Unit IV	**Tourist Transportation**: **Air Transportation**: The Airline industry present policies, practices. Functioning of Indian carriers, Air Corporation Act. Air Charters. **Surface Transport**: Rent-a-car Scheme and Coach-Bus Tour, Fare Calculation. Transport & Insurance documents, All-India Permits. **Rail Transport:** Major Railway Systems of the world (Euro Rail and AMTRAK), General Information about Indian Railways, Types of rail tours in India: Palace-on-Wheels and Royal Orient, Deccan Odyssey, Toy Trains, Indrail Pass. **Water Transport**: Historical Past, cruise ships, ferries, hovercrafts, river and camel boats, Fly-cruise
Unit V	International Tourism Organization: Origin, Location, and Functions of WTO, IATA, PATA, UFTAA ,ICAO, FHRAI,ITDC, IATO, HRACC.

Suggested Readings:

1. The Tourism System: An Introductory Text, Prentice Hall – Mill Morrison.
2. Tourism Principles and Practices, Pitman – Cooper, Fletcher et al.
3. Tourism: Past, Present and Future, Heinemannm ELBS. – Burkart and Medlik.
4. Tourism: The International Business, Prentice Hall, New Jersey. – Mill, R.C.
5. International Tourism- Bhatia A.K.
6. Successful Tourism Management(Vol 1& 2) – Seth P.N.

MTTM 103 – INFORMATION TECHNOLOGY

Objective: This will be an introductory module giving the basis of tourism studies. This will give an overview of Hotel industry and its various operations.

Course Contents:

Unit I	Adoption & Impact as tourism and travel, value creation, IT applications.
Unit II	MS office, Libra office, Spread sheet and presentation using this tools. Advance excel (consolidate, pivot table,sorting & grouping.
Unit III	Computer Networking Concepts, Information Systems, CRS for Airlines, Study of different packages viz. Amadeus, Galileo, Saber etc. (any one package available)
Unit IV	General CRSs: Technology Functions, CRS for Airlines, Passenger Name Record (PNR), Railway Reservation System.
Unit V	Ticket and document issuance, Auxiliary services, reference information, car booking, hotel booking, different CRS used in hotel.

Suggested Readings:

Introduction to Information Technology by V. Rajaraman

Advance excel in 8 hrs by Azimuddin khan

MTTM 104 – ACCOUNTING FOR MANAGERS IN TOURISM

Objective: This course introduces the learner to the basic concepts of accounting and why it is important for a business including a tourism business. Faculty would use examples and cases from tourism industry to return home useful learning.

Course Contents:

Unit I	**Introduction** Nature & objective, Concepts, Conventions & principles of accounting, Double Entry Systems.
Unit II	Accounting Cycle Journal, ledger, Cash Book & Trial Balance, Final accounts & Adjustments with reference to hotel industry.
Unit III	**Fund flow statement & ratio analysis** Techniques of financial analysis- Cash flow, Accounting standard & Ratio Analysis.
Unit IV	**Cost Behaviour** Managerial costing, Marginal costing & Basic concepts.
Unit V	**Budgeting & Budgetary control** Budgetary control- meaning, scope, function, types of budgets-cash budget, flexible budget(only). Preliminary knowledge about GST applicable to Travel and Tourism industry

Suggested Readings:

1. Chandra Prasanna,- Finance for Non-finance Executives. New Delhi: Tata McGraw Hill.
2. Kotas Richard, - Management Accounting for Hospitality and Tourism, 3/e. New Delhi: Shroff/ Thompson Learning.
3. Shah, Paresh. - Basic Financial Accounting for Managament. New Delhi: Oxford High Education.
4. Anthony, Robert, N., et al. – Accounting- texts and Cases. New Delhi: Tata McGraw Hill.

MTTM 105 – TRAVEL AGENCY & TOUR OPERATIONS MANAGEMENT

Objective: The students will understand the conceptual meaning and differentiation between Travel agency and Tour operation. Further they will understand formalities and documentation needed to set up these units

Course Contents:

Unit I	**Travel Formalities: Travel formalities:** VISA, Passport, Health requirements, taxes, customs, currency, travel insurance, baggage and airport information. **Travel agency and Tour operation business:** History Growth and present status of Travel Agency. Definition of Travel Agency and differentiation between Travel Agency and Tour Operation business. Travel agency and Tour Operators: Linkages and arrangements with hotels, airlines and transport agencies and other segment of tourism sector
Unit II	**Approval of Travel Agents and Tour Operators:** Approval by Department of Tourism, Government of India. IATA rules and regulations for approval of Travel Agency, Approval by Airlines and Railways.
Unit III	**Functions of Travel Agent:** Understanding the functions of Travel Agency- travel information and counseling to the tourist, itinerary preparation, reservation, ticketing, preparation and marketing to Tour Packages, handling business/corporate clients including conference and conventions. Sources of income: Commission, Service Charges. Travel Terminology: Current and popular travel trade abbreviations and other terms used in itinerary preparation
Unit IV	**Function of Tour Operator**: Market research and tour package formulation, assembling, processing and disseminating information on destinations, Liasioning with principles, preparation of itineraries tour operation and Post tour Management. Sources of Income for tour operation
Unit V	**Public and Private Sector in Travel Agency Business and Tour Operation Business**: Organizational Structure and Various Departments of a Travel Agency. Case study of ITDC. Case study of SITA, Cox & Kings, TCI and Thomas Cook. The Indian Travel Agents and Tour Operators- an overview, National Trade Associations: IATO and TAAI

Suggested Readings:

1. Holloway, J.C. – The Business of Tourism, McDonald and Evans, Plymouth.
2. SyrattGwenda – Manual of Travel Agency Practice, Butterworth Heinmann, London.
3. Stevens Laurence – Guide to Starting and Operating Successful Travel Agency, Delmar Publishers Inc., New York.
4. Chand, Mohinder - Travel Agency Management, Anmol Publications.
5. Seth, P.N. – Successful Tourism Management Vol. 1& 2, Sterling Publications, Delhi.

MTTM 106 – SELF DEVELOPMENT AND INTERPERSONAL SKILLS

Objective: Interpersonal Skills are a key to tourism industry especially for those who will operate in the front office. This is course is designed to hone interpersonal skills of learners through series of classroom exercises, simulation etc.

Course Contents:

Unit I	**English language Skills:** basic grammar- sentence structures and common errors; vocabulary building; word power; pronunciation; reading comprehension; corporate dress code; value system; self esteem, building of self confidence; practice speaking in English
Unit II	**Basic communication skills**: listening and speaking skills, merits of being a good listener and observation, barriers, phonetics-pitch, tone, intonation, clarity of speech; public speaking activities; -jam, debates, elocution, etc; different kindsof conversations; role play (situational)
Unit III	Personality Grooming; body language, gesture and postures, dressing up for the occasion; business etiquettes, corporate etiquette, telephone etiquette, body language- assessment of postures and gestures, eye contact, hand movements etc.
Unit IV	Group Discussions- structure of GD , kinds of GDs, strategies in GD, teamwork, mock GD; interview- types of interview, formal and informal interviews-ambience and polemics, interviewing in different settings and for different purposes, required key skills mock interview, developing resumes.
Unit V	Presentation Skills: elements of effective presentation, presentation tools, structure of a presentation, audience analysis, body language, voice modulation. Power-point presentation skills. Time management, stress management

Suggested Readings:

1. Barker , A – improve your communication skills. New Delhi :Kongan Page India Pvt Ltd.
2. Seely, John – The Oxford guide to writing and speaking. New Delhi : Oxford University Press.
3. Bostwick Burdette E. – Resume writing. New York: John Wiley & Sons.

Second Semester

MTTM 201 – GEOGRAPHY FOR TOURISM

Objective: This course explores the basic components of geography in relation with tourism.

Course Contents:

Unit I	Fundamentals of Geography, importance of geography in tourism, climatic variations, climatic regions of the world, study of maps, longitude & latitude, international date line, time variations, time difference
Unit II	Indian Geography, physical and political features of Indian Subcontinents. Climatic conditions prevailing in India, Tourism attractions in different states and territories of India.
Unit III	Tourism Resources in Asia & Asia Pacific: Understanding the Middle East, South-east Asia, Asia pacific on the basis of physical tourism resources, man-made tourism resources, symbiotic tourism resources geography, tourist attractions, understanding the Nature of destinations & their tourism products.
Unit IV	Tourism Resources in America: Understanding the North, South and Central America & Latin America on the basis of physical tourism resources, man-made tourism resources, symbiotic tourism resources geography, tourist attractions, understanding the Nature of destinations & their tourism products.
Unit V	Exercises on basic concepts of maps latitude, longitude, international date line, calculation of time, IST (Indian Standard Time), GMT (Greenwich Mean Time) scale of the map and measurement of the distance on map, use of conventional signs and symbols in maps and signs especially significant for tourism sector.

Suggested Readings:

1. Hall, CM and Page, SJ. - The Geography of Tourism and Recreaion, Routledge
2. Sinha, P.C.- Tourism Geography , Anmol Publication.
3. Dixit, M. Tourism geography and Trends, Royal Publicaion.
4. Intenational Atlas, penguin publication and DK Publications

MTTM 202 – HUMAN RESOURCE MANAGEMENT IN TOURISM

Objective: This course is about managing human resources for tourism organisations. It also addresses the bigger issue of supply of trained manpower for the industry while bring to discussion the principles and practices of developing the human resource within the tourism company.

Course Contents:

Unit I	**Introduction:** Human Resource Management- introduction, nature and scope; Context of HRM, Strategic HRM.
Unit II	**Human resource planning**: approaches; strategic-planning; concepts of cultural fit; HRM forecasting techniques.
Unit III	**HRM process**: Introduction, process in tourism, job analysis, job design; recruitment and selection, induction; training and development.
Unit IV	Performance management; concept; performance appraisal-concepts and techniques; challenges in performance management and measurement; balanced scorecard approach.
Unit V	Industrial relations and legal aspects: IR concepts; legal aspects of HRM; role of ethics; Future trends in HRM, Basic knowledge about allowances under the head' Salaries' of income tax act 1961.

Suggested Readings:

1. Ross, Darren Lee and Pryce, Josephine. Human Resources and Tourism. London : channel view publications
2. Nickson, Dennis. Human Resource Management for Hospitality and Tourism Industries.
3. Riley, M. Human Resource Management in the Hospitality and Tourism Industry.
4. Dessler, Gary. Human Resource Management.

MTTM 203 – FINANCIAL MANAGEMENT

Objective: The Students will get to know about the financial functions of the company.

Course Contents:

Unit I	**INTRODUCTION** Concept of finance function, types of financial decisions, Importance, Objective, Organization & responsibilities of finance function. Role & status of financial executives in organization structure.
Unit II	**Patterns of funds requirements** Short,middle & long term financial planning, Capitalization, Types of Securities & their definitions, Risk &Return – Basic introduction.
Unit III	**Capital Structure planning** Approaches to capital structure objectives & determinants of optimum capital structure, Cost of Capital, Operating & financial leverage analysis.
Unit IV	**Capital Budgeting** Process & methods of ranking, investment proposal management of corporate debt capacity, dividend decisions & dividend policy.
Unit V	**Working capital management** Concepts of working capital, Management of inventory & Accounts Receivable, tools for analysis of working capital.

Suggested Readings:

1. Chand, M.- Travel Agency Management: An Introductory Text
2. Seth,P.N.- Successful Tourism Management.
3. Travel operation: South Asia Integrated Tourism Human Resource.
4. Development Programme (SAITHRDP).
5. Tour Guiding: SAITHRDP

MTTM 204 – TOURISM RESOURCES OF INDIA

Objective: The module gives information of countries tourist places of national and international importance and it helps students to know the background elements of tourism resources.

Course Contents:

Unit I	**Tourism Products:** Elements and characteristics of tourism products. Tourism product production system, Tourism Product Life Cycle, Natural Resources: Wildlife Sanctuaries, National Parks, and Natural Reserves in India (Jim Corbett Tiger Reserve, Bharatpur Bird Sactuary, Valley of Flowers, Kanha, Kaziranga, SasanGir, Dachigam, Ranthambhore and Keoladev Ghana) Hill Stations: Study of Hill Station attractions and their environs with case studies of Mussoorie, Nainital, Munnar and Ooty. Beaches and Islands: Beaches in Goa, Kerala, Orissa. Andaman Nicobar and Lakshdweep Islands.
Unit II	**Popular Tourist Resources-** Delhi, Agra, Jaipur, Khajuraho, Varanasi, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Mahabalipuram, Madurai, Tanjore, Hampi, Ellora, Elephanta, Konark, and FatehpurSikri. **Monuments:** QutubMinar, Atala Mosque (Jaunpur), Kirtistambh(Chittor), Sher Shah Suri's Tomb, Sikandara, Red Fort (Delhi), TajMahal, Golden Temple (Amritsar) TajMahal, Golden Temple (Amritsar), HawaMahal (Jaipur), Bara Imambara (Lucknow)**.**
Unit III	Pilgrimage Destinations: Hindu- CharoDhamYatra, JyotirlingaYatra, Devi YatraVindhyachal (U.P.) Kamakhya (Assam), Vaishnavadevi. Kasha, Prayag, Gaya, Ayodhya, Mathura- Vrindavan, Allahbad, Ujjain, Haridwar, Nasik, Gangasagar. Buddhist: Lumbini, Bodhgaya, Sarnath, Kushinagar, Shravasti, Sankisa, Vaishali, Rajgriha, Kapilvastu, Nalanda, Sanchi, Ajanta. Jain: Kashi,Pavapuri, Shatrunjaya, Girnar, Mt. Abu, Sharavanbelgola, Palitana. Muslim: Ajmer Sharif, Nizamuddin (Delhi), FatehpurSikri and some important Mazars. Sikh: Patna, Nanded, Guru-ka-tal(Agra), Amritsar

Unit IV	Fairs and Festivals: Kumbha, Pushkar, sonepur, Dadari, Tarnetar, Chhatha, Pongal/ Makar-Sankranti, Baisakhi, MeenakshiKalyanam, Holi, Gangaur, Onam, Durga Puja, Ramalila, Diwali, KartikPurnima (DevDeepawali, Guru Purb), Dusshera, Rathyatra, Nag Nathaiya(varanasi) Barawafat, Id-ul-fitr, Easter, Chirstmas Carnival (Goa), BurhawaMangal (Varanasi), Ganga Mahotsav, TajMahotsav, KhajurahoMahotsav and Desert Festival.
Unit V	Handicrafts and Handlooms, History of Dance Styles and main Gharanas of North Indian Music. History of drama in India and its Present Scenario.

Suggested Readings:

1. Gupta Sp, Lal, K, Bhattacharya, M. – Cultural Tourism in India.
2. Dixit, M and Shela C. – Tourism Products.
3. Oki Morihiro, Fairs and Festivals, World Friendship Association.
4. Mitra, Devla, Buddhist Architecture, Calcutta.
5. Mitchell George, Monuments of India, Vol. I. London.
6. Davis Philip, Monuments of India, Vol. II. London.
7. GrewalBikram: Indian Wildlife
8. Hawkins, R.E., encyclopedia of Indian Natural History.

MTTM 205 –E-TOURISM

Objective: This course explores the possibilities of using IT to leverage tourism at a destination or for individual companies.

Course Contents:

Unit I	Introduction to e-tourism- Historical development- Electronic technologies for data processing and communication- Hardware and Software- Strategic, tactical, and operational use of IT in tourism.
Unit II	E-commerce- Starting an e-business- E-marketing of tourism productsTypologies of e-tourism- Business models in the wired economy, B2B, B2C, OTA
Unit III	What is CRS, How it functions. CRS for Rail Transport, Hotel Bookings, Airlines: Different packages used: Abacus, Fantasia, Amadeus, Apollo-Galileo, Sabre etc. Use dummy of one for the CRS packages Practical of CRS.
Unit IV	MIS : Organizational Theory and systems approach to MIS ,Conceptual Design phase of MIS, Detail design of MIS, Implementation phase ,Quality Assurance and Control, Management Knowledge system, Cloud technology CRM.
Unit V	Social networking : Meaning, importance and its impacts on tourism business, concept of digital tourism, website creation, hosting, digital marketing, social media marketing.

Suggested Readings:

1. Buhalis, Dimitrios – E-Tourism. New Delhi: Prentice Hall/Financial Times.
2. Sheldon, Pauline, J. – Tourism Information Technology. Oxon/New York: CABI Publishing.
3. Egger, R and Buhalis .D. – E-Tourism Case studies : Management and Marketing issues in E-Tourism. Burlington : Butterworth-Heinemann.

Third Semester

MTTM 302 – TOURISM POLICY AND PLANNING

Objective: The module will expose the students about the Tourism policy of India and of a few tourism states of the country.

Course Contents:

Unit I	Introduction: Concept of policy, Formulation Tourism policy, Role of government, public and private sector, Role of international multinational, state and local tourism originations in carrying out tourism policies.
Unit II	Tourism Policy: Study of National Tourism Policy 1982 and 2002, National Action Plan on Tourism, 1990: Special Tourism Area Development Programme. The concept of National Tourism Board, National committee on Tourism, Case Study of tourism policies of a few sates (Uttar Pradesh, Rajasthan, Kerala, Madhya Pradesh) Investment opportunities and government policy for investment in hotel/tourism industry. Sources of funding
Unit III	Understanding Tourism Planning: Conceptual meaning of tourism planning, Evaluation of tourism planning, General concepts of Planning, Levels and types of tourism planning, Private sectors role in tourism development.
Unit IV	Tourism planning process: background approach and planning, feasibility study, tourism master plan; Analysis of an individual Tourism Project (development of the Buddhist Circuit)
Unit V	International Agreements: Chicago Convention, Warsaw Convention, Open Sky Policy, Bermuda Convention, Euro Agreement, Schengen Agreement

Suggested Readings:

1. New Inskeep, Edward, and Tourism Planning: an integrated and sustainable Development approaches (1991) VNR, New York.
2. Ashworth, G.J. (2000), the Tourism Historic City. Retrospect and Prospect of managing the heritage city, pergamon, oxford
3. Dept.of tourism, GOI investment opportunities in tourism (Brochure)
4. Sharma, J.k. (2000), Tourism Development, Design for ecological sustainability, Kaniska publication, New Delhi.

MTTM 303 – AIRLINE TICKETING

Objective: This Module is intended to prepare the students to enter a travel agency where he will be required to be well-versed with the modalities of air ticketing.

Course Contents:

Unit I	Aviation Geography: Time Difference, Flight Time, Elapse Time, Division of World by IATA, OAG (ABC) Book Familiarization, Important Airlines, Airport Of World, Minimum connecting time, Coding & Decoding Of country, City, Airport, Airline, Domestic Ticketing.
Unit II	Global Indicators, International Sales Indicators. Practice Itinerary Planning, Passengers Documentation/Travel Formalities (TIM), Familiarization of Air Traffic.
Unit III	Introduction to fare construction, Mileage Principal, Fare Construction With Extra Mileage Allowance (EMA) & Extra Mileage Principle, Highest Intermediates Point(HIP), Circle Trip, Minimum (CTM), Back-Haul Check, Add-ons.
Unit IV	General Limitations on Indirect Travel, Mixed Class Journeys, Special Fares (Excursion, Students & Seaman), Passenger Ticket & Baggage check (With Issuance of ticket with itineraries _ one way (OW), Return (RT), Circle Trip (CT), Mixed Class Special Fares, Passengers Expenses en routes, credit cards, universal air travel plan (UATP), Baggage Rules.
Unit V	Hands on practice of the ticketing procedure in software.

Suggested Readings:

1. Singh Kultar(2007). Quantitative Social Research Methods. New Delhi: Sage Publication.
2. Walliman, Nicholas(2006). Social Research Methods. New Delhi: Sage publications.
3. Brunt, P. (1007). Market Research in Travel and Tourism. UK: Butterworth-Heinmann. (L)

MTTM 304 – RESEARCH FOR TOURISM

Objective: The purpose of this course is to enable learner's conduct learning in managing business research. This course will introduce the learners to the concepts of research, introduce them to tools and examine some elementary statistical concepts. Having completed this course, learners can use research to write end of the programme technical essays. There will be inputs on MS Excel.

Course Contents:

Unit I	**Foundation of Research**: Scientific method; research and theory; business research; types and methods of research. Preparing for research: Review of literature; planning for research- variables and measurement, hypothesis, concepts and constructs.
Unit II	**Doing research**: Sampling; definitions, types and their importance; type of sampling designs; characteristics of different types of samples designs; sampling size and its determination.
Unit III	**Data collection**: methods of data collection; tools of data collection including construction of schedules and questionnaires, scales; field-work.
Unit IV	**Tools**: Processing and analysis of data; hypothesis testing; introduction to some common statistical tools used in business research (t-test, ANOVA, Chi-square test)
Unit V	**Multivariate tools**: Introduction to multivariate techniques; basic idea about- Factor Analysis, Cluster Analysis, Discriminate Analysis, Con joint Analysis; (only basic idea).

Suggested Readings:

1. Singh Kultar(2007). Quantitative Social Research Methods. New Delhi: Sage Publication.
2. Walliman, Nicholas(2006). Social Research Methods. New Delhi: Sage publications.
3. Brunt, P. (1007). Market Research in Travel and Tourism. UK: Butterworth-Heinmann. (L)

MTTM 305 – TOUR GUIDING& ESCORTING SKILLS

Objective: This module is prescribed to train students in various guiding skills and is useful for those who may like to join tour operation or interested to perform independent guiding work.

Course Contents:

Unit I	The Tour Guide – Meaning, Historical Overview, Profiles of today's Tour Guides, The characteristics of business of Guiding, Cohen's pathfinder & Mentor, Tildon& The roots of interpretation, Different roles of Tour Guides, setting up the Guiding business, Education of Tour Guide, Training & Certification
Unit II	The Guides personality, Moment of Truth, The service Cycle Receiving and seeing off the visitors transferring the visitors to Accommodation Unit Meeting the participants for sightseeing caring for customers, Leaving the departure point, Leading a Tour Group, Using different forms of Transport
Unit III	Conducting city Tour, A local Guide Should know, Interpreting different themes nature, history, art, Incidental interpretation, Visiting Museum and Culture Center, conducting Rural Tour, Conducting Specialized Tours
Unit IV	Giving a commentary, Creating Memorable interpretations, Answering Questions, Handing Clients Complaints, Conducting a Tour
Unit V	Tour Guide's code of conduct- seven signs of Tour Guide, Travel Legislations, and Establishing Good Security Measures, Giving First Aid & Responding to Emergencies, Dealing with emergencies

Suggested Readings:

1. Goddy B. &Parkin I., Urban Interpretation: Vol. 1, Issues and Settings; Vol. 2 Techniques and Opportunities, Working Papers, School of Planning, Oxford Polytechnic, 1991.
2. Pond K.L., The professional Guide: Dynamic of Tour Guiding, Van Nostrand Reinhold, New York, 1993.
3. Trade wings Manual for Personality Development.

MTTM 301 – Tourism Marketing

Objective: This course explores the possibilities of Marketing concepts to leverage tourism at a destination or for individual companies.

Course Contents:

Unit I	Marketing: Core concepts in marketing; Need Wants, Demands, Products, Markets, Marketing management philosophies- production, Product. Selling, Marketing and societal perspectives importance of marketing, Future of Marketing.
Unit II	Tourism Marketing: Service characteristics of tourism. Unique features of tourist demand and tourism product, marketing mix& tourism marketing mix Analysis and selection of market: Measuring and forecasting tourism demand; forecasting methods, Managing capacity and demand. Developing marketing environment.-Types, Linking environmental factors; Environmental scanning- SWOT.
Unit III	Consumer Market & Consumer buying behavior Market segmentation, targeting & Positioning, Tourism market mix, Designing & managing products. New product development &Product life cycle.
Unit IV	Planning Marketing programs': Product and product strategies; Product line, Product mix, Branding and packaging Pricing: considerations, Approaches and strategies, Distribution channels and strategies.
Unit V	Managing Hospitality & Tourism marketing- Electronic marketing.- internet marketing, Data base marketing & Direct marketing, Destination marketing, Developing marketing plan.

Suggested Readings:

1. Marketing for Hospitality and Tourism: Philip Kotler, Maken et al.
2. Marketing in Travel and Tourism: Victor,T.C, Middleton.
3. Marketing for Tourism:Christopher Holloway & Robinson

Fourth Semester

MTTM 401 – AIR CARGO OPERATIONS

Objective: The module helps to understand the work procedure at the cargo section of airports and will help to be aware of the various rules regarding baggage handling and cargo acceptance.

Course Contents:

Unit I	**Introduction to Cargo Management-** Cargo History, Concepts and common terms used in cargo handling, Rules governing acceptance of cargo. Cargo rating – Familiarization of cargo tariffs. Rounding off of the weight/ Dimensions/ currencies. Chargeable weight rating- specific commodity rates, class rates, general cargo rates, valuation charges.
Unit II	**Introduction to Air Cargo**- Air cargo terminology, IATA cargo agent and agency operation. ABC air cargo guidebook air cargo guides. TACT rules, TACT tariff etc. **Cargo Booking Acceptance**; acceptance of special cargo. IATA dangerous goods regulation. Perishable cargo, valuable cargo, baggage shipped as cargo, human remains, lifesaving drugs, live animal regulations. Restrictions in acceptance of cargo. Identification of cargo.
Unit III	**Documents in Air Cargo**- Airway Bill: The function and completion of the Airway Bills, Labeling and Marking of Packages. Cargo manifesto, Documents concerning postal mails and diplomatic mails. Shippers declaration for dangerous goods. SMTP, IGM, SOB, LOC, FCL.
Unit IV	**Cargo Handling**- Handling Cargo. Cargo capacity of Air. Cargo needing special attention. Introduction to dangerous goods regulations, Some important Cargo companies.
Unit V	**Export, Insurance & Finance**- Cargo Liability & Insurance, Foreign Trade License Activity, Export-Import Documentation.

Suggested Readings:

1. ABC Worldwide Airways Guide (Red & Blue).
2. Air Tariff Book 1, Worldwide Fares.
3. Air Tariff Book 1, Worldwide Rules, IT Fares etc.
4. Air Tariff Book 1, Worldwide Maximum Permitted Mileage.
5. Travel Information Manual (TIM).
6. IATA Ticketing Hand Book.
7. The Air Cargo Tariff (TACT).

MTTM 402 – INDIAN CULTURE AND SOCIETY

Objective: The module helps the students to understand our Indian society and culture. They will be able to analyze the changes occurred from traditional Indian Society

Course Contents:

Unit I	**Genesis of Indian Society:**Aryan stereotype and other elements. Structure of Indian society: Hindu social organization- Varna, Castes, Lineage and Clan. Hindu marriage: types, sanctioned and unsanctioned, inter-caste, widow remarriage, Sati. Education: Gurukul, math, pathshala.
Unit II	**Hindu Concepts and way of Life: Ashramas, Purushartha, Sanskaras**, panchmahavrata; hindu religion: deities and rituals; changes in traditional philosophy and outlook: vedic, upanishadic, bhakti, puranic and vedantic, shada-darshan.
Unit III	**Buddhism:** concepts and philosophy of life, communities, Buddhist monasteries and universities. **Jainism:** concepts and philosophy of life, communities. **Tribal Society:** A brief survey
Unit IV	**Islamic religion and society:** sects, communities and classes, way of life. **Christian religion and society:** sects, communities and classes, way of life. **Sikh religion and society:** sects, communities and classes, way of life.
Unit V	**Modernization of Indian Tradition:** factors of modernization; education and social reasons, political and economic reasons. Spheres of modernization: marriage, family, castes and lifestyles.

Suggested Readings:

1. Basham, A.L. – The wonder that was India-I.
2. Ghurye, G.S. – Caste and race in India
3. Kosambi, D.D. – The culture and civilization of ancient India.
4. Pandey, Rajbali – The Hindu Sanskaras.
5. Rizvi, S.A.A. - The wonder that was India-II
6. Srinivas, M.N. – Social change in Modern India.

MTTM 403 – MICE TOURISM

Objective:

1. To apprise the students about the utility of event business and the role of event planners in making any event a success.

Course Contents:

Unit I	Event Management: Concept, Size of events, Types of Events, Event Planning Need of event management, Pre & Post Event Activities. Role of events for promotion of tourism, Case studies of some events SATTE, TTM & OTF
Unit II	Concept of MICE: Introduction of meetings, incentives, conference/conventions, and exhibitions. Components and structure of the MICE Industry. Factors for Increasing Demand for MICE market in India. The impacts of MICE on local and national economy.
Unit III	Management of Conference at Site, Trade shows and Exhibitions, Principal purpose, Types of shows, benefits, Major participants, organizationand membership, Evaluation of attendees, Protocols, Convention/exhibition facilities; Venue management, Project Planning andDevelopment-Feasibility Study, Event Phases Analysis: Pre-During-Post Management, Staffing, Legal Compliances: NOCs, Emergency planning, Crowd Management, Environmental Norms
Unit IV	Budgeting a Conference & Exhibition: Sponsorship Technology Applications in MICE: Computer Graphics & Multi Media, Tele & Videoconferencing.
Unit V	International Congress & Convention Association (ICCA), Roles and function of ICPB. Overview of MICE Markets, India as a MICE Destination, MICE Market Challenges, Recent trends MICE in worldwide

Suggested Readings:

1. Chowdhary, Nimit and Prakash, Monika – Managing small town business, New Delhi: Matrix publishers.
2. Prakash, Monika and Chowdhary, Nimit – Starting a Tourism Company, New Delhi: Matrix publishers.
3. Monhanty, SangramKeshari – Fundamentals of Entrepreneurship, New Delhi Prentice hall of India.
4. Scarborough, N.M. and Zimmer, T.W. – Effective Small Business Management, New York Prentice hall.

Faculty of Social Science

Centre of Women Studies

Programme Outcomes

- To introduce students to the discipline of Gender Studies and its specific proposes and specifics;
- To make boys and girls aware of each other's strengths and Weakness. It will help in developing sensitivity and attitudinal change towards both genders in order to lead a gender balanced ambience and women empowerment;
- To assess the condition and position of women and men in the local, national, regional, and global settings;
- To provide theoretical knowledge and advanced competencies in gender related teachings, research, project and programme planning, gender mainstreaming and training through direct field experiences;
- To develop an orientation among students which will encourage them to capture the realities and perspective of women and men in the community, nation and globally in a better manner;
- To familiarize student with the concept of gender and ideology and its operation in the various domain of the society and to study the legal provisions and rights of women as human rights in develop context;
- To impart education and awareness to female folk about their status and rights and to motivate researchers for planning and execution of gender-issues and community development so that can work in NGO's and other civil societies.

- The idea is to equip the student so that their ability to think and analyze is enhanced also, they develop good research-oriented perspective.

Programme Specific Outcomes

- To introduce students to the discipline of Gender Studies and its specific proposes and specifics;
- To make boys and girls aware of each other's strengths and Weakness. It will help in developing sensitivity and attitudinal change towards both genders in order to lead a gender balanced ambience and women empowerment;
- To assess the condition and position of women and men in the local, national, regional, and global settings;
- To provide theoretical knowledge and advanced competencies in gender related teachings, research, project and programme planning, gender mainstreaming and training through direct field experiences;
- To develop an orientation among students which will encourage them to capture the realities and

perspective of women and men in the community, nation and globally in a better manner;

- To familiarize student with the concept of gender and ideology and its operation in the various domain of the society and to study the legal provisions and rights of women as human rights in develop context;
- To impart education and awareness to female folk about their status and rights and to motivate researchers for planning and execution of gender-issues and community development so that can work in NGO's and other civil societies.

Course Outcomes

- To familiarize & elaborate the students with the terminologies related to Gender studies, the concept of patriarchy and its impact on women
- To introduce students to the discipline of Women's Studies and Gender Studies and its perspectives.
- To trace the evolution of Gender Studies from Women's Studies & to familiarise the students with historical overview of feminist movements
- To develop an understanding of the various Women's movement in India
- To introduce basic concepts relating to gender and provide logical understanding of gender role, the role of education and media as an instrument to gender equality, the ground reality by analyzing educational scheme
- To introduce to the evolution of communication and the emergence of different Mass media in our society
- To understand the concept of community and social institutions
- To provide a comprehensive knowledge about health issues of women and gender, social issues playing important role in gender development.
- To provide insight on gender disparities within the family and community
- To introduce the concept of work and development, gender issues in organized and unorganized sectors
- To learn about economic situation at local and global level & know about gender budgeting and mainstreaming
- To study the legal provisions for Gender and women's access to justice, look at the issues related political participation and representation of gender
- To sensitize students on gender issues in governance, acquaint students with actors at state, national and international levels

UNIVERSITY YOG CENTRE

Courses offered-

- B.Sc.
- M.A.

UNIVERSITY YOG CENTRE

MOHANLAL SUKHADIA UNIVERSITY

SYLLABUS OF BACHELOR OF SCIENCE (B.Sc.) IN YOGIC SCIENCE

1836

BACHELOR OF SCIENCE (B.Sc.) IN YOGIC SCIENCE

Preamble

The tradition of Yoga has always been passed on individually from teacher to student through oral teaching and practical demonstration. The formal techniques that are now known as Yoga are, therefore, based on the collective experiences of many individuals over many thousands of years. The particular manner in which the techniques are taught and practiced today depends on the approach passed down in the line of teachers supporting the individual practitioner. Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on establishing harmony between mind, body; thought and action; restraint and fulfilment; harmony between man and nature and a holistic approach to health and well-being. Yoga is not about exercise but to discover the sense of oneness with ourselves, the world and Nature. It is an art and science for healthy living.

The word "Yoga" is derived from the Sanskrit root '*yuj*' meaning "to join", "to yoke" or "to unite". Therefore the aim of yoga is to unite the individual consciousness with the supreme consciousness. Yoga is a science and art of living; also it is a body of techniques that lead us to consciously connect with ourselves and with life, the experience of yoga. As yoga is an art and science, there is no dogma or belief system attached to it. Yoga tells us to do a certain practice and feel their effect following the practice, e.g. if we breath slowly in a relaxed manner we will slow our heart rate; if we focus the mind we will develop mental peace and deep insight.

In addition to this, Yoga is becoming popular day by day and has become a wave which is sweeping across the globe. In this course we introduce yoga as a science of Holistic living and not merely as yoga postures. During the course the student is taught the concepts of Yoga for the treatment and prevention of various psychosomatic ailments. This course looks at training the enthusiasts to become Yoga therapist so that they could teach yoga under the supervision of a doctor for health and healing.

I. Title of the Programme

The programme shall be called "**Bachelor of Science in Yoga" (BSY)**

II. Aim of the Programme

The aim of the programme is to produce **"Yoga Teacher/Therapists for a clinical set up"**

III. Objectives of the programme

- To introduce Yoga therapy, its principles and practices of Yoga to people with various lifestyle disorders.
- To make the people aware of the therapeutic and preventive value of Yoga.
- To bring peace and harmony in the society at large by introducing the Yogic way of life. To create therapists of high calibre to make the society free free from stress and lifestyle related diseases.

IV. Duration

The minimum duration of the programme will be three years (6 semesters) and the maximum duration will be six years.

V. Eligibility

The candidate should have completed 12th Standard in any discipline from a recognized board or equivalent.

VI. Pass Percentage

Regarding Pass Persentage, the rules of university for another under gradute course of sciene will be equally applicable for Bachler of Science in Yoga (BSc Yoga)

Grade System

Regarding grading system, the rule of the three years Degree course will be followed as per the University rules & regulations.

VII Procedure of Admission

The rules of university will be applicable

Reservation

Candidates belonging to S.T/S.C and OBC categories will get relaxations as per the general admission rules of the University.

Medical Fitness Certificate

The selected candidates must submit a medical fitness certificate along with academic certificates/testimonials.

Seats

There are only 40 seats for the Course. The Examination patterns of course will semester wise. The examination Fee will be charged as per the rules of the University.

Attendance

Seventy five percent attendances in theory and practical classes respectively will be necessary for a candidate to appear in the final examination.

Points, if any, not covered by the provisions of this ordinance will be subject to the existing rules and regulations of the University and the Act, the statutes and the Ordinances, of the university, as applicable from time to time.

Fee

The course fee will be charge @ Rs. 12500/- per semester.

VIII. Scheme of Teaching and Evaluation of Examination

S.N.	Subject Code	Subject Title	Periods per week			Evaluation Scheme				Subject Total
						Seasonal			SEE	
			L	T	P	Credit	CT	TA		
BSY- I Year										
Semester – I										
1	BSY-CT101	Foundations of Yoga	6	1	-	4	10	10	80	100
2	BSY-CT102	Introduction to Hath Yoga and it's texts	6	1	-	4	10	10	80	100
3	BSY -CT103	Human Anatomy and Physiology-I	6	1	-	4	10	10	80	100
4	BSY-CT104	Introduction of ancient Yogis	6	1	-	4	10	10	80	100
5	BSY-CP105	Yoga Practicum	-	-	6	4	10	10	80	100
					30 Hours	**20**		**TOTAL**		**500**
Semester – II										
1	BSY-CT201	Essence of Principal Upanishads	6	1	-	4	10	10	80	100
2	BSY-CT202	Patanjala Yoga Darshana	6	1	-	4	10	10	80	100
3	BSY-CT203	Human Anatomy & Physiology-II	6	1	-	4	10	10	80	100
4	BSY-CT204	Introduction of Great Yogis	6	1	-	4	10	10	80	100
5	BSY-CP205	Yoga Practicum	-	-	6	4	10	10	80	100
					30 Hours	**20**		**TOTAL**		**500**
BSY- II Year										
Semester – III										
1	BSY-CT301	Essence of Bhagavad Gita for holistic living	6	1	-	4	10	10	80	100
2	BSY-CT302	Yoga and Holistic Health	6	1	-	4	10	10	80	100
3	BSY-CT303	Fundatmental of Naturopathy and Mental Health	6	1	-	4	10	10	80	100
4	BSY-CT304	AECC-3 (Basics of Samskritam)	6	1	-	4	10	10	80	100
5	BSY-CP305	Yoga Practicum	-	-	6	4	10	10	80	100
					30 Hrs.	**20**		**TOTAL**		**500**
Semester – IV										
1	BSY-CT401	Four Streams of Yoga	6	1	-	4	10	10	80	100
2	BSY-CT402	Basis of Yoga Therapy	6	1	-	4	10	10	80	100
3	BSY-CT403	Fundamentals of Biochemistry	4	1	-	3	10	10	40	60
4	BSY-CT 404	AEEC-4 (Sanskrit)	6	1	-	4	10	10	80	100
5	BSY-CP405	Yoga Practicum 6	-	-	6	4	10	10	80	100
6	BSY-CP406	Biochemistry Practical	-	-	2	1	5	5	30	40
					30 Hrs.	**24**		**TOTAL**		**500**

BSY- III Year										
Semester – V										
1	BSY-CT501	Basis of Indian Culture	6	1	-	4	10	10	80	100
2	BSY-CT502	Yoga and Human Consciousness	6	1	-	4	10	10	80	100
3	BSY-CT503	Yogic Management of Lifestyle related disorders	6	1	-	4	10	10	80	100
4	BSY-CT504	Introduction to Ayurveda & Swara Yoga	6	1	-	4	10	10	80	100
5	BSY-CP505	Yoga Practicum	-	-	6	4	10	10	80	100
					30 Hrs.	**20**	**TOTAL**			**500**
Semester – VI										
1	BSY-CT601	Yoga and Human Values	ee	1	-	4	10	10	80	100
2	BSY-CT602	Applied Yoga	6	1	-	4	10	10	80	100
3	BSY-CT603	Research Methodology & Statistics	6	1	-	4	10	10	80	100
4	BSY-CT604	Yogic Diet, Nutrition & Human Body	6	1	-	4	10	10	80	100
5	BSY-CP605	Yoga Practicum	-	-	6	4	10	10	80	100
					30 Hrs.	**20**				**500**
					TOTAL CREDIT	**120**				**3000**

CT- Core Theory, CP- Core Practicle

Practical Papers will be evaluated by both External and Internal Examiners at the end of the semesters

Semester-I

COURSE DETAILS

Subject Title: Foundation of Yoga

Subject Code: BSY-CT101

Course Objectives:

The subject entitled 'Foundation of Yoga' has the following objectives

- Students of the UG course will have an understanding about origin, history and development of Yoga.
- They will have an idea about the insights of Indian philosophy and Astika & Nastika darshanas.
- Introduction about Yoga according to various yogic texts.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: General introduction to yoga **[15Hrs.]**

Brief about origin of Yoga: Psychological aspects and Mythological concepts; History and Development of Yoga: prior to the Vedic period, Vedic period, Medival period, modern era.

Unit-2: Objective of Yoga **[15 Hrs.]**

Etymology and Definitions of Yoga, Aim and Objectives of Yoga, Misconceptions of Yoga; Brief about Streams of Yoga; Principles of Yoga, Importance of Yoga, Relationship between Yoga and Indian Philosophy

Unit - 3: General introduction to Indian philosophy **[15Hrs.]**

Philosophy: meaning, definitions and scope; Indian Philosophy: Salient features, Branches (Astika and Nastika Darshanas), Distinction from Religion and Science, Brief introduction to Prasthanatrayee and Purushartha Chatushtaya;

Unit - 4: Brief about Yoga in texts – I **[15Hrs.]**

Brief to Upanishads and Yoga in Principal Upanishads, Yoga in Yogopanishad; Yogic perspective of Epics: Ramayana, Adhyatma Ramayana and Mahabharata; Yogic perspective: Bhagavad Gita, Yoga Vasishtha, Narada Bhakti Sutras

Unit-5: Brief about Yoga in texts – II **[15 Hrs.]**

Yogic perspective: Smritis, Puranas with emphasis to Bhagavat Purana; Yogic perspective to Shad-darshanas; Emphasis to Vedantic approach of Shankara, Ramanuja, Madhva and Vallabha; Brief: Agamas, Tantras, Shaiva Siddhanta

TEXT BOOKS

1. Lal Basant Kumar : Contemporary Indian Philosophy, Motilal Banarsidas Publishers Pvt. Ltd, Delhi, 2013
2. Dasgupta S. N : History of Indian Philosophy, Motilal Banarsidas, Delhi, 2012
3. Singh S. P : History of Yoga, PHISPC, Centre for Studies in Civilization Ist, 2010
4. Singh S. P & Yogi Mukesh: Foundation of Yoga, Standard Publication, New Delhi, 2010
5. Vishnoi Manoj: Upnishad Saar Sangraha, 2019.

BOOKS FOR REFERENCE

1. Agarwal M M : Six systems of Indian Philosophy, Chowkhambha Vidya Bhawan, varanai, 2010
2. Swami Bhuteshananda : Nararad Bhakti Sutra, Advaita Ashrama Publication-Dept. Kolkata, II Edition, 2009
3. Hiriyanna M : Outlines of Indian Philosophy, Motilal Banarsidas, Delhi, 2009
4. Hiriyanna M: Essentials of Indian Philosophy, Motilal Banarsidas, Delhi, 2008
5. Radhakrishnan S: Indian Philosophy, Oxford University, UK (Vol. I & II) II Edition, 2008
6. Max Muller K. M : The six system of Indian Philosophy, Chukhambha, Sanskrit series, Varanasi, 6th Edition, 2008

Subject Name: Introduction to Hatha Yoga & its Texts

Subject Code: BSY-CT102

Objectives:

By introducing hatha Yoga & its eexts, students shall be able to

- Have an understanding about pre-requisites, principles about Hatha yoga.
- Understand the relationship between Patanjala and Raja yoga.
- Have an understanding about the concept of yoga in other yogic texts.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit - I: General introduction to Hatha yoga **[10 Hrs.]**

Hatha Yoga: Origin, Meaning, Definition, Aim, Objectives and Misconceptions, Philosophy and Foundations; Hatha Yoga Parampara, Natha Cult Hatha Yogis and their contribution; Ghatashudhi: its importance and relevance in Hatha Yoga sadhana; Inter-relation of Hatha Yoga and Raja Yoga

Unit - 2: Pre-requisites **[15 Hrs.]**

Badhaka Tattva (Obstacles) and Sadhaka Tattva (Facilitatory factors) in Hatha Yoga; Concepts of Matha, Concept of Mitahara, Pathya (conducive) and Apathya (non-conducive), Types of aspirants; Dasha Yama and Niyama and its relevance in Hatha Yoga Sadhana; Swara, Importance of Svarodaya-jnana in Hatha Yoga Sadhana; Hatha Siddhi Lakshanam

Unit - 3: Principles and Introduction to Hatha Yoga texts **[15 Hrs.]**

Concept of Swas-prashwas, Vayu, Prana and Upaprana; Concept of Kand, Nadi, Swar, Chakra and Granthi; Kundalini prabodhan, Unmani avastha, Nadanusandhan; Concept of Samadhi;

Unit- 4: Introduction to hatha yoga texts: **[15 Hrs.]**

Brief: Hatha Yogic Texts, their nature and objectives; Siddhasiddhantapaddhati, Goraksha Samhita, and Shiva Samhita; Brief: Hatha Yoga Pradeepika, Gheranda Samhita, Hatha Rathnavali

Unit-5: Relationship between Patanjala Yoga and Hatha Yoga **[20Hrs.]**

Jnana Yoga: Meaning of Jnana and Jnana-Yoga, Sadhana-chatushtaya, Means of Jñāna-Yoga; Bhakti Yoga: Meaning of Bhakti and Bhakti-Yoga, Stages of Bhakti, Types of Bhakti, Means of Bhakti-Yoga; Karma Yoga: Meaning of Karma and Karma-Yoga, Concept of Nishkama Karma, Means of Karma Yoga; Inter-relationship between Bhakti-Yoga and Karma-Yoga, Theory of Karma and Rebirth (Reincarnation); Patanjala Yoga: Philosophical Foundations of Patanjala Yoga, Ashtanga Yoga of Patanjali, Relevance of Patanjala Yoga in day-to-day life; Hatha Yoga: Philosophical Foundations of Hatha Yoga, Hatha Yoga Sadhana,

Chaduranga Yoga and Saptanga Yoga, Relevance of Hatha Yoga in day-to-day life; Inter Relationship between Patanjala Yoga and Hatha Yoga and their inter-dependance; Kundalini Yoga: Philosophical Foundations and Practices of Kundalini Yoga

TEXT BOOKS

1. Swami Muktibodhananda Saraswati Sahay G.S.: Hatha Yoga Pradeepika, Bihar school of yoga publications, Munger, 2000
2. HathaYoga Pradeepika of Svatmarama, MDNIY Publication, 2013
3. Sharma BR: Jotsna (Comentory of HathaYoga Pradeepika) Kaivalyadhama, Lonavala, 2013

BOOKS FOR REFERENCE

1. Gharote, M.M. & others: Therapeutic references in Traditional Yoga Texts, the Lonavla Institute, Lonavla, 2010.
2. Gharote ML: Hatharatnavali, The Lonavala Yoha Institute, Lonavala, Pune, IInd Edition, 2009
3. Briggs GW: Gorakhnatha and the Kanphata Yogis, 8th Edition, 2009
4. Swami Kuvalyananda & Shukla, S.A.: Gorakshasatkam, Kaivalyadhama, Lonavla, 2006
5. Gharote M.L. & Pai, G.K. (Edi): Siddhasidhantpaddhati, Kaivalyadhama, Lonavla, 2005.
6. Burley, Mikel: Hatha Yoga, Its Context Theory and Practice, M.L.B.D. Delhi, 2000.
7. Swami Digambarji & Gharote M.L.: Gheranda Samhita, Kaivalyadhama, Lonavla, 1978.
8. Swatmaramaji : Hathapradipika (Jyotsana- tika), Adyar Library, Madras.
9. Bharati, Swami Veda Reddy Venkata:Philosophy of Hatha Yoga (English), Himalayan, Pennsylvania, Hatha Ratnavali

Subject Name: Human Anatomy and Physiology-I

Subject Code: BSY-CT103

Objectives:

Following the completion of the course, students shall be able:

- To know about the structure of the body
- To know about the necessary functions of the body
- To give brief idea about the diseases related to each system
- To throw light on anatomy so that student can experience the involvement of their body parts while practicing various postures of yoga

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: Cell, Tissue and Muscular – Skeletal system **[15Hrs]**

Cell structure –Plasma membrane and protoplasm; Cell organelles –Mitochondria, Glogiboly,Endoplasmic reticulum, Lysosome, Peroxisome, Centrosome, Nucleus-Nuclear membrane,chromosome,nucleolus; Homeostasis; Structure and function of epithelial -simple and compound; Connective -connective tissue proper, skeletal and vascular; Muscular - Skeletal ,involuntary and cardiac; Nervous tissues-Myelinated neuron and Non myelinated neuron;

Unit-2: Skeletal system **[15Hrs]**

Anatomy of the Skeleton: Classification of bones-Axial bones and appendicular bones; Types of joint –Synovial joints and Fibrous joint; Structure of synovial joints ; Types of synovial joints; Types of Muscle in the body(striated ,Smooth muscle, Cardiac muscle); Mechanism of muscle contraction

Unit-3: Biomolecules **[15 Hrs]**

Nutrition: Meaning and Objectives, Eliments of Diet: Carbohydrates; Fats; Proteins; Minerals; Vitamins (fat soluble and water soluble); Dietary fibres Balanced diet, Role of Diet for Spritual Development

Unit-4: Digestive system and Respiratory system: **[15 Hrs]**

Digestive system of human-Mouth, buccal cavity, Pharynx, oesophagus, stomach, large intestine, small intestine, anus, associated glands-Liver, Pancreas, salivary glands, physiology of digestion and absorption; Malnutrition and under nutrition; **Respiratory system** of human-Nose, nasal cavity, pharynx,Trachea,Larynx, bronchiole, lungs; Mechanism of breathing (Expiration and inspiration); Transport of respiratory; gases (transport of oxygen and transport of carbon dioxide); Common respiratory disorder

Unit-5: Cardiovascular system **[15 Hrs]**

Composition and function of blood –Plasma ,RBC,WBC and Platelet; Blood groups and their importance; Blood clotting; Structure and working mechanism of heart; Organisation of systemic and pulmonary circulation; Cardiac output and cardiac cycle; Functional anatomy of blood ; vessels; Blood pressure and regulation of blood pressure

TEXT BOOKS

1. Tortora and Bryan: Anatomy and Physiology
2. Khurana: Anatomy and Physiology

REFERENCE BOOKS:

1. Gore M. M. (2003). Anatomy and Physiology of Yogic practices. KanchanPrakashan, Lonavla, India
2. LanPeate and MuralidharanNayar – Fundamental of Anatomy and Physiology for students nurses
3. Evelyn, C. Pearce- Anatomy and Physiology for Nurses

Subject Name: Introduction of Ancient Yogis

Subject Code: BSY-CP 104

Objectives:

By introducing Yogi's & their biography students shall be able to

- Have an understanding about life & life style of ancient Yogis
- Have an understanding about the concept of applied yoga in Yogis life.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit- I : Characteristic of Yogis **[15 Hrs]**

Types of yogis, life style of yogis, quality of yogis, sign of yogis.

Unit- II : Introduction of Yogis – I **[15 Hrs]**

Rishi Viswamitra, Agastya Rishi , Bhagwan shri Ram, Raja Janak, Bhakta Hanuman, Bhaktini Sabari, Maharshi Narad.

Unit- III : Introduction of Yogis – II **[15 Hrs]**

Yogeshwar Shrikrishna, Vedvyasa, Mahatma Vidur, Maharshi Yajnavlkya, Maitryee, Muni shkdev

Unit- IV : Introduction of Yogis – III **[15 Hrs]**

Maharsh kapil, Maharshi Patanjali, Maharshi Kanad, Maharshi Pipalad

Unit- V : Introduction of Yogis – IV **[15 Hrs]**

Nachiketa, Satyakama Jabal, Dhruva, Gargi, Prahalada

TEXT BOOKS

1. Hindu Samskriti Ank : Geeta Press, Gorakhpur

Subject Name: Yoga Practicum

Subject Code: BSY-CP 105

Objectives:

Following the cmpletion of this course, students shall be able to

- Make the students recite the Vedic hymns skillfully.
- Understand the concept and principles of Shatkarmas.
- Know and understand about breathing practice.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	20

Unit-1: Recitation of hymns & hasta mudra **[15 Hrs.]**

Recitation of Pratah-smaran and Shanti Mantras; Recitation of Pranava Japa and Soham Japa; Recitation of Hymns from Upanishad & Yoga Texts; Hasta Mudra: Chin, Jnana, Hridaya, Bhairav, Yoni

Unit-2: Shatkarmas **[15 Hrs.]**

Dhauti (Kunjal,Vamana Dhauti, Vastra Dhauti); Neti (Jalneti, Sutraneti); Kapalbhati and its variants; Agnisara

Unit-3: Breathing practices **[30 Hrs.]** Breathing practi **[15 Hrs.]**

Abdomen+Thoracic Breathing, Abdomen + Thoracic + Clavicular Breathing; Yogic Breathing: Pause Breathing (Viloma Pranayama), Spinal Passage Breathing (Sushumna Breathing); Practice of Puraka, Rechaka & Kumbhaka (Antar & Bahya Kumbhaka)

[15 Hrs.

Unit- 4: Surya namaskara **[15 Hrs.**

Unit-5: Yogasana (Standing Postures and body alignment) **[15 Hrs.**

Tadasana, Vrikshasana, Urdhva-Hastottanasana, Kati Chakrasana, Ardha Chakrasana, Paada Hastasana, Trikonasana, Parshva Konasana, Veerabhadrasan and its variations

TEXT BOOKS

1. Sri Ananda : The Complete book of Yoga, Orient Course Backs, Delhi, 2003.
2. Basavaraddi, I.V. & others : SHATKARMA: A Comprehensive description about Cleansing Process, MDNIY New Delhi, 2009
3. Joshi, K.S. : Yogic Pranayama, Oriental Paperback, New Delhi, 2009
4. Dr. Nagendra H R : Pranayama, The Art & Science, Swami Vivekananda Yoga Prakashan, Bangalore, 2005

BOOKS FOR REFERENCES

1. Basavaraddi, I.V. & others : SHATKARMA: A Comprehensive description about Cleansing Process, MDNIY New Delhi, 2009
2. Joshi, K.S. : Yogic Pranayama, Oriental Paperback, New Delhi, 2009
3. Swami Kuvalyananda : Pranayama, Kaivalyadhama, Lonavla, 2010
4. Swami Rama: Science of Breath, A Practical Guide, The Himalayan International Institute, Pennselvenia, 1998
5. Swami Niranjanananand Saraswati: Prana, Pranayama & Pranvidya, Yoga Publications Trust, Munger, Bihar, 2005.

Semester-II

Subject Name: Essence of Principal Upanishads

Subject Code: BSY-CT201

Objectives:

Following the completion of this course, student will be able to

- Have an idea about the major principal Upanishads
- Understand the essence of each Upanishad and how to put them into practice.
- Understand each Upanishad and the role of it in our day-to-day life.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : NA**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: Introduction essence of Isha and Kenopanishad [15 Hrs.]

An Introduction to Upanishadic Philosophies; Antiquity of Upanishads; Prasthanatraya; **Ishavasyopanishad:** JnanaNishtha (Ish.1), Karma Nishtha (Ish.2), All compassion Brahman (Ish.5), Nature of Sage (Ish.6, 7), Prayer of dying Man (Ish.15); **Kenopanishad:** The inscrutable being (Kena-I.2, 3 ,4,6) (Kena II.2,3), Greatness of self Knowledge (KenaII.5)

Unit-2: Essence of Katho and Prashnapanishad [15 Hrs.]

Kathopanishad: Futility of earthly pleasure (Katha I.i.26, 27); Glory of wisdom of self (Katha I.ii.1, 5, 6, 7, 12); Atman is immortal (Katha I.ii.18); Conditions of knowing that (Katha I.ii.23,24); The Razor's edge of Jnana (Katha I.iii.14, 15); Sense knowledge is nothing (Katha II.i.1, 2); The indivisible Brahman (Katha II.i.10, 11) (Katha II.ii.2,9,11)The supreme state; Prashnapanishad: Sun, the life of creatures, The all inclusiveness of Brahman, The state of becoming the soul

Unit-3: Essence of Mundaka, Mandukya and Taitriya [15 Hrs.]

Mundaka: The greatness of Brahmavidya, The worthlessness of Selfish-karma, Tapas and Gurubhakti, The origin of creation, Brahman the target of, meditation, Know thyself, Everything is Brahman, Purity extolled, Force of Desire, State of moksha; Mandukyopanishad: All this is Brahman, The fourth state of being

Unit- 4: Essence of Aitareya, Chandogya [15 Hrs.]

Aitareya: Everything is only that Atman, All this is Brahman only; Chandogya: The meditation on udgithaomkara, Sandilyavidya, Mystic declarations, The sacrifice of the knower, The paradox of creation, The necessity for a guru, The supreme instruction, Need for understanding, Bhumavidya, The seer's health and purity, Desires should be renounced, Know the Atman.

Unit- 5: Essence of Brihadaranyaka [15 Hrs.]

Brihadaranyakam: A prayer of the devotee, The self is the dearest, the self is the absolute, The death of the jnana, How to know the secret Atman, The ocean of the absolute, Words are useless, The atman and its knower, The infinite Brahman, Ethics

Text Book

1. Upnishad Ank : Geeta Press, Gorakhpur
2. Vishnoi Manoj: Upnishad Saar Sangraha, 2019.

Subject Name: Patanjala Yoga Darshana
Subject Code: BSY-CT202
Objectives:

Following the completion of this course, students shall be able to

- Understand various modification of mind and the means of inhibiting them.
- Have an understanding about the essence of Samadhi and Sadhana Pada.
- Undertand the essence of Vibhuti and Kaivalya pada.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : NA**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit - 1: Introduction to Yoga darshana of Patanjali and concept of Citta, citta bhoomis Citta vrittis and Citta vritti nirodhopaya [15 Hrs.]

Brief Introduction to Maharshi Patanjali and Patanjala Yoga Sutra (P.Y.S.), Brief Introduction to traditional commentators and commentaries of Patanjala Yoga Sutra (Vyasa Bhasya, Tatvavaisharadi, Bhoja Vritti and Yoga-vartika); Concept of Mana, Buddhi, Ahankar and Chitta; Concept of Citta Bhoomis (Kshipta, Mood, Vikshipta, Ekagra, Nirudha); Concept of Citta-Vrittis and their classification, Citta-Vritti Nirodhopaya (Abhyasa and Vairagya); Concept of Ishwar and Ishwar Pranidhana, Qualities of Ishwar, Concept of Samprajnata; Citta-Vikshepas (Antarayas), Concept of Citta-prasadanam, Relevance of Citta-prasadanam in Yoga Sadhana.

Unit - 2: Samadhi pada [15 Hrs.]

Concept of Yoganushasanam, Yoga Lakshanam and its results; Types of Samadhi (Samprajnatah and Asamprajnatah Samadhi); Types of Samprajnatah Samadhi (Vitarka, Vichara, Anand and Ashmita); Concept of Samapatti and kinds of Samapatti (Savitraka and Nirvitraka, Savichara and Nirvichara); Types of Asamprajnatah Samadhi (Bhavapratyaya and Upayapratyaya).

Unit-3: Sadhana pada[15 Hrs.] Concept of Kriya Yoga of Patanjali, theory of Kleshes (Avidya, Ashmita, Raga, Dewesh, Abhinevesh); Concept of Dukhavada (Heya, Hetu, Hana, Hanopaya) Drishta and Drisha-nirupanam (Prakriti), Drastunirupanama (Purusha), PrakritiPurushaSamYoga; Brief Introduction to Ashtanga Yoga; Concept of Asana and Pranayama and their Siddhis; Concept of Pratyahara and its Siddhis.

Unit - 4: Vibhuti [15 Hrs.]

Introduction of Dharana, Dhyana and Samadhi, Samyama and its Siddhis; Three types of Chitta Parinamah; Bhoota jaya, Indriya jaya and their Siddhis, Satvapurushanyatakhyati and its Siddhis; VivekJnanaNirupanam, Kaivalya Nirvachana; Role of Dharana, Dhyana, Samadhi and its application.

Unit - 5: Kaivalya Pada [15 Hrs.]

Five Types of Siddhis and Jatyantar Parinamh; Concept of Nirman Chitta and four types of Karmas; Concept of Vasana and concept of Bahya Pradartha (external element) and its abilities.

TEXT BOOKS

1. Swami Omanand Saraswati : Pantanjal Yog Pradip

Subject Name: Human Anatomy and Physiology-II

Subject Code: BSY-CT203

OBJECTIVES:

Following the completion of the course, students shall be able:

- To know about the structure of the body
- To know about the necessary functions of the body
- To give brief idea about the diseases related to each system
- To throw light on anatomy so that student can experience the involvement of their body parts while practicing various postures of yoga

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Assessment	Final Exam	Internal Exam
80	20		

Unit -1: Nervous system and special senses [15Hours]

Structure and function of human brain.-Fore brain, mid brain, hind brain, Structure and function of spinal cord, Cranial nerve and spinal nerve, Autonomic nervous system-Sympathetic and para sympathetic nervous system, Reflex action, Mechanism of nerve conduction, Synapse and synaptic transmission, Structure and function of eye,ear,nose,tongue and skin

Unit -2: Endocrine system [15Hours]

Structure and function of important of endocrine gland (Pituitary, Adrenal, Thyroid, Parathyroid, Pancreas, gonads), Function of GI tract hormones, Mechanism of hormone action

Unit -3: Reproductive [15 Hrs]

Male reproductive system of human.-Testis, penis, epididymis, prostate gland; Female reproductive system of human-ovary, uterus, vagina, cervix, fallopian tube; Menstrual cycle Gametogenesis-Spermatogenesis and oogenesis; Fertilization; Implantation and embryonic development; Pregnancy.

Unit -4: Excretory system [15 Hrs]

Excretory system of human-Kidney, ureter, urinary bladder, urethra; Mechanism of urine formation-Ultrafiltration, selective reabsorption, tubular secretion; Role of kidney in osmo-regulation

Unit -5: Lymphatic system and immune system [15Hrs]

Lymphoid organ-Bone marrow, Thymus, spleen ,Lymph node, Composition and function of lymph, Immunity, Types of immunity-Innate immunity and acquired immunity, Antigen and antibody, Hypersensitivity, Autoimmunity

TEXT BOOKS

1. Tortora and Bryan: Anatomy and Physiology
2. Khurana: Anatomy and Physiology

BOOKS FOR REFERENCE

1. Bijlani R. L.:Understanding of Human Physiology, Jaypee Brothers Medical Publishers Pvt. Ltd, New Delhi, 2011
2. Arthur C Gyton & Hall: Medical Physiology, Reed Elsevier India Pvt. Ltd, New Delhi, 2006
3. Chatterji C. C: Human Physiology Vol. I & II, Medical Allied Agency, Kolkata, 2004
4. Sharma J. P: A-Z Illustrated Encyclopaedia of Human Anatomy & Physiology, KhelSahiyta Kendra, Delhi, 2005
5. Pal G. K & others: Textbook for practical Physiology, Orient Longman Pvt. Ltd, Hyderabad, 2007

Subject Name: Introduction of Great Yogis

Subject Code: BSY-CT204

OBJECTIVES:

- To know about the great yogis
- To know about the yoga life of the yogis

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Assessment	Final Exam	Internal Exam
80	20		

Unit- I : Differeat Great Masters yoga **[15 Hrs]**

Gautam Buddha, Mahaveer Swami, Aadigura Shankaracharya, Kumaril Bhatta, Ramanujacharya**.**

Unit- II : Hatha Yogis **[15 Hrs]**

Guru Gorakhanath, Swami Swatmarama, Britahari, Yogini lalleswari, Abhinavagupta.

Unit- III : Great Bhakta Yogis **[15 Hrs]**

Surdas, Tulsidas, Sant Ravidas, Kabirdas, Meera Bai, Sant Tukaram, Karma Bai , Chaitnya Mahaprabhu, Sant Jnayaneshwar.

Unit- IV : Modern Yogis **[15 Hrs]**

Shri Aurvindo, Ramkrishna paramhansam, Maharshi Ramana, Swami Dayanda Saraswati, Swami Vivekananda, Swami Ramatirtha.

Unit- V : Contemporary Yogis **[15 Hrs]**

T. krishnmacharaya, Mahesh Yogi, BKS Iyengar, Pt. Shiram Sharma Acharya, Lahiri Mahashaya.

Text Book

1. Hindu Samskriti Ank : Geeta Press, Gorakhpur

Subject Name: Yoga Practicum

Subject Code: BSY-CP 205

Objectives:

Following the completion of this course, students shall be able to

- Understand the principle and practice of Yogic practices.
- Have an understanding asbout the practices that help practitioners to lead to meditation.

SCHEME OF EXAMINATION			
Total Marks: **100**			
Theory : nil		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	**20**

Unit-1: Shatkarma **[15 Hrs.]**

Dhauti, Neti, Nauli Madhyama, Vama, Dakshina and Nauli Chalana, Trataka (Jatru and Jyoti)

Unit-2: Pranayama **[15 Hrs.]**

Nadi Shodhana (Technique 1: Same Nostril Breathing), Nadi Shodhana (Technique 2: Alternate Nostril Breathing), Nadi Shodhana (Technique 3: Alternate Nostril Breathing + Antar kumbhak); Nadi Shodhana (Puraka + Antar Kumbhak + Rechaka + Bahya Kumbhak) (1:4:2:2); Bhramari Pranayama

Unit-3: Practices leading to meditation **[15 Hrs.]**

Pranav and Soham Japa; Yoga Nidra (1,2,3); Antarmauna; Ajapa Dharana (Stage 1, 2, 3); Mind sound reasonance technique (MSRT)

Unit-4: Yogasana **[15 Hrs.]**

Dandasana, Swastikasana, Padmasana,Vajrasana, Supta Vajrasana; Kagasana, Utkatasana, Gomukhasana, Ushtrasana, Shashankasana; Janusirasana, Paschimottanasana, Mandukasana, Utthana Mandukasana; Vakrasana, Ardha Matsyendrasana , Marichayasana, Simhasana

Unit-5: Yogasana (Prone line Postures) **[15 Hours]**

Makarasana, Bhujangasana, Shalabhasana, Dhanurasana, Kapotasana, Raja Kapotasana

TEXT BOOKS

1. Swami Niranjanananda Saraswati: Asana Pranayama Mudra Bandha; Bihar school of yoga publications; Munger, 2001
2. Swami Niranjanananda Saraswati: Dharana Darshan; ; Bihar school of yoga publications; Munger, 2001

BOOKS FOR REFERENCES

1. Basavaraddi I. V. & Others : Teachers Manual for School Teachers, MDNIY, New Delhi, 2010
2. Joshi, K.S. : Yogic Pranayama, Oriental Paperback, New Delhi.
3. Swami Kuvalyananda : Pranayama, Kaivalyadhama, Lonavla, 2009
4. Iyengar, B.K.S.: Light on Pranayama, Harper Collins, Swami Vivekanand Yoga Prakashan, 2012
5. Nagendra, H.R: The Art and Science of Pranayama, Swami Vivekanand Yoga Prakashan, 2005, Bangaore.
6. Nagendra, H.R: Mind sound reasonance technique, Swami Vivekanand Yoga Prakashan, 2002, Bangaore.

Semester-III

Subject Name: Essence of Bhagavad Gita for holistic living

Subject Code: BSY-CT301

Objectives:

Following the completion of this course, students shall be able to

- Understand the significance of Bhagavad gita and its essence.
- Understand the concept of Atman, Paramatman, Sthitaprajna.
- Have a deep unsderstanding between the qualities of a Karma and Bhakti yogi.
- Understand the concept of Ahara its role in healthy living.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit – 1: Significance of Bhagavadgita as synthesis of yoga [15 Hrs.]

Introduction to Bhagavadgita; Bhagavadgita and traditional commentaries; Bhagavadgita: a synthesis of Yoga; Definitions of Yoga in Bhagavadgita and their relevance; Bhagavadgita and their relevance in Yoga Sadhana

Unit–2: Concept of Atman, Parmatman and characteristic of Sthita prajna in Bhagavdgita [15 Hrs.]

Concept of Samkhya Yoga in Bhagavadgita; Concept of Sthita Prajna, stages and characteristic of it; Concept of Atman (Purusha), Jivatman; Concept of Paramatman (Parmeshwar or Purushottam) their characteristic in Bhagavadgita; Concept of Jnana and Jnana Yoga, origin of the world as described in Bhagavadgita

Unit-3: Karma yoga in Bhagavadgita [15 Hrs.]

Concept of karma Yoga in Bhagavadgita; Dhyana Yoga together with devotion as described in Bhagavadgita and Nature of Dhyana in Bhagavadgita.

Unit-4: Bhakti yoga in Bhagavadgita [15 Hrs.]

Concept of Bhakti, concept of Shraddha and its relevance as described in Bhagavad Gita Yoga of Bhakti and Bhakta as described in Bhagavadgita.

Unit – 5: Concept of ahara and role of Bhagavadgita in healthy living [15 Hrs.]

Role of Bhagavadgita in day to day life; Concept and classification of Ahara as described in Bhagavadgita; Ahara and its role in Adhyatma Sadhana; Concept of Triguna in the context of Bhagavadgita; Theory of Adjustment in healthy living as described in Bhagavadgita

TEXT BOOKS

1. Swami Gambhiranand ; Bhagavadgita (with Gudharth Dipika) Sri Ramkrishna Matha Madras

2. Swami Gambhiranand ; Bhagvatgita with the commentary of Sankaracharya, Advita Ashrama, Kolkata, 2003
3. Swami Ramsukhadas; Srimad Bhagavadgita (Sadhaka Sanjivani) Gita Press Gorakhpur
4. Swami Ranganathananda ; Bagavadgita, Advaita Ashrama Sub- Dept-5 Deli Entally Road Kolkata

BOOKS FOR REFERENCE

1. Swami Shrikantananda; Gita Darshana, Indian Institute of Human Excellence Hyderabad
2. Swami Tapasyananda ; Srimadbhgavadgita Sri Ramkrishna Matha Madras
3. Swami Abhidananda Bhagvatgita, the divine message, Ramakrishna Vedanta Matha, Kolkata, 1990
4. Swami Raghvendrananda; Universal message of the Bhagvatgita, Advita Ashrama, Kolkata, 2000

Subject Name: Yoga and Holistic Health

Subject Code: BSY-CT302

Objectives:

Following the completion of this course, students shall be able to

- Understand the concept of health and disease.
- Have understyanding abut yogic concepts of health and healing.
- Yogic principle and practices for healthy living.
- Understand the concept of Ahara its role in healthy living.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit - 1: CONCEPT OF BODY, HEALTH AND DISEASE [15 Hrs.]

Definition & Importance of Health According to WHO; Dimensions of Health: Physical, Mental, Social and Spiritual; Concept of Body, Health and Disease in Yoga – Yogic concept of Body from Taittiriya Upanishad, Yogic Concept of Health and Disease: Meaning and definitions, Concept of Adhi and Vyadhi according Yoga Vasistha and remedial measures; Holistic health care through Yoga.

Unit - 2: CONCEPT OF TRIGUNAS, PRANA [15 Hrs.]

Concepts of Trigunas, Pancha-mahabhutas, Pancha-prana and their role in Health and Healing; Concept of Pancha-koshas & Shat-chakra and their role in Health and Healing

Unit - 3: CAUSES OF ILL HEALTH AND REMEDIAL MEASURES ACCORDING TO PATANJALI [15 Hrs.]

Potential causes of Ill-health: Mental and Emotional ill Health: Styana, Samshaya, Pramada, Avirati, Duhkha, Daurmanasya, Bhranti-darsana, Alabdha-bhumikatva and Anavasthitatva; Shuddhi Prakriyas in Yoga : Role of Shuddhi Prakriyas in preventive and curative Health, Karma Shuddhi (Yama, Niyama), Ghata Shuddhi (Shat-karma), Snayu Shuddhi (Asana), Prana Shuddhi (Pranayama), Indriya and Mano Shuddhi (Pratyahara), Mana, Buddhi, Ahamkar and Chitta Shuddhi (Dharana, Dhyana and Samadhi)

Unit - 4: YOGIC PRINCIPLES AND PRACTICES OF HEALTHY LIVING - I [15 Hrs.]

Dietary regulation according to Hatha yoga and Bhagavadgitha; shatkriyas and tatva shuddhi; Asana for mind body and spirit; Practice for pranamaya kosha – pranayama; Definition of Mental Health & Mental Hygiene & Total Health ; Indian approach to personality and personality integration Psycho-Social Implications of yoga; Adjustment Personal and interpersonal adjustment through yogic methods Niyamas & Yamas

Unit - 5: YOGIC PRINCIPLES AND PRACTICES OF HEALTHY LIVING - II [15 Hrs.]

Attitude change towards yoga through individualized counselling, Psychological & yogic method Tackling ill effects of conflict and Frustration; Yogic methods Yoga Psychology for Adjustment: Psychological, philosophical and yogic counselling; the remedial measures; Action in relaxation-the secret of Karma Yoga; Unattached action, not to the fruits of action, equanimity in success and failure.

TEXT BOOK

1. Ghosh, Shyam : The Original Yoga Munshiram Manoharlal, New Delhi, 1999)
2. Jnanananda Bharati : Essence of Yoga Vasishta Pub: Sanata Books, Chennai
3. Hatha Ratnavali: Tirumala Tirupathi Devasthana, Andhra Pradesh.

REFERENCE BOOKS:

1. Gheranda Samhita: Shri Sadguru Publication, New Delhi.
2. Dr R Nagarathna and Dr H R Nagendra: Yoga and Health, Swami Vivekananda Yoga Prakashana, 2002
3. Dr R Nagarathna and Dr H R Nagendra: Yoga for Promotion of Positive Health Published by SVYP, Bangalore
4. Dr Nagendra H R : The Secret of Action - Karma Yoga, Published by SVYP, Bangalore, 2003

Subject Name: Fundamentals of Naturopathy and Mental Health

Subject Code: BSY-CT303

Objectives:

- Understand the principle of Naturopathy for Therapy
- Understand the cause of Mental illness and the role of yoga for its healing.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: INTRODUCTION TO NATUROPATHY **[15 Hrs.]**

General introduction to Naturopathy; Naturopathy – its definition, meaning, scope and limitations; History of Naturopathy – Indian and Western; Comparative study of the Naturopathy with other systems of Medicine; Catechism of Nature cure.

Unit-2: PRINCIPLES AND CONCEPTS OF NATUROPATHY **[15 Hrs.]**

Composition of the human body according to Naturopathy, Laws of Nature: Pancha-Mahabhootas, Shareera Dharmas – Ahara, Nidra, Bhaya, Maithuna; Fundamental principles of Naturopathy; Natural rejuvenation and vitality, how to acquire natural immunity; importance of Physical & Mental Hygeine and prevention of diseases.

Unit-3: NATUROPATHY **[15 Hrs.]**

Hydrotherapy : Introduction, definition, scope, history, principles; role of hydrotherapy in prevention of diseases; Upavasa (Fasting): Introduction, definition, scope, history, principles and types; its role in disease prevention, health promotion; concept of de-toxification.

Unit-4: Concept of Diet and Massage **[15 Hrs.]**

Diet: Introduction, definition, scope, types and its principles; role of Naturopathy diet in disease prevention and , health promotion; Massage: Introduction, definition, scope, history, its principles and manipulative techniques; Different types of Massages and their role in disease prevention, and health promotion.

Unit-5: Yoga for Mental Health **[15 Hrs.]**

Mental Health: Meaning and Importance; Yogic Perspective of Mental Health; Yoga nidra, Kuntha, samayojan, stress, emotions, feelings, adjustments Yogic Concepts and Techniques in Patanjala Yoga Sutra and Bhagwadgita for Promoting Mental Health; Need of Spiritual Growth for Mental Health; Specific Yogic Practices for Promotion of Mental Health: Memory ,Intelligence,Breath; Awareness, Shavasana, Yoganidra, Pranayama and Meditation; Yogic Life-style.

TEXT BOOKS

1. S. D. Dwivedi : Naturopathy for perfect health, Kalpaz Publication Delhi, 2002
2. Pravesh Handa : Naturopathy and Yoga, Kalpaz Publication Delhi, 2006
3. S.J.Singh. : My Nature Cure or Practical Naturopathy
4. M.K.Gandhi : The story of my experiment with truth

REFERENCE BOOKS

1. R.K.Garde : Ayurvedic for Health and Long life Harry Benjamin. : Everybody's Guide to Nature Cure
2. M.K.Gandhi. : My Nature Cure

Subject Name: Basics of Samskritam

Subject Code: BSY-CT304

Objectives:

Following the completion of this course, students shall be able to

- Read and understand the colloquial words of Sanskrit.
- Communicate and compreheld Sanskrit to the best of their ability.
- Write in saskrit and have some idea about grammar.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: संस्कृतभाषा परिचय

संस्कृतभाषा परिचय, योगशास्त्र के अध्ययन में संस्कृत का महत्व और योग एवं संस्कृत का अन्तःसम्बन्ध। माहेश्वरसूत्र। संस्कृतवर्णमाला, स्वर, व्यंजन वर्गज्ञान सहित (रोमन लिपि में लेखन एवं पठन); वर्णों के उच्चारणस्थान और प्रयत्न ज्ञान। प्रत्याहार निर्माण विधि एवं प्रत्याहार ज्ञान। कारक, विभक्ति (सुप् और लिङ्), लिङ्ग, वचन, पुरूष, लकार एवं वाक्याङ्ग परिचय। संस्कृत संख्याएं (एक से सौ तक)

Unit-2: शब्दरूप

अजन्ताशब्दरूप–राम, बालिका, पुस्तक, मुनि, रूचि, वारि शब्दों के रूप अर्थज्ञान सहित। अजन्तशब्दरूप–नदी, भानु, धेनु, मधु, पितृ, मातृ शब्दों के रूप अर्थज्ञान सहित। सर्वज्ञान शब्दरूप–अस्मद, युष्मद, तत् (तीनों लिङ्गों में), एतद् (तीनों लिङ्गों में), किम् (तीनों लिङ्गों में), भवत् (तीनों लिङ्गां में) शब्दों के रूप अर्थज्ञान सहित। हलन्तशब्दरूप–भगवत्, नामन्, जगत् शब्दों के रूप अर्थज्ञान सहित।

Unit-3: धातुरूप

भू, अस्, पठ्, मृद्, कृ, लिख्, नम्, दृश्, धातुओं के पांच लकारों (लट्, लृट्, लङ, लोट्, लिङ्) में रूपज्ञान एवं वाक्य निर्माण अर्थज्ञान सहित। वृद्, गम्, स्था, पा (पिब्) दा, शक्, आप्, प्रच्छ्, धातुओं के पांच लकारों (लट्, लृट्, लङ, लोट्, लिङ्) में रूपज्ञान एवं वाक्य निर्माण अर्थज्ञान सहित। ज्ञा, कथ, चिन्त्, ब्रू, श्रु, नी, याच्, खाद्, शीङ्, धातुओं के पांच लकारों (लट्, लृट्, लङ, लोट्, लिङ्) में रूपज्ञान एवं वाक्य निर्माण अर्थज्ञान सहित। प्रथमदीक्षा के प्रथम एवं द्वितीय अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास।

Unit-4: वाक्यनिर्माण

प्रथमदीक्षा के तृतीय अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। प्रथमदीक्षा के चतुर्थ अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। प्रथमदीक्षा के पंचम अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। प्रथमदीक्षा के षष्ठ अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास।

Unit-5: सम्भाषणम् (संस्कृत वार्तालाप)

संस्कृत में स्वपरिचय, योग–पाठ्यक्रम परिचय, नगर परिचय, प्रान्त परिचय। संस्कृत वार्तालाप – योगदिवस, योगदर्शन, गीता, हठप्रदीपिका, आसान तथा प्राणायाम।

TEXT BOOKS

1. Moorty CLN : First Book of Sanskrita, Chaukhabha Sanskrit Series, Varanasi, 2010
2. Max Muller : A Sanskrit Grammar Parimal Publication, Delhi, 2012
3. Goldmom P R : Devavanopravesika : An introduction to the Sansrit languages, MLBD, New Delhi , 2011

BOOKS FOR REFERENCE

1. Perry E D : A Sanskrit Primer, MLBD, New Delhi, 2004
2. Kala MR : A Higher Sasnkrit Grammer for college students, MLBD, New Delhi, 2011
3. द्विवेदी कपिल देवः प्रारम्भिक रचनानुवाद कौमुदी; विश्वविद्यालय प्रकाशन वाराणसी, 2011

Subject Name: Yoga Practicum

Subject Code: BSY-CP305

Objectives:

Following the completion of this course, students shall be able to

- Understand the principle and practice of each practice.
- Demonstrate each practice skillfully.
- Explain the procedure, precaution, benefits and limitations of each practice.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	20

Unit-1: Yogasana (Sitting Postures) **[15 Hours]**

Dandasana, Swastikasana, Padmasana,Vajrasana, Supta Vajrasana; Kagasana, Utkatasana, Gomukhasana, Ushtrasana, Shashankasana; Janusirasana, Paschimottanasana, Mandukasana, Utthana Mandukasana; Vakrasana, Ardha Matsyendrasana , Marichayasana, Simhasana

Unit-2: Yogasana (Supine lying Postures) **[15 Hours]**

Pavanamuktasana; Utthana-padasana, Ardha Halasana, Halasana, Setubandhasana, Sarvangasana, Matsyasana, Chakrasana, Shavasana

Unit-3: Yogasana (Prone line Postures) **[15 Hours]**

Makarasana, Bhujangasana, Shalabhasana, Dhanurasana, Kapotasana, Raja Kapotasana

Unit-4: Bandha & Pranayama (with Antar & Bahya Kumbhaka) **[15 Hours]**

Jivha Bandha, Jalandhara Bandha, Uddiyana Bandha, Mula Bandha, Maha Bandha, Tri Bandha Surya-bheda and Chandra-bheda Pranayama, Ujjayi Pranayama, Sheetali Pranayama, Shitkari Pranayama, Bhastrika Pranayama

Unit-5: Practices leading to Meditation **[15 Hours]**

Ajapa Dharana, Yoga Nidra, Practices leading to Breath Meditation, Practices leading to Om Meditation.

TEXT BOOKS

1. Swami Dhirendra Bhrahmachari : Yogasana Vijnana, Dhirendra Yoga Publications, New Delhi.
2. Swami Kuvalyananda: Asana Kaivalyadhama, Lonavla
3. Swami Satyananda Saraswati: Asana, Pranayama, Bandha, Mudra Bihar School of Yoga, Munger

BOOKS FOR REFERENCES

1. Basavaraddi, I.V. & others : Yogasana: A Comprehensive description about Yogasana, MDNIY, New Delhi, 2011.
2. Iyengar, B.K.S. : Light on Yoga, Harper Collins Publishers.
3. Tiwari, O.P. : Asana Why and How? Kaivalyadhama, Lonavla.
4. Jayadev, Yogendra : Cyclopaedia Yoga (Vol. I-IV), The Yoga Institute, Santacruz, Mumbai.
5. Saraswati, Swami Satyanand : Asana, Pranayama, Bandha, Mudra Bihar School of Yoga, Munger.

Semester-IV

Subject Name: Four Streams of Yoga

Subject Code: BYS-CT401

Objectives:

Following the completion of this course, students shall be able to

- Understand the four paths/streams of yoga with indepth understanding.
- Have an indepth understanding about their similarities and dsisimillarities.
- Understand the principle and conceptualize each stream

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: JnanaYoga **[15 Hrs.]**

Sadhana Chatustaya, Stages of JnanaYoga practice (shravan, manana, Nidhidhyasana), States of consciousness, The concepts of ida, pingla and thesushumna the central channel of energy running along the spine.

Unit-2: Bhakti Yoga **[15 Hrs.]**

Navavidha Bhakti, Qualities of a bhakta, The pronunciation, chanting, knowledge, benefits of Sanskrit chants, hymns, bhajans, Satsang and the uplifting meaning of the chants helping to thin the activities of the mind, Mantra chanting, and their effect on the nadi and the chakras, Demonstrated ability to create a bhakti bhava during the chanting and singing

Unit-3: Karma Yoga **[15 Hrs.]**

The concept and meaning of karma Yoga, Concept of Nishkama Karma, Prerequisites for a sthitaprajna, Sthitaprajnalakshana, The law of karma

Unit-4: Raja Yoga **[15 Hrs.]**

Concepts and principles of PatanjalaYoga; Karma Shuddhi (Yama, Niyama); Snayu Shuddhi (Asana); Prana Shuddhi (Pranayama); Indriya and Mano Shuddhi (Pratyahara); Mana, Buddhi, Ahamkar and Chitta Shuddhi (Dharana, Dhyana and Samadhi)

Unit-5: Mantra Yoga **[15 Hrs.]**

Concepts and principles of Mantra & Japa.

TEXT BOOKS

1. Swami Bhuteshananda : Nararad Bhakti Sutra, Advaita Ashrama Publication-Dept. Kolkata, II Edition, 2009
2. Swami Vivekananda :J nana Yoga, Bhakti Yoga, Karma Yoga, Raja Yoga. Advaita Ashrama, Calcutta, 2000

Subject Name: Basis of Yoga Therapy
Subject Code: BSY-CT402
Objectives:

- To impared knowledge about various disease and their treatment through yogic processes

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: Yogic concepts of health and disease [15 Hrs.]

Definition & Importance of Health According to WHO; Dimensions of Health: Physical, Mental, Social and Spiritual; Concept of Health and Disease in Indian Systems of Medicine i.e. Ayurveda, Naturopathy and Siddha Systems of Medicine, Utility and Limitations of these systems in health and healing; Yogic Concept of Health and Disease: Meaning and definitions, Concept of Adhi and Vyadhi, Yogic concept of Health and Disease, role of Yoga in preventive health care – Heyam dukham anagatam; Potential causes of Ill-health: Tapatrayas and Kleshas, Physical and Physiological manifestation of Disease: Vyadhi, Alasya, Angamejayatva and Svasa-prashvasa.

Unit-2: Yogic concepts of Mental and Emotional Health [15 Hrs.]

Mental and Emotional ill Health: Styana, Samshaya, Pramada, Avirati, Duhkha, Daurmanasya, Bhranti-darsana, Alabdha-bhumikatva and Anavasthitatva; Shuddhi Prakriyas in Yoga : Role of Shuddhi Prakriyas in preventive and curative Health, Karma Shuddhi (Yama, Niyama), Ghata Shuddhi (Shat-karma), Snayu Shuddhi (Asana), Prana Shuddhi (Pranayama), Indriya and Mano Shuddhi (Pratyahara), Mana, Buddhi, Ahamkar and Chitta Shuddhi (Dharana, Dhyana and Samadhi)

Unit-3: Yogic concepts for health and healing [15 Hrs.]

Concepts of Trigunas, Pancha-mahabhutas, Pancha-prana and their role in Health and Healing; Cocept of Pancha-koshas & Shat-chakra and their role in Health and Healing; Concept of Abhyas and Vairagya, Chitta and Chitta Prasadana, Kriya-yoga, Ashtanga Yoga of Patanjali for Health and Healing; Concept of Cleansing (Shuddi), its role and importance in Health and Healing; Concept of Swara Yoga and its efficacy in Health and Healing

Unit-4: Yogic principles and practices of healthy living [15 Hrs.]

Yogic Principles of Healthy Living: Aahara, Vihara, Aachara and Vichara; Role of Yogic Positive Attitudes (Maitri, Karuna, Mudita and Upeksha) for Healthy Living, Concept of Bhavas and Bhavanas with its relevance in Health and well-being; Yogic principles of Lifestyle

management and its role in prevention of disease and health promotion; Yogic Principles of Diet and its role in Healthy living; Yogic Practices of Healthy living : i.e. Yama, Niyama, Shat-karma,Asana, Mudra & Bandha Pranayama, Pratyahara, Dharna and Dhyana, and their role in Healthy living.

Unit-5: Health benefits of yogic practices [15 Hrs.]

Psycho-physiological effects and health benefits of Yogasana , Pranayama, Shatkarma, Bandha and Mudra, and Meditation

TEXT BOOKS

1. Preeti Goel and Rita Jain : Spectrum of Health (Sports Publications, New Delhi, 2003)
2. M. M. Gore : Anatomy and Physiology of Yogic Practices (New Age Books, New Delhi, 2008)
3. Dr. K. Krishna Bhat: The power of Yoga

BOOKS FOR REFERENCE

1. Dr. R. S. Bhogal : Yoga Psychology, Kaivalyadhama Publication
2. Dr. Manmath M Gharote, Dr. Vijay Kant : Therapeutic reference in Traditional Yoga texts
3. T.S. Rukmani: Patanajala Yoga Sutra
4. Sahay, G. S.: Hatha Yoga Pradeepika, MDNIY Publication, 2013 5. Kdham : Gheranda Samhita, Kaivalyadhama, Lonavla,

Subject Name: Fundamentals of Biochemistry

Subject Code: BSY-CT403

Objectives:

Following thew completion of this course, students shall be able to

- Understrand the biomolecules and their role in our body.
- Have an understanding about the protein, carbohydrate, lipid metabolism.
- Understand the role of Biochemistry and its test as the indicators to know about the progress of a disease.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 60		**Practical : 40**	
Final Exam	Internal Exam	Final Exam	Internal Exam
40	**20**	**30**	**10**

Unit - 1: Introduction to Bio-chemistry **[15 Hrs.]**

Introduction to Bio-chemistry; chief intracellular components; Introduction to chemical receptors/co-receptors, cell to cell communication, channels & transportation; Definition and classification of Vitamins and their Clinical importance; Basics of Molecular mechanism of O2 transport and storage, classification and bio-chemical structure of immunoglobulins with functions; Fundamentals of Bio-Energetics: Biological Oxidation, General Concept of oxidation, features of cellular Oxidations-respiratory chain oxidative phosphorylations

Unit – 2: Metabolism of carbohydrates **[15 Hrs.]**

Carbohydrates: Definition, classification with examples and general functions; Basics of Carbohydrate Metabolism (I) - Glycolysis; Aerobic and Anerobic, metabolism of glycogens; glycogenesis, glycogenolysis, glyconeogenesis, Regulation of glycogen metabolism; Basics of Carbohydrate Metabolism (II) - Kreb's Cycle (T.C.A), Regulation of Blood glucose, Hexose Mono Phosphate (HMP Shunt); Concept of isomerism, types & mode of action; Integration of metabolism and catabolism

Unit-3: Metabolism of lipids **[15 Hrs.]**

Lipids: definition, classifications and general functions; Intoduction to essential fatty acids, cholesterol, Blood lipids, brief review of lipoproteins; Basics of Lipid Metabolism - Oxidation of fatty acids, cholesterol synthesis and fatty liver.

Unit-4: Metabolism of proteins **[15 Hrs.]**

Proteins: definition, classification and Bio-medical Importance, Plasma Proteins and functions; Definition, classification and nomenculature of Enzymes, basic introduction to Enzymology and regulation of Enzymatic activity

Unit- 5: Functional Bio-chemistry **[15 Hrs.]**

Introduction to hormones, molecular basis of hormonal action; Introduction to common metabolic disorders; Basic techniques for estimation of different Bio-chemical markers i.e., diffusion, Osmosis, Electro-phoresis, Quantative and Analytical Titration; Introduction to investigations related to Hepatobiliary diseases i.e., Serumbiliru, Amino-Transferases, Alkiline Phosphatase, LDH; Basics of routine Bio-chemical tests for Kidney and related common diseases i.e., Blood Urea, Blood Urea Nitrogen (BUN), Serum Createnin, Serum Uric Acid with estimation of Urinal Protien and Sugar.

TEXT BOOKS

1. Pankaja Naik: Bio-chemistry, Jaypee Brothers Medical Publishers Ltd, Delhi, 2010
2. Jacob Anthikad:Bio-chemistry for Nurses, Jaypee Brothers Medical Publishers Ltd, Delhi, 2008
3. K. Malhotra:Bio-chemistry for Students, Jaypee Brothers Medical Publishers Ltd, Delhi, 2012
4. N. Haridas:Bio-chemistry made easy:A Problem (Solving) based approach, Jaypee Brothers Medical Publishers Ltd, Delhi, 2012
5. Arvind S Yadav:Comprehensive practical and Viva in Bio-chemistry, Jaypee Brothers Medical Publishers Ltd, Delhi, 2004

BOOKS FOR REFERENCE

1. Robert K Murray & others:Harper's Illustrated Bio-chemistry, 26th Edition, 2003, McGraw Hill, US Shankara, Shivaraja,
2. M. K. Ganesh :Laboratory Manual of Practical Biochemistry, Jaypee Brothers Medical Publishers Ltd, Delhi, 2008
3. S. K. Sawhney & Randhir Singh:Introductory Practical Biochemistry, 2nd edition, Alpha Science International Ltd. 2005
4. Chawala Ranjana:Clinical Biochemistry (Methods & Interpretations), 3rd edition, Jaypee Brothers medical Publishers ltd. 2006
5. Rajesh Karajgaonkar:Clinical Biochemistry, Jaypee, 2008

Subject Name: Sanskrit

Subject Code: BSY-CT404 Objectives:

Following the completion of this course, students shall be able to

- Read and understand the colloquial words of Sanskrit.
- Communicate and compreheld Sanskrit to the best of their ability.
- Write Sanskrit with better grammatical skill.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: संस्कृत भाषा परिचय [15 Hrs.]

पठ् एवं कृ धातु का कर्मवाच्यरूप ज्ञान पांच लकारों (लट्, लृट्, लङ, लोट्, लिङ) में एवं वाक्य निर्माण अर्थज्ञान सहित। अस् एवं भू धातु का भाववाच्यरूप ज्ञान पांच लकारों (लट्, लृट्, लङ, लोट्, लिङ) में एवक वाक्य निर्माण अर्थज्ञान सहित। कर्तृवाच्य एवं कर्मवाच्य का परिचय वाक्यरचना, वाक्यरूपान्तरण एवं अनुवाद। कर्तृवाच्य का परिचय वाक्यरचना, वाक्यरूपान्तरण एवं अनुवाद।

Unit-2: कृदन्त [15 Hrs.]

शतृ एवं शानच् प्रत्ययों से शब्दनिर्माण, वाक्यरचना और अनुवाद। क्त्वा, ल्यप, प्रत्ययों से शब्दनिर्माण, वाक्यरचना और अनुवाद। क्त एवं क्तवतु प्रत्ययों से शब्दनिर्माण, वाक्यरचना और अनुवाद। तव्यत् अनीयर एवं यत् प्रत्ययों से शब्दनिर्माण, वाक्यरचना और अनुवाद।

Unit-3: सन्धि एवं भाषाभ्यास [15 Hrs.]

अच्, हल् एवं विसर्ग सन्धियों का ज्ञान एवं सन्धि विच्छेद का अभ्यास। भगवद् गीता के द्वितीय अध्याय क प्रथम 20 श्लोकों में कारक एवं क्रियापदों का अनुसन्धान एवं सस्वर श्लोकपाठ। संस्कृत से हिन्दी/अंग्रेजी में अनुवाद। संस्कृत में परस्पर वार्तालात एवं मौखिक व्याख्यान का अभ्यास।

Unit-4: भाषादक्षता **[15 Hrs.]**

द्वितीयदीक्षा के प्रथम एवं द्वितीय अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। द्वितीयदीक्षा के तृतीय अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। द्वितीयदीक्षा के चतुर्थ अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास। द्वितीयदीक्षा के पंचम एवं षष्ठ अध्याय से वाक्यनिर्माण एवं अर्थज्ञान का अभ्यास।

Unit-5: संस्कृत में भाषण तथा लेखन : **[15 Hrs.]**

संस्कृत में स्वपरिचय, योग–पाठ्यक्रम परिचय, नगर परिचय, प्रान्त परिचय। संस्कृत वार्तालाप – योगदिवस, योगदर्शन, गीता, हठप्रदीपिका, आसन तथा प्राणायाम।

TEXT BOOKS

1. DEVAVANIPRAVESIKA- : Robert p. goldman: MLBD-NEWDELHI.
2. प्रारम्भिक रचनानुवाद कौमुदी : कपिल देव द्विवेदी; विश्वविद्यालय प्रकाशन वाराणसी।
3. रचनानुवादकौमदीः कपिल देव द्विवेदी; विश्वविद्यालय प्रकाशन वाराणसी।

BOOKS FOR REFERENCE

1. प्रौढ़–रचनानुवादीः कपिल देव द्विवेदी;; विश्वविद्यालय प्रकाशन वाराणसी।
2. प्रथमदीक्षा – राष्ट्रिय संस्कृत संस्थान नई दिल्ली।
3. द्वितीयदीक्षा – राष्ट्रिय संस्कृत संस्थान नई दिल्ली।

Subject Name: Yoga Practicum

Subject Code: BYS-CP405

Objectives

Following the completion of this course, students shall be able to

- Understand the principle and practice of each practice.
- Demonstrate each practice skillfully.
- Explain the procedure, precaution, benefits and limitations of each practice.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	20

Unit-1: Shatkarmas **[15 Hrs.]**

Vastra Dhauti, Sutra Neti, Kapalbhati, Nauli Chalana, Jyoti Trataka, Agnisara

Unit-2: Yogasanas -I **[15 Hrs.]**

Tadasana, Vrikshasana, Urdhva-Hastottanasana, Kati Chakrasana ; Ardha Chakrasana, Paada Hastasana; Trikonasana, Parshva Konasana; Veerabhadrasan; Bhunamanasana, Hanumanasana; Dandasana, Swastikasana, Sidhasana,Bhadrasana,Padmasana,Vajrasana; Kagasana, Utkatasana, Gomukhasana,Ushtrasana, Shashankasana, Kurmasana, Navasana, Baddha Padmasana, Uttitha Padmasana; Janusirasana, Paschimottanasana, Supta Vajrasana; Mandukasana, Utthana Mandukasana; Vakrasana, Ardha Matsyendrasana , Marichayasana, Simhasana

Unit-3: Yogasanas -I **[15 Hrs.]**

Pavanamuktasana, Utthana-padasana, Ardha Halasana, Setubandhasana, Halasana, Karna Peedasana, Sarvangasana, Matsyasana , Chakrasana, Shavasana, Makarasana, Bhujangasana , Shalabhasana, Dhanurasana, Kapotasana , Raja Kapotasana, Bakasana, Kukkutasana, Garbhasana, Matsyendrasana, Marjariasana, Padangusthasana, Hastapadangusthasana, Garudasana, Vatayanasana, Natarajasana, Mayurasana, Sirshasana; Ekapada and Dwipada Kandarasana

Unit-4: Bandha and Mudras **[15 Hours]**

Jivha Bandha, Jalandhara Bandha, Uddiyana Bandha, Mula Bandha, Maha Bandha, Tri Bandha Yoga Mudra, Maha Mudra, Shanmukhi Mudra, Shambhavi Mudra, Kaki Mudra, Tadagi Mudra, Vipareet Karni Mudra, Simha Mudra

Unit-5: Pranayama & meditation **[15 Hours]**

Nadi Shodhana pranayama, Bhramari Pranayama, Suryabhedana and Chandrabhedana Pranayama , Ujjayi Pranayama, Sheetali Pranayama, Shitkari Pranayama, Bhastrika Pranayama, Pranava and Soham Japa, Antar mouna, Dharana, Pracice of Dhyana, Breath Meditation, Om Meditation Vipassana Meditation , Preksha Meditation

TEXT BOOKS

1. Swami Dhirendra Bhramhachari :Yogic Sukshma Vyayama, Dhirendra Yoga Publications, New Delhi, 1980
2. Swami Dhirendra Bhramhachari:Yogasana Vijnana,Dhirendra Yoga Publications, New Delhi, 1966
3. Swami Kuvalyananda:Asana, Kaivalyadhama, Lonavla, 1983
4. Swami Satyananda Saraswati:Asana, Pranayama, Bandha, Mudra,Bihar School of Yoga, Munger, 2005-06

BOOKS FOR REFERENCES

1. Basavaraddi, I.V. & others:Yogasana: A Comprehensive description about Yogasana, MDNIY, New Delhi, 2011.
2. Basavaraddi, I.V. & others:Yogic Sukshma Evam Sthula Vyayama, mDNIY, New Delhi, 2011.
3. Iyengar, B.K.S.:Light on Yoga,Harper Collins Publishers, 2009
4. Sen Gupta Ranjana:B.K.S. Iyengar Yoga, A Dorling Kindersley Limited, 2001
5. Saraswati, Swami Satyananda:Surya Namaskar, Yoga Publication Trust, Munger, 2004
6. Tiwari, O.P.:Asana Why and How? Kaivalyadhama, Lonavla, 2011

Subject Name: Biochemistry Practical

Subject Code: BSY-CP406

Objectives

Following the completion of this course, students shall be able to

- Understand the principle and procedure of each experimnent.
- Demonstrate each experiment skillfully.
- Interpret the result during experiment.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 60		**Practical : 40**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		30	**10**

Unit-1: Demonstration

Identification and Analysis of Constituents in Normal Urine –Urea-Uric acid – creatinine – Calcium and Phosphorous – Sulphate Ammonia – Chloride; Identification and Analysis of Constituents in Abnormal Urine – Protein, blood, bile pigments – bile salts, sugar, Ketone bodies;

Unit-2: Demonstration

Identification and Analysis of glucose, fructose, lactose, maltose, sucrose; Identification and Analysis of Albumin, Casein, gelatin.

Unit-3: Demonstration

Identification and Analysis of Blood glucose; Identification and Analysis of Blood Urea; Identification and Analysis of Urinary creatinine.

Unit-4: Demonstration

Identification and Analysis of Gastric juice; Identification and Analysis of Urinal Chlorides.

Unit-5: Writing of Procedure and repeatation of all the above mentioned biocehemical tests

TEXT BOOKS

1. Keith Wilson & John Walker :Principles & Techniques of Practical Biochemistry, 5th edition
2. V.K.Malhotra :Practical Biochemistry for students, 4thedition, 2008, 12th edition 2012, Jaypee Brothers medical Publishers ltd.

REFERENCE BOOKS

1. ShrutiMohanty&Aparna B. Varma:Practical Clinical Biochemistry, Jaypee Brothers medical Publishers ltd. 2013
2. D.M. Vasudewan&Subir Kumar Das :Practical Textbook of Biochemistry for medical students, Jaypee Brothers medical Publishers ltd. 2013

Semester-V

Subject Name: Basis of Indian Culture

Subject Code: BSY- CT501

objectives:

Following the completion of the course, students shall be able to

- Understand meaning and process of culture with respect to the settlement of human in India.
- Have an understanding about the religious movements and cultural configuration in India.
- Understand the development and progress of India during Guptas and their legacies.
- Understand the Indoislamic arxchitecture and change in the trend during that time.

SCHEME OF EXAMINATION			
Total Marks: **100**			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	**20**		

Unit- 1 : Meaning & process of culture and early human settlements in India [15 Hrs.]

Meaning and process of culture; Sources – Acrhaeology, Literature, Foreign accounts; Pre and Proti historic cultures; Indus Civilization – Origin extent, date, art, architecture, religion, society, economy; Changes in the later Vedic period.

Unit - 2:Religious moveemnts and cultural configurations in India [15 Hrs.]

Religious movements in the sixth and fifth centuries BC with special reference to Buddhism and Jainism; Social and economic changes; Impact of Persian and Greek invasions; Role of Mauryan empire in Indian cultural unification; Asoka – his edicts and Dhamma; Mauryan art, polity and economy; Sangam age – Society and economy; Cultural configurations during the Sunga – Satavahana – Kushana era – New trends in art, literature and religion; Stupa and rock – cut architecture, sculpture; Dharmashastra, Natyashastra, Kamasutra, Panchatantra, Ayurveda; Religious sects and schools – Hindu, Buddhist and Jain.

Unit - 3 : Developments during the Gupta and legacies [15 Hrs.]

Developments during the Gupta – Vakataka – Pallava age – Literature; Education, science, religion, society, polity, economy, architecture, sculpture, painting; Cultural contacts with outside world; Legacies of classical ideas and patterns and development of new trends in Indian society and thought during the early medieval times; Vedanta – Sankara, Ramanjua; Bhakti, Tantra, Alavars, Nayanars; Temple styles Nagara, Vesara, Dravida; Literature, society, polity feudalism; Effloresence of Indian cultural contacts; Islam in India; Alberuni on India.

Unit-4: Indo-Islamic architecture and new cultural trends in Mughal India [15 Hrs.]

Indo-Islamic architecture during the Sultanate period; regional styles; Religious and philosophical developments – Bhakti and acharya traditions; Sufism in India; Islamic influences on Indian society and culture; Muslim interest in Indian classics; Literary developments, Sanskrit, Persian and regional languages; Cultural contributions of Vijayanagara empire; New cultural trends in Mughal India; Religious liberalism – Akbar, Abul Fazl, Dara Shikoh; Growth of Vaishnava Bhakti; Foundation of Sikhism to the institution of Khalsa; Mughal architecture and painting, regional styles; Classical Indian music including pre – Mughal antecedents; Development of Hindi and Urdu literature; Sawai Jai Singh's astronomical contributions; Arrival and spread of Christianity; European studies of India-William Jones and Fort William College, Asiatic Society of Bengal, influence of Christian Missionaries.

Unit – 5 : Western ideas relationship with ancillary disciplines [15 Hrs.]

Influx of Western ideas and Indian response; English education and press; Bengal renaissance; Reform movements in Bengal and other regions, Administrative Measures for Social Reforms (1828 – 1857), Indian reformers – Raja Ram Mohan Roy, Ishwar Chandra Vidyasagar, Keshav Chandra Sen, Mahagovinda Ranade, Jyotiba Phule, Dayanand Saraswati, Vivekananda, Syed .Ahmad Khan; Indian nationalism-Rise, salient features and its cultural expressions in literature, art and education, Gandhian ideas – tradition and modernity; Indian Classics, Indian culture studies, Objectivity and bias; Relationship with ancillary disciplines; Scope of research; Primary and Secondary sources; Heritage of India; World's debt to Indian culture.

TEXT BOOKS

1. Ramshankar Tripathy; History ancient India, Motilal Banarsidass, Motilal Banarsidass Publication, Tenth edition, 1987

REFERENCE BOOKS

1. R.S. Sharma; India's ancient past, Oxford publication, 2006

Subject Name: Yoga and Human Consciousness

Subject Code: BSY- CT502

Objectives

Following the completion of the course, students shall be able to

- Understand the necessity and significance of psychology.
- Have an understanding about utility of psychology in the society.
- Understand human behavior with regard to therapy.

SCHEME OF EXAMINATION			
Total Marks: **100**			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	**20**		

Unit- 1: Psychology: a science of behaviour **[15 Hrs.]**

Psychology: Definition of Psychology; Psychology as a Science of Behaviour; Definition of Behaviour and its Cognitive, Cognative and Affective Aspects; Scope and Utility of Psychology; Concept of Human Psyche; Human Psyche and Consciousness; Sigmund Freud's Model of Human Psyche; Methods of Psychology: Introspection, Observation, Experimental Method, Interview, Psychological Testing; Physiological Basis of Behaviour: Central Nervous System and Autonomic Nervous System

Unit- 2: Domains and dynamics of behaviour – I **[15 Hrs.]**

Attention: Nature, Determinants of Attention, Division and Span of Attention; Sensation: Nature and Attributes of Sensation; Perception: Nature; Gestalt theory of Perception; Illusion; Learning: Nature; Theories: Learning by Trial and Error, Learning by Insight, Classical and Instrumental Conditioning; Motivation: Nature; Types of Motives: Biological Motives, Social and Psychological Motives; Maslow's Theory of Motivation

Unit- 3: Domains and dynamics of behaviour – II **[15 Hrs.]**

Intelligence: Nature; Measurement of Intelligence: Concepts of Mental Age and Intelligence Quotient, Verbal and Non-verbal Intelligence Tests; Emotion: Nature; Physiological Basis of Emotion; Theories: James-Lange Theory, Cannon-Bard Theory; Emotional Intelligence (EI): Nature, Goleman's Model of EI; Spiritual Intelligence: Nature; Memory: Meaning; Systems of Memory: Sensory Register, Short-Term Memory and Long-Term Memory; Thinking: Meaning and Definition; Distorted Thinking (Delusion), Thinking and Reasoning.

Unit- 4: Personality and its development **[15 Hrs.]**

Personality: Nature and Types of Personality; Determinants of Personality: Heredity and Environment; Facets and Stages of Personality Development; Personality Theories of Sigmund Freud, Alfred Adler and C.G. Jung, Carl Rogers; Assessment of Personality: Personality Inventories, Projective Techniques, Case History Method; Yoga and Personality: Yogic View of Personality; Personality Development with special emphasis on Panchakosha and Ashtanga Yoga

Unit-5: Yoga for mental health **[15 Hrs.]**

Psychotherapy: Nature and Process of Psychotherapy, Ethics in Psychotherapy; Approaches to Psychotherapy -I: psychodynamic Therapy, Behaviour Therapy: Aversive Conditioning, Systematic Desensitization, Token Economy, Conditioned Reflex Therapy; Approaches to Psychotherapy - II: Client-centred Therapy, Rational Emotive Behavioural Therapy (REBT) by Elbert Ellis, Gestalt Therapy; Yogic Concepts and Techniques in *Patanjala Yoga Sutra* and *Bhagwadgita* for Promoting Mental Health; Need of Spiritual Growth for Mental Health; Specific Yogic Practices for Promotion of Mental Health: Breath Awareness, *Shavasana*, *Yoganidra, Pranayama* and Meditation; Yogic Life-style

TEXT BOOKS

1. Bhatia, Hans Raj:General Psychology. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd, 2005
2. Ciccarelli,S. K., Meyer, G. E. & Misra, G.:Psychology: South Asian Edition. New Delhi: Pearson Education, 2010
3. Hilgard, Ernest R., Atkinson, Richard C. & Atkinson, R.L.: Introduction to Psychology. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.

BOOKS FOR REFERENCE

1. Basavaraddi, I.V.:Yoga Teacher's Manual for School Teachers. New Delhi: Morarji Desai National Institute of Yoga, 2010
2. Morgan, C. T., King, R.A., Weisz J. R. & Schopler J.:Introduction to Psychology. New Delhi: Tata McGraw Hill Publishing Co. Ltd, 2006
3. Passer, M.W. & Smith, R.E.:Psychology: The Science of Mind and Behaviour. New Delhi: Tata McGraw-Hill, 2010
4. Singh, A. K.:Saral Samanya Manovijnana. Delhi: Motilal Banarasidas Publications, 2007
5. Srivastava, D.N.:General Psychology. Agra: Vinod Pustak Mandir, 2007

Subject Name: Yogic Management of Lifestyle related Disorders

Subject code: BSY-CT503

Objectives:

- Following the completion of the course, students shall be able to
- Understand the principle of yoga therapy for each disease
- Write standard yoga therapy protocol for each disease.
- Understand the causes of disease and trhe role of yoga for its healing.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	**20**		

Unit -1: Introduction to common ailments and Respiratory disorders [15 Hrs.]

Introduction to stress and stress related disorders; Introduction to Yoga therapy– AdhijaVyadhi concept, IAYT; **Respiratory Disorders:** Introduction to Respiratory disorders, Brief classification – Obstructive / Restrictive, infectious, Bronchial Asthma:Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic Management; Allergic Rhinitis & Sinusitis: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic Management; COPD: Chronic Bronchitis, Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic Management; Emphysema: Definition, Classification, Clinical Features, Medical and Yogic Management; Infectious Disorders; Tuberculosis: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic Management

Unit -2: Cardiovascular disorder [15 Hrs.]

Introduction to Cardiovascular disorders, Hypertension: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management, Atherosclerosis / Coronary artery disease: Definition, Etiopathogenesis, Classification, Clinical Features , Medical and Yogic management; Ischemic Heart disease – Angina pectoris / Myocardial Infarction/ Post CABG rehabilitation: Definition, Etiopathogenesis, Classification, Clinical Features , Medical and Yogic management, Congestive Cardiac failure, Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management, Cardiac asthma: Definition, Etiopathogenesis, classification, Clinical Features, Medical and Yogic management

Unit -3: Obstetrics [15 Hrs.]

Menstrual disorders: Dysmenorrhea, Oligomenorrhea, Menorrhagia: Definitions, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management;

Unit -4: Gynecological Disorders [15 Hrs.]

Premenstrual Syndrome: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management; Menopause and peri-menopausal syndrome: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management; Yoga for

Pregnancy and Childbirth: Introduction to pregnancy, Complicated pregnancies: PIH, Gestational DM, Ante-natal care, Post-natal care; PCOS: Definition, Etiopathogenesis, Classification, Clinical Features, Medical and Yogic management

Unit- 5: Psychiatric disorders **[15 Hrs.]**

Introduction to psychiatric disorders, classification – Neurosis, Psychosis: Neurosis: Anxiety disorders: Generalised anxiety disorder, Panic Anxiety, Obsessive Compulsive Disorder, Phobias: Medical and Yogic management; Depression: Dysthymia, Major depression, Medical and Yogic management; Psychosis: Schizophrenia, Bipolar affective disorder, Medical and Yogic management

TEXT BOOKS

1. Ramesh Bijlan : Back to Health Through Yoga, Rupa Publications India Pvt. Ltd, 2011
2. MDNIY publications : 10 Booklets, Yoga Therapy Series, MDNIY Publications, New Delhi, 2009
3. Reddy M Venkata & others: Yogic Therapy, Sri M.S.R. Memorial Yoga series, Arthamuru A.P., 2005
4. Rai, Lajpat: Discovering Human Potential energy: A Physiological Approach to Yoga, Anubhava Rai Publications, 1998

BOOKS FOR REFERENCE

1. Swami Satyananda Saraswati : Yoga and Cardio Vascular Management, Yoga Publication Trust, Munger, 2005
2. Heriza, N., Ornish, D. Merz, C.N.B. : Dr. Yoga: A Complete Guide to the Medical Benefits of and Yoga (Yoga for Health) by (Paperback - Sep 9, 2004) Sparrowe, L., Walden, P. and Lasater, J.H: The Woman's Book of Yoga and Health: A Lifelong Guide to Wellness (Paperback - Dec 3, 2002) - Dec 23,2003)
3. Clennell, B and Iyengar, G.S. : The Woman's Yoga Book: Asana and Pranayama for All Phases of the Menstrual Cycle, Menstrual Disorders (The Experience of Illness) (Paperback - Dec 3, 1992)
4. agarathna R and Nagendra H R: Yoga for Arthritis, Back pain, Diabetes, Pregnancy, Breathing Practices, Swami Vivekananda Yoga Prakasana, Bangalore, 2000
5. Robin Monoro, Nagarathna R and Nagendra, H.R.: Yoga for Common Ailments, Guia Publication, U.K., 1990

Subject Name: Introduction to Ayurveda and swara yoga

Subject Code: BSY-CT504

Objective :

- Understand the necessity and significance of Ayurveda.
- Have an Understanding about utility of Ayurveda and swara yoga in the society.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	**20**		

Unit-1: GENERAL INTRODUCTION TO AYURVEDA [15 Hrs.]

General introduction to Ayurveda; Definition, aim of Ayurveda, its origin, history and propagation; Basic introduction to main Ayurvedic texts like Charaka Samhita, Sushruta Samhita and Ashtanga Samghra; Ashtanga Ayurveda and its significance; Concept of Health according to Ayurveda and its utility in health promotion and prevention

Unit-2: SWASTHAVRITTA, DINACHARYA, RITUCHARYA, RATRICHARYA, SADVRITTA & ACAHARARASAYANA [15 Hrs.]

Basic principles of Ayurveda – Tridosha, Saptadhatu, Trimala, Pancha Mahabhuta, Prakruti & Manas; Concept and importance of Swasthavrita, Dincharya, Ritucharya; Concept of Sadvrita and Achara Rasayana; Concept of Agni, Srotas and Ama, Concept of Dharniya and Adharniya Vega in Ayurveda; Introduction to Dravya, Guna, Karma, Virya, Vipaka and Prabhava

Unit-3: UPASTHAMBAS WITH SPECIAL EMPHASIS ON AHARA [15 Hrs.]

Concept of Upasthambha; Concept of Ahara, Ahara pachana, Pathya & Apathya in Ayurveda; Introduction to Shariraposhana (nourishment); Concept of Oja in Ayurveda; Role of Ayurvedic diet in health and prevention

Unit-4: INTRODUCTION TO PANCHAKARMA [15 Hrs.]

Role of Poorva and Paschat Karma in Panchakarma; Significance of Panchakarma in Ayurveda and Shatkarma in Yoga; Approach of Ayurveda and Yoga as whole in relation to total health

Unit-5: SWARA YOGA [15 Hrs.]

Concept of Väyus, type, their names and function; Concept of Nänés, their characteristics and name of 10 major Nänés and their functions; Difference between Inä, Piìgalä and Sushumnä; Effects of Svarayoga as explained in the Haöha yogic texts, Relevance of Svara-vijnäna in day-today life and the importance of Svarodaya in health and disease.

TEXT BOOKS

1. Dr. Priyavrata Sharma : Charak samhita, Chaukhambha Orientala, Varanasi, Edition of 2008
2. Dr. Ravi dutta Tripathi Dr. Brahmanand Tripathi : Ashtanga Samgraha, Chaukambha Sanskrit
3. Pratishthan, Delhi, Reprint edition of 2003
4. Dr. K. H. Krishnamurthy : The wealth of Susruta, International Institute of Ayurveda, Coimbatore, 1999

REFERENCE BOOKS

1. Dr. P. H. Kulkarni : Ayurvedic Philosophy, Academa Publishers, 2011
2. Dr. V. B. Athavale : Basic Principles of Ayurveda, Chaukambha Sanskrit Prathisthan, Delhi, 2004
3. Dr. L. P. Gupta : Essentials of Ayurveda, Chaukambha Sanskrit Prathisthan, Delhi, 2006
4. Dr. G. Srinivas Acharya : Panchakarma illustrated, Chaukambha Sanskrit Prathisthan, Delhi, 2009

Subject Name: Yoga Practicum

Subject Code: BSY-CP505

Objectives:

Following the completion of this course, students shall be able to

- Understand the principle and practice of each practice.
- Demonstrate each practice skillfully.
- Explain the procedure, precaution, benefits and limitations of each practice.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	20

Unit-1: Yogasana (Sitting Postures) **[15 Hours]**

Dandasana, Swastikasana, Padmasana,Vajrasana, Supta Vajrasana; Kagasana, Utkatasana, Gomukhasana, Ushtrasana, Shashankasana; Janusirasana, Paschimottanasana, Mandukasana, Utthana Mandukasana; Vakrasana, Ardha Matsyendrasana , Marichayasana, Simhasana

Unit-2: Yogasana (Supine lying Postures) **[15 Hours]**

Pavanamuktasana; Utthana-padasana, Ardha Halasana, Halasana, Setubandhasana, Sarvangasana, Matsyasana, Chakrasana, Shavasana

Unit-3: Yogasana (Prone line Postures) **[15 Hours]**

Makarasana, Bhujangasana, Shalabhasana, Dhanurasana, Kapotasana, Raja Kapotasana

Unit-4: Bandha & Pranayama (with Antar & Bahya Kumbhaka) **[15 Hours]**

Jivha Bandha, Jalandhara Bandha, Uddiyana Bandha, Mula Bandha, Maha Bandha, Tri Bandha Surya-bheda and Chandra-bheda Pranayama, Ujjayi Pranayama, Sheetali Pranayama, Shitkari Pranayama, Bhastrika Pranayama

Unit-5: Practices leading to Meditation **[15 Hours]**

Ajapa Dharana, Yoga Nidra, Practices leading to Breath Meditation, Practices leading to Om Meditation.

TEXT BOOKS

1. Swami Dhirendra Bhrahmachari : Yogasana Vijnana, Dhirendra Yoga Publications, New Delhi.
2. Swami Kuvalyananda: Asana Kaivalyadhama, Lonavla
3. Swami Satyananda Saraswati: Asana, Pranayama, Bandha, Mudra Bihar School of Yoga, Munger

BOOKS FOR REFERENCES

1. Basavaraddi, I.V. & others : Yogasana: A Comprehensive description about Yogasana, MDNIY, New Delhi, 2011.
2. Iyengar, B.K.S. : Light on Yoga, Harper Collins Publishers.
3. Tiwari, O.P. : Asana Why and How? Kaivalyadhama, Lonavla.
4. Jayadev, Yogendra : Cyclopaedia Yoga (Vol. I-IV), The Yoga Institute, Santacruz, Mumbai.
5. Saraswati, Swami Satyanand : Asana, Pranayama, Bandha, Mudra Bihar School of Yoga, Munger.

Semester-VI

Subject Name: Yoga and Human Values

Subject Code: BSY-CT601

Objectives

Following the completion of the course, students shall be able to

- Understand the concept of harmony in human being, family and society.
- Understand the concept of human values.
- Have an understanding about our social responsibility.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit-1: Harmony in Human Being and in Myself **[15 Hrs.]**

Concept of Human Being as 'I' & Body; Characteristics & activities of 'I' & Harmony in 'I'; Understanding the Harmony of 'I' with the Body: Sanyam and Swasthya, correct appraisal of body needs and meaning of prosperity in detail; Role of Yoga in developing Harmony within the self; Understanding the body as an instrument of 'I'

Unit -2: Harmony in Family and Society **[15 Hrs.]**

Values in Family, Harmony in family; the basic unit of human interaction; Values in Human; Human relationship, Yogic concept of Human relationship – Maitri, Karuna, Mudita and Upeksha.

Unit -3: Harmony in Human – Human relationship **[15 Hrs.]**

Harmony in the Society – Concept of Vasudaiva Kutumbakam; Concept of Universal Harmonious order in society; undivided society (Akhand Samaj), Universal order (Sarvabhaum Vyawastha); Concept of Samman (Respect), difference between respect and differentiation, the other silent values in relationships

Unit -4: Concept of Human values: Moral Education **[15 Hrs.]**

Definition and types of moral education, meaning and scope of morality; Role of Yoga in development of ethics and ethical decision making; Values, Yoga, Reality & their inter-relationship; Relevance of ethics and values in Yoga, Qualities of teacher and students; Ethics in Professional Practices, methods of teaching human values, Student – teacher relationship

Unit -5: Social Responsibility and Yoga **[15 Hrs.]**

Moral Principles of SR; overview of SR; SR & health maintenance of employees through Yoga; Challenges of Environment; Principles of Environmental Ethics; Concepts of Civil Society and its types; Relationship between Democracy, Civil Society and Social Capital; Efficient use of Yoga in them

TEXT BOOKS

1. Singh M S : Value Education, Adhyayan Publishers & Distributors, New Delhi, 2007
2. Chand Jagdish : Value Education, Anshah Publishing House, Delhi, 2007
3. Gawande E N : Value Oriented Education: Vision for better living, Sarup & Sons Publishers, New Delhi, 2008
4. Panda Sanjay Kumar: Corporate Social Responsibility in India: Past, Present & Future, The ICFAI University press, Hyderabad, 2008

BOOKS FOR REFERENCE

1. Kesari Vedanta : Values: The Key to a meaningful life; Sri Ramakrishna Math, Chennai, 2005
2. Prasad Rajendra : Varnadharma, Niskhana Karma & Practical Morality: A Critical essay on applied ethics, DK Print world Pvt. Ltd, Delhi, 1999
3. Radhakrishnan S: Indian Philosophy, Vol. 2, Oxford University, Delhi, 2008
4. Swami Ranganathananda: The Message of Upanishad, Bhartiya Vidya Bhawan, Delhi, 2001

Subject Name: Applied Yoga

Subject Code: BSY-CT602

Objectives

Following the completion of the course, students shall be able to

- Understand the applied value of yoga in different domain.
- Have an idea about the role of yoga for school, sports, technostress and geriatric care.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit -1: Yogic Health for school **[15 Hrs.]**

General Introduction to School Health, components of school health; Parent-Teacher-Student relationship in a School Health; Role of social interaction in a School Health; Brief introduction to developmental process of children; Psycho-Physiological changes and development of cognitive functions in School going children; Role of Yoga in establishment of values in School going children; Personality Development: New Dimensions of Personality through Yoga

Unit -2: Yoga in Physical Education, Sports Sciences **[15 Hrs.]**

General introduction to Physical Education and Sports; Difference between Physical Education & Sports; Relevance of Integration of Yoga in Physical Education & Sports; Yoga for Physical, Mental Stamina and other faculties / skills in a sports Personnel; Nature of different sports injuries, its prevention and management through Yoga; Yoga modules for different sports – track events, field events, single participation, group participation; Application of Yogic lifestyle in improving efficacy in sports personnels; Relationship between Yoga and sports activities; Research reviews on Yoga and Sports

Unit -3: Yoga for technostress **[15 Hrs.]**

Introduction to Technostress, its cause, symptoms and complications; Health Hazards in computer professionals; Role of Yoga in the promotion of skills; Application of Yoga for management of Technostress; Research reviews on effect of Yoga on Technostress

Unit -4: Yoga for geriatric care **[15 Hrs.]**

General introduction to Geriatric Care; Ageing: Causes and features, Premature ageing; Common Geriatric problems; Application of Yoga in common Geriatric problems and their prevention & management; Research reviews on Yoga & Geraitric care

Unit -5: Yoga for happiness **[15 Hrs.]**

TEXT BOOKS

1. Jayadev H J : Growing with Yoga, The Yoga Institute, Santacruz, Mumbai, 2004
2. Liz Lark : Yoga for Kids, Carlton Books Ltd., London, 2003
3. Swati & Rajiv Chanchani : Yoga for Children: A complete illustrated guide to Yoga, UBS Publishes Distributors Pvt. Ltd, 2008
4. Iyenger B K S : The Path to Holistic Health, A Dorling Kindersley Book, Great Britain, 2001
5. Dr. Goel Aruna : Yoga Education: Philosophy and Practice, Deep & Deep Publications Pvt. Ltd, 2007

BOOKS FOR REFERENCE

1. Basavaraddi I V : Yoga: Teachers manual for school children, MDNIY New Delhi , 2010
2. Basavaraddi I V : Yoga in School Health, MDNIY New Delhi, 2009 Iyenger B K S : Astadala Yogamala 1 to 7 volumes, Allied Publishers Pvt. Ltd, 2009
3. Basavaraddi I V : Yoga for Technostress, MDNIY, New Delhi, 2010
4. Dr. H Kumar Kaul : Yoga and Healthy Ageing, BR Publishing Corporation, Delhi, 2006
5. Basavaraddi I V : Yogic Management of Geriatric Disorders, MDNIY, New Delhi, 2009

Subject Name: Research Methodology & Statistics

Subjectb code: BSYCT603

Objectives

Following the completion of the course, students shall be able to

- Understand the concept of research and its methodology for carrying minor and major research.
- Feed and analyze the data.
- Organize the data and represent the data.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam	Internal Exam
80	20		

Unit- 1: Introduction to research methodology [15 Hrs.]

Definition of research; Importance of Studying Research Methods: Evaluating Research Reports; Conducting Research, Thinking Critically About Research; Types of research Applied Research & Basic Research; Goals of Research: description, explanation, prediction, and control of behavior; Ethics of research: Informed consent, Anonymity, Confidentiality, Plagiarism

Unit- 2: Introduction to Research Process [15 Hrs.]

Research questions; Literature review; Different Sources of Information: Primary, Secondary, Tertiary source; Electronic Databases: Google Scholar, Pubmed & PsycINFO; Hypothesis Operational definition; Sampling and Generalization - Population and Sample; Probability Sampling: Simple Random Sampling, Systematic Sampling, Stratified Sampling, Cluster Sampling; Sampling Bias and Nonprobability Sampling: snowball sampling, convenience.Types of Biological data (Scales of measurement) – nominal, ordinal, interval, ratio; Types of variables – Independent, dependent, confounding variable; Reliability & Validity

Unit-3: Introduction to Research Design [15 Hrs.]

Cross-sectional studies and its advantages and disadvantages; Cohort studies and its advantages and disadvantages; Randomized controlled trials and its advantages and disadvantages; Factors need to be considered when designing a study: Availability of data, Sampling methods, Data collection, Cost of the design, time implications and loss to follow-up, Controls, Ethical issues, Issues of bias and confounding

Unit-4: Statistics [15 Hrs.]

Normal distribution – Skewness and kurtosis; Frequency distribution; Measures of central tendency – mean, median, mode; Measures of dispersion – range, variance and standard deviation; Graphical presentation of data – Bar graphs, Pie chart, line diagram, scatter plot; Paired samples t test; Percentage change

Unit-5: Reporting Research **[15 Hrs.]**

Parts and Order of Dissertation, Title Page, Abstract, Introduction, Method Section, Results Section, Discussion Section, Reference Section

TEXT BOOKS:

1. R. L. Bijlani. (2008). Medical Research: All You Wanted to Know But Did Not Know Who to Ask. Jaypee Brothers Medical Publishers Pvt. Ltd. New delhi

REFERENCE BOOKS:

1. C R Kothari. (2009). Research Methodology: Methods and Techniques. New Age International (P) Ltd. New delhi.

2. Zar, J. H., &Zar. (1999). Biostatistical Analysis. Pearson Education. New Delhi

Subject Name: Yogic Diet, Nutrition and Human Body

Subject Code: BSY-DSET604

Course Objective:

- Understand the concept of Yogic Diet, Nutrition and Human Body
- Yogic Diet and Nutrition for healthy living.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : 100		**Practical : Nil**	
Final Exam	Internal Exam	Final Exam (SEE)	Internal Exam
80	20		

Unit – 1: YOGIC CONCEPT OF DIET & NUTRITION [15 Hrs.]

General Introduction of Ahara (Diet), concept of Mitahara; Definition and Classification in Yogic diet according to traditional Yoga texts; Concepts of Diet according to Gheranda Samhita,Hatha Pradeepika and Bhagavadgeeta; Pathya and Apathya in diet according to Yogic texts; Guna and Ahara; Importance of Yogic Diet in Yog Sadhana; Yogic Diet and its role in healthy living

Unit –2: DIETETICS IN YOGA [15 Hrs.]

Classification according to triguna- vegetarian vs non-vegetarian, panchabhuta; relationships,rasa virya, Guna, Vipaka of shali,Yava, Godhuma,Mugda,Masha,Chanaka, patola; Surana, Mana,Kakkola, Shukashuka,Karkat, rambha, Balaramba, Mulak, Vartaki, Ridhi; Kalashaka, Vatraka,Himoocika; Navanita,Ghrta,Kshira, Sita,Aikshwam, Gudum,Pakvaramba; Varikellalm, Draksham, Lawali, Dhatri, Ela, Jati ,Lavanga, Panasa; Madhu, Shunthi.

Unit-3: BIOMOLECULES [15 Hrs.]

Significance of Carbohydrate, Proteins, Lipids, Vitamins, Minerals and water in the body

Unit-4: NUTRITION-BASICS [15 Hrs.]

Nutrients, proximate principles of diet, balanced diet concept; Carbohydrates, proteins, fats – sources, nutritive values, importance; Minerals-calcium, iron , phosphorus etc. Vitamins – sources, roles, requirements

Unit-5: HUMAN BODY [15 Hrs.]

According to Ayurveda.

TEXT BOOKS:

1. Ramesh Bijlani : Eating Wisely and Well, Rupa Publication India Pvt. Ltd, 2012
2. Stanley Davidson & others : Human Nutrition & Dietetics , The English Language Book Society & Churchill Livings, Revised Edition

3. Dennis Thompson : The Ayurvedic Diet, New age books, New Delhi, 2001

4. Randolph Stone : A Purifing Diet, Lilawati Bhargav Charitable Trust, Delhi, Revised Edition

REFERENCE BOOKS

1. Swami Digamber Ji & Others: Gheranda Samhita, Lonavala Institute, 1978

2. Gharote M L & others : Hatha Pradipika, The Lonavala Yoga Institute, Lonavala, 2006

3. Swami Mangalteertham : Synthetic approach to Diet & Nutrition, Deogarh Nutan Publication, Deogarh, 2005

4. Swami Gambhirananda : Bhagvatgita, Shri Ramkrishna Math, Madras

Swami Maheshananda & Others : Vasishta Samhita

Subject Name: Yoga Practicum

Subject Code: BYS-CP605

Objectives

Following the completion of this course, students shall be able to

- Understand the principle and practice of each practice.
- Demonstrate each practice skillfully.
- Explain the procedure, precaution, benefits and limitations of each practice.

SCHEME OF EXAMINATION			
Total Marks: 100			
Theory : NA		**Practical : 100**	
Final Exam	Internal Exam	Final Exam	Internal Exam
		80	20

Unit-1: Shatkarmas **[15 Hrs.]**

Vastra Dhauti, Sutra Neti, Kapalbhati, Nauli Chalana, Jyoti Trataka, Agnisara

Unit-2: Yogasanas –I **[15 Hrs.]**

Tadasana, Vrikshasana, Urdhva-Hastottanasana, Kati Chakrasana ; Ardha Chakrasana, Paada Hastasana; Trikonasana, Parshva Konasana; Veerabhadrasan; Bhunamanasana, Hanumanasana; Dandasana, Swastikasana, Sidhasana,Bhadrasana,Padmasana,Vajrasana; Kagasana, Utkatasana, Gomukhasana,Ushtrasana, Shashankasana, Kurmasana, Navasana, Baddha Padmasana, Uttitha Padmasana; Janusirasana, Paschimottanasana, Supta Vajrasana; Mandukasana, Utthana Mandukasana; Vakrasana, Ardha Matsyendrasana , Marichayasana, Simhasana

Unit-3: Yogasanas -I **[15 Hrs.]**

Pavanamuktasana, Utthana-padasana, Ardha Halasana, Setubandhasana, Halasana, Karna Peedasana, Sarvangasana, Matsyasana , Chakrasana, Shavasana, Makarasana, Bhujangasana , Shalabhasana, Dhanurasana, Kapotasana , Raja Kapotasana, Bakasana, Kukkutasana, Garbhasana, Matsyendrasana, Marjariasana, Padangusthasana, Hastapadangusthasana, Garudasana, Vatayanasana, Natarajasana, Mayurasana, Sirshasana; Ekapada and Dwipada Kandarasana

Unit-4: Bandha and Mudras **[15 Hours]**

Jivha Bandha, Jalandhara Bandha, Uddiyana Bandha, Mula Bandha, Maha Bandha, Tri Bandha Yoga Mudra, Maha Mudra, Shanmukhi Mudra, Shambhavi Mudra, Kaki Mudra, Tadagi Mudra, Vipareet Karni Mudra, Simha Mudra

Unit-5: Pranayama & meditation **[15 Hours]**

Nadi Shodhana pranayama, Bhramari Pranayama, Suryabhedana and Chandrabhedana Pranayama , Ujjayi Pranayama, Sheetali Pranayama, Shitkari Pranayama, Bhastrika Pranayama, Pranava and Soham Japa, Antar mouna, Dharana, Pracice of Dhyana, Breath Meditation, Om Meditation Vipassana Meditation , Preksha Meditation

TEXT BOOKS

1. Swami Dhirendra Bhramhachari :Yogic Sukshma Vyayama, Dhirendra Yoga Publications, New Delhi, 1980
2. Swami Dhirendra Bhramhachari:Yogasana Vijnana,Dhirendra Yoga Publications, New Delhi, 1966
3. Swami Kuvalyananda:Asana, Kaivalyadhama, Lonavla, 1983
4. Swami Satyananda Saraswati:Asana, Pranayama, Bandha, Mudra,Bihar School of Yoga, Munger, 2005-06

BOOKS FOR REFERENCES

1. Basavaraddi, I.V. & others:Yogasana: A Comprehensive description about Yogasana, MDNIY, New Delhi, 2011.
2. Basavaraddi, I.V. & others:Yogic Sukshma Evam Sthula Vyayama, mDNIY, New Delhi, 2011.
3. Iyengar, B.K.S.:Light on Yoga,Harper Collins Publishers, 2009
4. Sen Gupta Ranjana:B.K.S. Iyengar Yoga, A Dorling Kindersley Limited, 2001
5. Saraswati, Swami Satyananda:Surya Namaskar, Yoga Publication Trust, Munger, 2004
6. Tiwari, O.P.:Asana Why and How? Kaivalyadhama, Lonavla, 2011

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UNIVERSITY YOG CENTRE

MOHANLAL SUKHADIA UNIVERSITY

SYLLABUS OF MA YOGA

1904

Duration of the Course

The Master of Arts (M.A.) in Yoga course will be of four semester duration spread in two years. Each semester will be of six months (minimum 90 working days in semester) duration.

Objectives of the Course

- The course will provide deeper insight into the curriculum of Yoga along with the therapeutic applications of Yoga and alternative therapies.
- At the Master level it is also intended that students should get familiar with the original texts of Yoga.
- Promoting Positive Health in the Student through Yoga and enabling and imparting skill in them to practice and apply Yoga practices for Health to general public and teach Yoga for Total personality development and spiritual evolution.
- Invoking and inculcating inquisitive, scientific temper in student regarding the Traditional Indian Sciences specially Yoga and Spirituality.
- A research attitude and orientation will also be inculcated into the student so that they further become able to undertake advance and theoretical and applied researches in the field of Yoga and Alternative Therapies.

Syllabus

The syllabus is designed to fulfill aforesaid objectives as Core and Elective subjects (Theory and Practical). Semester wise detail scheme and name of the papers are given as ahead.

Scheme of Evaluation

As this is a course with the objectives mentioned above the assessment will be based on attendance in theory and practical classes, assignments in the form of sessional works, personality changes of students as they go through the course as assessed and evaluated by teacher.

- The internal tests will carry 20% of total marks for the course. The marks of the internal test shall be taken into account for the computation of Grades.
- There external scheme shall be a written Semester Examination which shall be of 3 hours duration carrying 80% of total Marks assigned for the course, covering the entire syllabus prescribed for the course. The semester Examination shall be conducted by the University in consultation with the Chairman / Head concerned.
- The Semester practical examinations shall normally be held before the theory examination. The internal faculty shall associate themselves with the examination process.

ADMISSION THROUGH MERIT

Minimum Eligibility

- Graduate in any discipline with 48% marks from a recognized University.
- The extra weightage of 10% marks will be given to that applicant who is having one year regular diploma in Yoga Education / Yoga, from a recognized University or Institution, along with Graduation.
- The Applicant who is opted yoga as one of the optional subject at graduate level will also be given weightage of 10% marks, from recognized University or Institution.
- The extra weightage of 5% marks will be given to those applicants who is having regular certificate in Yog Education / Training / Yoga, along with Graduation from recognized University or Institution.

Minimum passing marks and criteria for promotion to next higher semester

1. The minimum marks for passing a semester shall be 36% in each paper.
2. A candidate would be promoted to the next semester if he/she has secured at least 36% marks in minimum four papers prescribed in one semester. Such candidate shall be required to appear in papers in which he/she secured less than 36% marks along with the next examination of the semester.
3. In case of result of a particular semester being not declared by the university, before the starting of the next higher semester, the students who have appeared in all the papers in the semester will be allowed to attend the classes of the next higher semester at their own risk. Candidates who are not later found eligible to be promoted to the next higher semester will have to leave that semester.

Procedure of Admission

In order to select the candidate from amongst the applications, the institution may either prepare a merit list giving suitable weight-age to marks obtained in previous qualifications and other factors or may conduct a written test/interview or may adopt both of these two methods giving suitable weight-age to them.

The person seeking admission to course will apply on the prescribed admission form of the University by the last announced for the purpose.

Reservation

Candidates belonging to S.T./S.C. and OBC categories will get relaxations as per the general admission rules of the University.

Medical Fitness Certificate

The selected candidates must submit a medical fitness certificate along with academic certificates/ testimonials and migration certificate also, if needed.

Seats

There are only 40 seats for the Course. The Examination patterns of course will semester wise. The Fee structure for the programme will be decided by the University/Colleges concerned. The examination Fee will be charged as per the rules of the University.

Attendance

Regular attendance of the student is an important factor in the semester system. No candidate can be allowed to appear in the Semester Examination as a regular student unless he/she has attended the course regularly as per University rules.

1. Minimum 75% attendance is compulsory for all students for every course for appearing in examination.
2. For students participating in Sports/Cultural event/NCC camps during a particular semester, the maximum number of days of absence shall not exceed 8 days. Any waiver in this context shall be on the recommendation of the concerned Head / Incharge and the student will be required to apply in advance for the leave to the Head / Course Director / Coordinator.

SCHEME OF EXAMINATION

Papers: Paper shall have maximum marks as 100, to be evaluated both internally and externally. Distribution of marks paper-wise shall be as follows:

External Examination Scheme: For external examination shall have three sections. For a question paper carrying maximum 80 marks the structure will be as follows:

The first section, **SECTION-A**, carrying maximum 20 marks will have 10 short answer type (not exceeding 50 words each) questions. Each question will carry 2 marks. The second section, **SECTION-B**, carrying maximum 40 mark will have 10 medium answer type questions (which requires answers not exceeding 250 words), two from each unit. Out of which one from each unit must be attempted. Each question will carry 8 marks. The third section, **SECTION-C**, carrying maximum 20 marks will have 5 questions (which requires answers not exceeding 300 words), one from each unit out of which 2 questions are to be attempted. Each question will carry 10 marks. The duration of main examination shall be three hours.

Internal Examination Scheme: 50% of the total internal assessment marks (*i.e.* 10 out of 20 marks) for each theory paper will be awarded on the basis of the performance in the descriptive type written examination of one hour duration conducted by the University Yog Centre. There will be 3 questions each carrying 5 marks covering the entire syllabus out of which two questions must be answered. If a candidate fails to appear in the written examination of the internal assessment due to valid reasons, department may conduct defaulters examination after collecting fee of Rs. 500/. 50% of the internal assessment (*i.e.* 10 out of 20) for each theory paper shall be awarded on the basis of the performance in the assignments / seminars /presentations / oral examination / group discussion etc.

MA YOGA SYLLABUS

SEMESTER-I

Sub Code	Title of the paper	Credit Maximum Marks				
	Semester-I	**Total Marks**	**External Exam**	**Practical**	**Internal Exam**	**Credits**
YOG/C101	Fundamentals of yoga	100	80	-	20	6
YOG/C102	Human Anatomy and Physiology-I	100	80	-	20	6
YOG/C103	Indian Philosophy and Culture	100	80	-	20	6
YOG/C104	Hath Yoga	100	80	-	20	6
YOG/C105	Practical	100		100		6

SEMESTER-II

Sub Code	Title of the paper	Credit Maximum Marks				
	Semester-II	**Total Marks**	**External Exam**	**Practical**	**Internal Exam**	**Credits**
YOG/C201	Patanjali Yoga Sutra	100	80	-	20	6
YOG/C202	Human Anatomy and Physiology-II	100	80	-	20	6
YOG/C203	Applications of Yoga	100	80	-	20	6
YOG/C204	Principles of Naturopathy	100	80	-	20	6
YOG/C205	Practical	100		100		6

SEMESTER-III

Sub Code	Title of the paper	Credit Maximum Marks				
	Semester-III	**Total Marks**	**External Exam**	**Practical**	**Internal Exam**	**Credits**
YOG/C301	Teaching Methodology of Yoga Practice	100	80	-	20	6
YOG/C302	Swastha Vratta	100	80	-	20	6
YOG/C303	Fundamental Texts of Yoga - I	100	80	-	20	6
YOG/C304	Complementary and Alternative Therapies	100	80	-	20	6
YOG/C305	Practical	100		100		6

SEMESTER-IV

Sub Code	Title of the paper	Credit Maximum Marks				
	Semester-IV	**Total Marks**	**External Exam**	**Practical**	**Internal Exam**	**Credits**
YOG/C401	Research Methodology in Yogic Science	100	80	-	20	6
YOG/C402	Yoga and Allied Sciences	100	80	-	20	6
YOG/C403	Fundamental Texts of Yoga - II	100	80	-	20	6
YOG/C404	Yoga Therapy	100	80	-	20	6
YOG/C405	Practical	100		100		6

Note: 1. One credit would mean equivalent to 15 periods of 60 minutes each for theory.

SEMESTER-I

YOG/C101	Fundamentals of yoga

PAPER-I

FUNDAMENTALS OF YOGA

UNIT-I: BASIC CONCEPTS OF YOGA

1. Meaning of Yoga & Various Definitions
2. Traditional & Historical Development of Yoga
3. Importance of Yoga in Modern Life

UNIT-II: INTRODUCTION TO VARIOUS STREAMS OF YOGA:

1. Raj Yoga, Hath Yoga, Mantra Yog, Laya Yoga
2. Ashtanga Yoga

UNIT-III: HISTORY AND DEVELOPMENT OF YOGA

1. Yoga in Vedas & Upanishads
2. Yoga in Gita
3. Yoga in Buddhism, Jainism and Indian Philosophy

UNIT-IV: DISCIPLINE AND OBSTACLES IN YOGA SADHANA

1. Elements of Success and Failure in Yoga Sadhana according to Hathyoga
2. Success and Failure in Yoga Sadhana according to Yogasutra
3. Study of favourable conditions & Diet for the Practice of Yoga

UNIT-V: HUMAN CONSCIOUSNESS

1. Meaning, Nature & Definitions of Consciousness
2. Need of the Study of Human Consciousness
3. Human Consciousness in Ved, Upnishad, and Shatdarshan

REFERENCE BOOKS

1. Rajayoga: Swami Vivekanand, Ramakrishan Ashrama Publications.
2. Yoga Sutras of Patanjali: HariharanandaAranya, University of Calcutta Press, Calcutta.
3. Radhakrishnan, S.: Indian Philosophy (Vol. I & II) (George Allen and Unwin, London, 1971.
4. Dr. Ishwar Bhardwaj: Manav Chetna (Hindi), Satyam Publication, New Delhi, 2011.
5. Pitamber Jha: Yog Parichaya.
6. औपनिषदिक अध्यात्मविज्ञान : डॉ. ईश्वर भारद्वाज
7. पातंजल योगविमर्श : डॉ. विजयपाल शास्त्री

YOG/C102	Human Anatomy and Physiology-I

Paper-II

HUMAN ANATOMY & PHYSIOLOGY-I

Unit-I

The cell & tissue of the human body, types, structure & functions of the cell; types, structure & function of tissue (epithelial, connective, muscle & nervous),

Unit-II

Skeletal system: Concept, types & function; Bone; Concept, types, Number, Gross anatomy &Physiology & function; types of Joints; Concept, types & their feature, Vertebral Column: Gross anatomy & Physiology & function; Yogic effect on skeletal system.

Unit-III

Muscular System: Concept, Gross Anatomy & Physiology, Types & function; Muscles: Concept, Number, Types & Their Anatomy & Physiology and function, yogic effect on Muscular system.

Unit-IV

Respiratory System: Nasal Cavity, Larynx, trachea, lungs; inhalation & exhalation. Gas exchange, Mechanics of reparation: effect of Yoga exercise on excretory system.

Unit-V

Cardio Vascular system: Concept, Gross Anatomy, Physiology & function, Blood (RBC, WBC & Platelets): Concept, composition & Function: Heart: Gross Anatomy & Physiology. Blood group: blood vessels (Artery, Vein & capillaries) Effect of Yoga Techniques on cardiovascular system.

Recommended Books:

1. Byas Deb Ghosh (2007): Human anatomy for Students, Jaypee Brothers, New Delhi.
2. Gore M.V. (2005): Anatomy and Physiology of Yogic Practices, Kaivalyadhama, Lonavla.
3. James Funderburk: Sciences Studies Yoga, Himalayan International Institute of Yoga, Science and Philosophy of USA - 1977.

YOG/C103	Indian Philosophy and Culture

Paper-III

INDIAN PHILOSOPHY AND CULTURE

Unit-1: Nyaya and Vaisesika

The sixteen Padarthas according to Nyaya, Concept of Nyaya philosophy, means of salvation according to Nyaya and Vaisesika, Means and objects of knowledge according to Nyaya and Vaisesika Category of substance-Nava dravyas, Category of quality-24 gunas, Relation between Nyaya and Vaisesika philosophy.

Unit-2: Samkhya and Yoga

Theory of cause and effect; Prakriti and Purusha; Process of evolution of universe and concept of liberation; Concept of Atman, Brahma, Maya, Universe, God; the self and human life; Three fold afflictions and means to overcome afflictions; Twenty five entities according to Samkhya and means of knowledge; Saakarya Vada; Similarities and dissimilarities between Vyakta and Avyakta, Triguna; Existence of Purusa, plurality of Purusa, proximity of Purusa and Prakrti; Karana, Antah Karana and Bahya Karana according to SankhyaKarika; Liberation and means of attaining it; Organization of the Yoga sutras, stages of Chittas, forms of Chitta, modification of Chittas, Kind of Kleshas, the eight fold of Yoga and God & liberation.

Unit-3: Mimamasa (Purva and Uttara)

Concept of Badarayana in Uttaramimamsa; Anumana, Sabda; Difference between vidya & avidya, subject & object, creation & causation, cause & effect; Pratyaksa, Anumana, Upamana, Arthapati, Anupalabdi and Sabda according to Uttaramimamsa, schools of vedanta; Atheism, Dharma in the context of Purvamimasa, Summary of ten Upanisads, Atman, Brahma, Maya, Universe, God; The self and human life; Major teachings of Mimamsa system; Selfless action, nonattachment, self-control, self-discipline; Daily schedule for psychophysical wellbeing, social awareness, sense of equality, unity with diversity, selectiveness

Unit-4: Naastika philosophy

Carvaka philosophy: Origin and history of Carvaka philosophy, Metaphysics and Epistemology, Buddhism: Four noble truths, Pramanas Jainism: Categories, Triratnas and Syadvada.

Unit-5: Indian Culture

Culture: Origin, Meaning, Definition and Types; General Introduction to Indain Religious Scriptures- Veda, Upanishad, Manusmiriti, Mahabharat, Ramayan, Bhagvat Gita; Salient Features of Indian Culture: Vedic Ashram Vyavastha, Varna Vyavastha, Law of action, Sisteeen Rituals and PanchaMahayajna.

TEXT BOOKS

1. C.D. Sharma: Critical Survey of Indian Philosophy, Motilal Banarsidass Publications 2003.

2. N. V. Banergee: The Spirit of Indian Philosophy, Arnold-Heinemann Publishers, 1974.

REFERENCE BOOKS

• P.T. Raju : Structural Depths of Indian Thought, SUNY Press, 1985

• S. N. Dasgupta: A History of Indian Philosophy Vol.1, Motilal Banarsidass Publications, 1992

• J.N. Mohanty: Classical Indian Philosophy, Published by Rowman & Littlefield, 2000

• T.M.P. Mahadevan: Invitation to Indian Philosophy, Arnold-Heinemann Publishers, 1974

YOG/C104	Hath Yoga

Paper-IV

HATHA YOGA

Unit 1: Introduction to Hatha Yoga:

Hath yoga: its meaning, definition, aims & objectives. Hatha Yoga Texts: Hatha Pradeepika, Gheranda Samhita, prerequisites of Hatha Yoga (dashayama and dasha niyama), Sadhaka and Badhaka tattvas in Hatha Yoga; Saptasadhan, Concept of Mattha, Mitaahara, Pathya and Apathya, Rules & Regulations to be followed by Hatha Yoga Sadhakas;

Unit 2: Shodhana-Kriyas and Asanas

Shodhana-kriyas, Shodhana-kriyas in Hatha Yoga Pradépika& in Gheranda Samhita and their techniques, benefits and precautions; Role of Shodhana-kriyas in Yoga Sadhana and their importance in modern life's health and disease.

Yogasana: its definition, Salient features and importance in Hatha Yoga Sadhana; Asanas in Hatha Yoga Pradépika and Gheranda Samhita: their techniques, benefits, precautions, contraindications and importance.

Unit 3: Pranayama, Pratyahara, Dharna and Dhyan in Hatha Texts:

Concept of Prana & Ayama, Pranyama; Pranayama its phases and stages; Prerequisites of Pranayama in Hatha Yoga Sadhana; Pranayama in Hatha Pradeepika & Gheranda Samhita; Benefits, precautions and contraindications of Pranayama. Concept, definition, benefits and Techniques of Pratyahara, Dharana and Dhyana in Gheranda Samhita

Unit 4: Bandha, Mudra:

Concept, definition of Bandha and Mudras, in Hatha Pradeepikaand Gheranda Samhita; Benefits, precautions and contraindications.

Unit 5: Other practices:

Concept of kundalini and kundalini jagran.
Concept and benefits of Nada and Nadanusandhana in Hatha Pradeepika, Four Avasthas (stages) of Nadanusandhana;
Relationship between Hatha Yoga and Raja Yoga; Goal of Hatha Yoga. Relevance of Hatha Yoga in contemporary times.

BOOKS FOR REFERENCE:

1. Swami Vivekananda: Rajayoga, Advaita Ashram, Culcutta, 2000
2. Burley, Mikel: Hatha Yoga, Its' Context Theory and Practice (M.L.B.D. Delhi, 2000)
3. Burnier, Radha: HathayogaPradipika of Svatmarama, The Adyar Library publications, Chennai. 2000
4. Woodroffe, Sir John: The Serpent power (Ganesh & Company, Madras, 2000) 11. 12.

YOG/C105	PRACTICAL – I

PAPER-V
PRACTICAL - I

ASANA & PRANAYAMA

1. Suryanamaskar with Mantras: 10 Marks

2. Asans 20 Marks

1. Tadasan- Standing
2. Ardhakatichakrasan- Standing
3. Garudasan- Standing
4. Vrikshasan- Standing
5. Hasttotanasan- Standing
6. Padhastasan- Standing
7. Trikon Asan- Standing
8. Padmasan- Sitting
9. Vajrasan- Sitting
10. Swastikasan- Sitting
11. Siddhasan- Sitting
12. Gomukhasan- Sitting
13. Bhadrasan- Sitting
14. Ardh Matsyendrasan- Sitting
15. Dhaanursan- Prone
16. Shalabhasan- Prone
17. Bhujangasan- Prone
18. Vakrasan- Prone
19. Uttanpadasan- Supine
20. Halasan- Supine
21. Vipritkarniasan- Supine
22. Sarvangasan- Supine
23. Matsyasan- Supine
24. Suptavajrasasan- Supine
25. Naukasan- Supine
26. Shavasana- Supine

3. Pranayam 10 Marks

1. Anuloma-Viloma Pranayam
2. Suryabhedi Prayanam
3. Chandrabhedi Prayanam
4. Ujjai Pranayama

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

PRACTICAL - II

MUNDRA BANCH, KRIYA, MEDITATION AND RELAXATION

Shudhi Kriya- **10 Marks**

1. Vatkarma Kapalbhanti
2. Jalneti
3. Rubber Neti
4. Vaman Dhouti (Kunjal)

Mudra & Bandh- **20 Marks**

1. Gyanmudra
2. Chinmudra
3. Vipreetkarni Mudra
4. Maha Mudra & Maha Bedha
5. Jalandherbandh
6. Uddayanbandh
7. Moolbandh

Meditation- Pranav Meditation **5 Marks**

Relaxation- **5 Marks**

1. Yog Nidra

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

Semester II

YOG/C201	Pajanjali Yoga Sutra

PAPER-I

PATANJAL YOGA SUTRA

UNIT 1:

Yoga, its meaning & purpose & a brief introduction to Patanjali's Yoga Sutras;
Concept of Citta, Citta-bhumis, Citta-vrittis, Citta-vrittinirodhopaya (Abhyasa and Vairagya) Citta-Vikshepas (Antarayas), Citta-prasadanam and its' associates.

UNIT 2:

Types and nature of Samadhi in Yoga Sütra, Ritambharaprajna and Adhyatmaprasada; Samprajnata, Asamprajnata, Sabija & Nirbija Samadhi, Difference between Samapattis and Samadhi; Concept of Ishvara and qualities of Ishvara.

UNIT 3:

Concept of Kriya Yoga of Patanjali, theory of Kleshas; Concept of Dukhavada(chaturvyuhvada); Drishyanirupanam, Drasthanirupanama, Prakriti Purusha SamYoga, means of elimination of Kleshas- Vivekakhyati;

UNIT 4:

Brief Introduction to Ashtanga Yoga; Concept of Yama, Niyama, Asana, Pranayama, Pratyahara and their usefulness in Chittavrittinirodhopaya.
Introduction of Dharana, Dhyana and Samadhi.

UNIT 5:

Samyamaand three Parinama of Samyama; Siddhis, The concept and description of Ashtha Siddhis and vibhuties.

Four types of Karmas; Concept of Vasana; Vivek Khyati Nirupanam, Kaivalya.- Nirvachana ; Nature of Kaivalya, Kaivalya in relation to Triguna and Dharmamegha Samadhi.

REFERENCE BOOKS:

1. Iyengar B.K.S.: Light on Patanjal Yoga (New York, Schocken Books, 1994)
2. Rukmini T.S.: Yoga Vartika of Vijnanbhikshu (Tr.) Vol I, II, III & IV, MunshiramManoharlal Pvt. Ltd. New Delhi
3. Swami Omanandatirtha: Patanjala Yoga Pradeepa, Geeta Press, Gorakhapur, 1994
4. Swami Anant Bharati: Patanjali Yoga Shasta- a study (Hindi), Swami Keshwananda Yoga Sangthan, Delhi
5. K. Taimini : The Science of Yoga (The Theosophical Publishing House, Adyar Chennai 2005.

YOG/C202	Human Anatomy and Physiology-II

Paper-II

HUMAN ANATOMY & PHYSIOLOGY-II

Unit-I

Digestive System: Brief Anatomy and function of mouth, oesophagus, stomach, small intestine, large intestine, Liver and Pancreas, Mechanism of Secretion of Salvia, Gastric Juice, Pancreatic Juice, Bile, Intestinal Secretion-Role of these secretion in digestion of food (Protein, Carbohydrate and Fat): Effect yoga on digestive system.

Unit-II

Excretory System Histology & Function of Kidney' Glomerules, Nephron & Renal Tubules; composition & formation process of urine, effect of yoga exercise on excretory system.

Unit-III

Nervous System: Gross Anatomy of Nervous system: Structure, types and properties of neurons, Types of Nervous system CNS-Brain-Spinal Card: PNS (cranial and spinal nerves) Autonomic Nervous system: sympathetic and parasympathetic nervous system: effect of Yoga on Nervous system.

Unit-IV

Endocrine system: Endocrine and exocrine gland, structure and function of pituitary gland, Pineal gland, thyroid and parathyroid gland, thymus gland, Adrenal gland, ovary and testes: yogic effect on endocrine system.

Unit-V

Reproductive System: Anatomy & Physiology of male & female reproductive system.

Recommended Books:

1. Byas Deb Ghosh (2007): *Human anatomy for Students*, Jaypee Brothers, New Delhi.
2. Gore, M.V. (2005): *Anatomy and Physiology of Yogic Practices*, Kaivalyadhama, Lonavla.
3. James funderburk: *Science Studies Yoga*, Himalayan International Institute of Yoga, Science and Philosophy of USA – 1977.

YOG/C203	Applications of Yoga

Paper-III

APPLICATIONS OF YOGA

UNIT 1:

Concept of Yoga in Education: Salient features of Yoga Education, Factors of Yoga Education; Teacher, Student and Teaching, Guru-shishya parampara and its importance in Yoga Education Value Education, its meaning and definitions, types of values, value oriented education and modes of living, role of value oriented education; contribution of Yoga towards development of values;

UNIT 2:

Yoga for Stress Management: Introduction to Stress, Concept of Stress;Yoga and Stress Management; Concepts and Techniques of Stress Management in Ashtanga Yoga of Patanjali and Bhagavad Gita, specific practices for stress management, breath awareness, shavasana, Yoganidra, pranayama and meditation, impact of yogic lifestyle on stress management.

UNIT 3:

Yoga for Personality Development - Yogic attitudes for personality development, Ashtanga Yoga and personality development.

UNIT 4:

Memory and Concentration; Short-term, long-term memory, stages of memory foundation and maintenance; Yoga modules to improve memory; Barriers to concentration; Yoga practices for IQ development; Practices for Anger Management.

UNIT 5: Concept of Yoga and Physical education. Application of Yoga in Physical Education.

YOG/C204	Principles of Naturopathy

Paper-IV

PRINCIPLES OF NATUROPATHY

Unit1

Naturopathy: meaning, definition, history & development, objectives and importance.

Fundamental principles of Naturopathy, Laws of Nature: panchmahabhutas.

Unit 2

Hydro Therapy: history; various techniques of water therapy: Ushapan, Enema, Different types of Bath (Stem Bath, Foot Bath, Full Immersion Bath, Hip Bath, Sitz Bath, Spinal Bath, Sponge Bath); different Types of Wrapings (Full body, neck, back, chest, spinal, lower abdomen, leg, hand, etc.) method, benefits and precautions.

Unit 3

Mud Therapy: types & properties of Soil. Effects of mud therapy on body: (mud bath, various mud packs, etc) methods, benefits and precautions.

Sun Bath: method, benefits of different colours on human body.

Vayu Chikitsa : Exercise, Pranayama, morning walk etc.

Unit 4

Fasting: meaning, definitions, objectives and principles. Types of Fasting, method, benefits and precautions. Natural Diet, balance diet and Nutritions.

Massage Therapy: meaning, definition, principles of massage. Importance of massage therapy. Techniques of massage: methods, benefits and precautions.

Unit 5

Naturopathy treatment of various diseases: lower back pain, insomnia, obesity, Epilepsy, blood pressure, thyroid, diabetes, depression, menstrual problems, migraine, cough and cold, fever, asthma, arthritis, ulceritis, pneumonia etc.

REFERENCE BOOKS

1. Henry Lindlahr: Philosophy of Nature Cure.
2. S.J. Singh: History and Philosophy of Nature Cure.
3. M.K. Gandhi: My Nature Cure.
4. P.D. Mishra & Mishra V.: PrakartikChikitsyaSidhantevamVayavahar, Uttar Pradesh, Hindi Sansthan, Lucknow.
5. Jindal R.: PrakartikAyurvijnana, Arogya Seva Sadan, Prakashan, Uttar Pradesh.

YOG/C205	Practical

PAPER-V

PRACTICAL - III

Asanas- **15 Marks**

1. Utkatasan- Standing
2. Konasan- Standing
3. Natrajasan- Standing
4. Konasan- Standing
5. Dolasana- Standing
6. Hastpadangushthasan- Standing
7. Paschimottanasan- Sitting
8. Vrishabhasan- Sitting
9. Kukkutasan- Sitting
10. Koormasan- Sitting
11. Vakasan- Sitting
12. Akarndhanurasan- Sitting
13. Baddh-Padmasan- Sitting
14. Shashankasan- Sitting
15. Ushtrasan- Sitting
16. Padangushthasan- Sitting
17. Chakrasan- Supine
18. Padma Sarvangasana- Supine
19. Parvatasan- Prone
20. Utthit- Padmasan- Prone

Pranayam- **05 Marks**

1. Sheetali Pranayam
2. Sadant Sheetkari Pranayama
3. Bhastrika Pranayama

Shatkarm- **10 Marks**

1. Agnisar Kriya
2. Sheetkram Kapalbhati
3. Sutraneti
4. Danda Dhouti

Mudra & Bandh **05 Marks**

1. Shambhavi Mudra
2. Tadagi Mudra
3. Shanmukhi Mudra
4. Kaki Mudra

Meditation- Preksha or Transcendental **05 Marks**

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

PRACTICAL - IV

NATUROPATHY AND ALTERNATIVE THERAPIES

Naturopathy Practical	**10 Marks**
Hip-bath, Spinal bath, Steam bath, Chest pack, Mud packs	
Alternative Therapies	
Pranic Healing: Raki	10 Marks
Acupressure: Detection of Accu points by Needle	10 Marks
Magnetic Therapy: Placements and use of Magnet	10 Marks

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

SEMESTER-III

YOG/C301	Teaching Methodology of Yoga Practice

PAPER-I

TEACHING METHODOLOGY OF YOGA PRACTICE

Unit-I : Teaching and Learning

Concepts and Relationship between the two; Principles of Teaching: Levels and Phases of Teaching, Quality of perfect Yoga Guru; Yogic levels of learning, Vidyarthi, Shishya, Mumukshu; Meaning and scope of Teaching methods, and factors influencing them; Sources of Teaching methods; Role of Yoga Teachers and Teacher training Techniques of Individualized; Teaching Techniques of group teaching; Techniques of mass instructions; Organization of teaching (Time Management, Discipline etc)

Unit-II : Essentials of Good Lesson Plan

Concepts, needs, planning of teaching Yoga (Shodhanakriya, Asana, Mudra, Pranayama & Meditation);

Unit-III : Models of Lesson Plan

Illustration of the need for a lesson plan; Illustration of the need for a content plan; Eight Step method of Introduction as developed in Kaivalyadhama.

Unit-IV : Evaluation methods of an ideal Yoga class

Methods of customizing Yoga class to meet individual needs. The student will have demonstrations and training in the above mentioned aspects of teaching methods.

Unit-V :

Yoga classroom: Essential features, Area, Sitting arrangement in Yoga class

Student's Approach to the teacher: Pranipaata; Pariprashna; Seva; (BG 4.34)

REFERENCE BOOKS

1. S.K. Kochar: Methods and techniques of teaching, Sterling publications Pvt. Ltd., New Delhi.
2. Sharma, M.K., Educational Technology and Management, H.P. Bhargav Book House, Agra (2011).
3. Gharote M.L. and Ganguli S.K.: Teaching Methods for Yogic Practices, Kaivalyadhama, Lonavala (1988).
4. Swami Satyananda: Early Teaching of Bihar School of Yoga, Munger, Bihar.

YOG/C302	Swastha Vratta

Paper-II

SWASTHA VRATTA

UNIT 1:

General introduction to Ayurveda: Origin, meaning, definition, objective, brief history. Definition of health.

UNIT 2:

Concep of sharir kriya vijnananadrachana: Tridoshas, sapta-Dhatus, updhatu, Mala-Vijnan.

UNIT 3:

Different kind of Agnis. Prakriti: dehaprakriti and manas prakriti, sdrotas.

basic Principles of Ayurvedic Treatment Knowledge- ashtavidhParikshan.

UNIT 4:

Concept of Shodhan Karma: Pancha Karma (poorva karma, Pradhana karma, Pashchat Karma) and their application.

UNIT 5:

SwasthvrittaVijnan: meaning, definition, aims and aspects. Concept of Dincharya, Ratricharya and Ritucharya. Concept of Sadvritta.

Concept of Ahara, Vihara, Achara, Vichara.

REFERENCE BOOKS

- Singh Ramharsh, Swasthvritta Vijnana, Choukhambha Sanskrit Ptatisthana, Delhi.
- Kaushik, Mai Ram , Ayurveda Kya Hai?, Bikaner: Anand Prakashan,2003
- Dash , V.B., Ayurvedic Treatment For Common Diseases , Delhi Diary, 1974.
- Internal yoga psychology - V. Madhupudhan Reddy
- Mental Hygiene through yoga - Dr. Vinod P. Nautiyal
- Swastha Vratt – National Ayurved Institute.

YOG/C303	Fundamental Texts of Yoga - I

Paper-III

FUNDAMENTAL TEXTS OF YOGA – I

UNIT - I: YOGA AND BHAGAVADGITA-I

1. Meaning and definition ofYoga,
2. Samkhya Yoga: Nature of Atman, Sthit Pragyata,

UNIT - II: YOGA AND BHAGAVADGITA-II

1. Karma Yoga.
2. Jnana – Karma Samnyas and Karma – Samnyas Yoga,

UNIT - III: YOGA AND BHAGAVADGITA-III

1. Atma- SanyamYoga,
2. Jnana-Vijnana Yoga,Akshar Brahma Yoga.

UNIT-IV: YOGA IN BHAGAVADGITA IV

1. Rajvidya – Rajguhya Yoga,
2. Bhakti Yoga,
3. kshetra- KshetrajnaVibhag.

UNIT-V: YOGA IN BHAGAVADGITA-V

1. Guna-TrayaVibhag, PurushottamYoga,
2. DaivasuraSampadVibhag,
3. Trividh-Shraddha.

Recommended Books:

1. SadhakSanjivani Commentary of Bhagwad Gita by Swami Ramsukhdasji (Gita Press, Gorakhpur)
2. Radha Krishnan, Bhagwai Gita, Hind Pocket Books, Delhi, 2004.

   Swami Adidevananda, Sri Ramanuja Gita Bhasya, Sri Ramakrishna Math, Madras, 1993.

YOG/C304	Complementary and Alternative Therapies

Paper-IV

COMPLIMENTARY AND ALTERNATIVE THERAPIES

UNIT 1 CAT: History, Meaning, Definition, Objectives, Types, Prevalence, Contemporary Need, Applications and Limitations. Mind-Body Therapy: Origin, Meaning, Definition, Aims, Principles, Factors, Impacts, Prevalence, Applications, and Limitations. Need of mind body medicine. Manipulative-Body Based Therapy (MBT): Meaning, Definition, Aims, Principles, Types, Impacts, Prevalence, Applications, and Limitations.

UNIT 2 Acupressure: Origin, Meaning, Definition, Principles, Five Elements Theory, Chi Clock Cycle, Meridian Systems and Locating Acupoints on 12 Major Meridians and Reflexology.

UNIT 3 Acupressur Therapeutics: Low Back Pain, Arthritis, Obesity, Diabetes, Hypertension/Hypotension, Hyper/Hypo Thyroidisim, Liver Problem, Hyperacidity, Irritable Bowel Syndrome, Colitis, Piles, Migraine, Insomnia, Depression, Epilepsy, Anxiety, Leucorrhoea, Menstrual Disorders, Impotency, Infertility, CSF, Asthma, Pneumonia, Renal Problem, Varicose Veins, Distress, and Myopias.

UNIT 4 Energy Medicine: History, Meaning, Definition, Types, Principles, Applications and Limitations. Pranic Healing: Origin, History, Meaning and Sources of Prana; Principles, Law of Action, Bio-plasmic body/Aura: structure, types and size; Energy Centers (EC): Meaning, Types (Major, Minor and Mini), Sizes, Colors, Functions and Consequences of their Dysfunctions; Ahartic Yoga & Twin Meditation,

UNIT 5 Biologically Based Products (Dietary Supplements & Herbal Remedies) Probiotics and Prebiotics, Antioxidents Multi-vitamins and their Natural Sources, Omega-3 Fatty Acid; their Functions and natural Sources; De-stressing Herbs and their usages.

REFERENCES :

- Acharya, B. (2004). Ausadh Darshan. Haridwar, India: DivyaPrakashan.
- Acharya, B. (2005). Ayurveda Jadi-butiRahasya. Haridwar, India: DivyaPrakashan.
- Brahmabarchas. (2003). NidanChikitsa. Haridwar, India: Ved Mata Gayatri Trust.
- Colledge, N. R., Walker, B. R. & Ralston, S. H. (2010). Davidson's Principles & Practice of Medicine (21st ed.). China: CHURCHILL LIVINGSTONE, ELSEVIER.
- Holford, P. &Burne, J. (2007). Food is better medicine than drugs. Great Britain: Piatkus.
- Holford, P. (2014). Good Medicine. Great Britain: Piatkus.

- Joshi, S. A. (2011). Nutrition and dietetics with Indian case studies. New Delhi, India: Tata McGraw-Hill.
- Lian, Yu-Lin; Chen, Chun-Yan; Hammes, M. &Kolster, B. C. (2005). Pictorial atlas of acupuncture: An illustrated manual of acupuncture points. Solvenia: h. f. ullmann.
- Micozzi, M. S. (2015). Fundamentals of complementary and alterntive medicine (5th ed.). China. ELSEVIER SAUNDERS.
- Patanjali Research Foundation. (2015). Research Publications. Haridwar, India: DivyaPrakashan.
- Peeters, J. (2008). Reflexology. Bath BAIIHE, UK: Paragon.
- Ramdev, S. (2006). Yoga Sadhana and Yoga ChikitsaRahasya. Haridwar, India: DivyaPrakashan.
- Ramdev, S. (2009). PranayamRahasya. Haridwar, India: DivyaPrakashan.
- Sah, R. L., Joshi, B., & Joshi, G. (2002). Vedic health care system. New Delhi, India: New Age Books.
- Sharma, S. (1998). JivemSaradmSatam. Mathura, India: Akhand Jyoti Samsthan.
- Sharma, S. (2010). Gayatri Mahavijyan (Combined and revised ed.). Mathura, India: YugNirman Yojana Bistar Trust.
- Sui, M. C. K. (2002). Miracle through pranic healing (3rd ed.). New Delhi, India: All India Pranic Healing Foundation.
- Sui, M. C. K. (2005). Advanced pranic healing. Banglore, India: World India Pranic Healing Foundation-India.
- Sui, M. C. K. (2005). Pranic Psychotherapy (2nd ed.). Banglore, India: World India Pranic Healing Foundation-India.
- Yogananda, P. (2011). Journey to self-realization. Kolkata, India: Yogoda Satsang Society of India.
- Mohan, H. (2010). Textbook of pathology (6th ed.). New Delhi, India: JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD.
- Sharma, S. (2013). ChikitsaUpcharKeVividhAyam (2nd ed.). Mathura, India: Akhand Jyoti Samsthan.
- Sharma, S. (2013). Nirog Jeevan KeMahatopurna Sutra (2nd ed.). Mathura, India: Akhand Jyoti Samsthan.
- Sharma, S. (2013). PranChikitsa (2nd ed.). Mathura, India: Akhand Jyoti Samsthan.
- Sharma, S. (2006). Diagnose, cure and empower yourself by the currents of breath. Haridwar, India: Shri Vedmata Gayatri Trust.
- Yuan, Chun-Su., & Bieber, E. J. (2003). Textbook of complementary and alternative medicine. New York, NY: The Parthenon Publishing Group.

YOG/C305	Practical

PAPER-V

PRACTICAL AND TEACHING PRACTICE

Asanas- **15 Marks**

1. Padmsarvangasan- Supine
2. Mayurasana- Balancing
3. Shirshasan- Balancing
4. Tolangulasan- Balancing
5. Ekpadskandhasan- Balancing
6. Vatayanasan- Balancing
7. Tittibhasan- Balancing
8. Garbhasan- Supine
9. Shishpadanangusthasan- Sitting
10. Sankatasan- Sitting
11. Guptasan- Sitting
12. Nadishodhanasan
13. Padmvakasan- Balancing

Pranayam- **05 Marks**

1. Bhramari pranayam
2. Murcha pranayama

Satkarm- **10 Marks**

1. Dand dhauti
2. Vyutkram kapalbharti
3. Tratak

Mudra & Bandh **05 Marks**

1. Ashwani mudra
2. Mool bandh
3. Maha bhand
4. Shaktichalini mudra

Meditation- **05 Marks**

1. Pranav Meditation and Shavasana (Relaxation)

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

Semester IV

YOG/C401	Research Methodology in Yogic Science

Paper-I

RESEARCH METHODOLOGY IN YOGIC SCIENCE

UNIT-I: INTRODUCTION TO RESEARCH METHOD

1. Meaning and definitions of research
2. Methods of Research
3. Significance of Research in Yoga

UNIT-II: RESEARCH PROBLEM AND HYPOTHESIS

1. Problem: Its Meaning and Nature
2. Statement of Hypothesis and Meaning

UNIT-III:

1. Types of Research Design.
2. Sampling
3. Tools of data collection

UNIT-IV: MEASURES OF VARIABILITY

1. Measurement of Central Tendencies: Mean Median, Mode
2. Standard Deviation
3. Correlation coefficient

UNIT-V: PREPARATION OF RESEARCH SYNOPSIS AND REPORT

1. Steps of Scientific Research
2. Preparation of Synopsis
3. Presentation of Yogic Research Report

REFERENCE BOOKS

1. Kerlinger: Foundation of Behaviour Research.
2. Festinger and Katz: Research Methods in Behaviour Sciences.
3. Garrat: Statistics in Psychology and Education.
4. कपिल, एच. के. : अनुसंधानविधियाँ
5. गैरेट : मनोविज्ञान एवंशिक्षा में सांख्यिकी

YOG/C402	Yoga and Allied Sciences

Paper-II

YOGA & ALLIED SCIENCES

UNIT-I:

1. Concept of Health. Definition & Importance of Health According to WHO; Dimensions of Health: Physical, Mental, Social and Spiritual
2. Yogic Concept of Health and Disease: Concept of Adhi and Vyadhi; Meaning and definition.

UNIT-II: Diet &Nutrition:

1. Balanced diet & Yogic diet

UNIT-III

1. Introduction to General Psychology.
2. Personality: Nature and Types of Personality; Determinants of Personality: Heredity and Environment; Facets and Stages of Personality Development; Personality Theories of Sigmund Freud, Alfred Adler and C.G. Jung; Assessment of Personality.

UNIT-IV:

1. Cognitive Psychology: Sensation, Perception, Attention, Memory, Learning, Feeling etc.; Their definitions and types.
2. Sleep: stages of sleep, circadian rhythm, sleep disorders, Hypnosis, Boofeedback.

UNIT-V:

Mental Health; Means of mental health; Causes and Consequences of Conflicts and Frustrations; Introduction to Common mental disorders; Depressive disorders; Anxiety disorders; Serious mental disorders; Sleep disorders; Mental retardation; Alcohol and drug abuse; Suicide, attempted suicide and suicide prevention.

REFERENCE BOOKS

1. Kaushik, Mai Ram: Ayurveda Kya Hai, Bikaner: Anand Prakashan, 2003.
2. Dash, V.B., Ayurvedic Treatment for Common Diseases, Delhi Diary, 1974.
3. Laxmipati, K.: Basic Principles of Ayurved.
4. Garde, R.K.: Ayurvedic for health and long life.

YOG/C403	Fundamental Texts of Yoga - II

Paper-III

FUNDAMENTALTEXTS OF YOGA- II

UNIT - I: YOGA IN UPANISHADS - I

1. General introduction to Upanishads
2. Kathopanishads: Atma – Vivechan,
3. Prashna Upanishad: Pancha Pranas

UNIT - II: YOGA IN UPANISHADS - II

1. Mundaka Upanishad: Brahma-Vichar
2. Mandukya Upanishad: Four states of consciousness and its relation to syllables in Omkara

UNIT - III: YOGA IN UPANISHADS - III

1. Taittiriya Upanishad: Concept of Panchakoshas.
2. Shvetashwatar Upanishad: Yoga Sadhana, Dhyana and Pranayama (ch.2)

UNIT - IV: YOGA IN UPANISHADS - IV

1. Dhyanbindu Upanishad: Om and AtmaVichar
2. Yogachudamani Upanishad: Pranayama Vivechan

UNIT - V: YOGA IN TANTRA

1. Principles of Shaivism
2. Shakt Tantra – 10 Mahavidyas
3. Vaishnav Tantra

Recommended Books:

1. Radhakrishnan, S., The Principal Upanishads, George Allen and Unwin, London, 1953.
2. Shri Ram Sharma Acharya, 108 Upanishads in three Volumes, Shanti Kunj, Haridwar, 1978.
3. Introduction to Upanishads, Theosophical Society of India, Adyar, Madras, 1976.
4. तंत्र दर्शन, परमहंसतिनरजनानन्द, श्रीपंचदशनाम, परमहंसअलखबाड़ा, देवघरए बिहार.

YOG/C404	Yoga Therapy

Paper-IV

YOGA THERAPY

Unit 1:Yoga Etiology, Diagnosis and Therapy

Concept of Yoga Therapy: Meaning, Definition, Aims, Principles, Factors Impacts and Limitations; Qualities of yoga therapist.
Yogic Anatomy and Physiology: Concept of Psychic Centers, Pancha Kosha and three planes of human being;

Unit 2:Yogic Management Of Following Diseases 1:

Back Pain: Lumbar Spondylosis, Intervertebral disc prolapse (IVDP), Spondylitis.
Neck pain: Cervical Spondylosis.
All forms of Arthritis: Rheumatoid Arthritis, Osteoarthritis.
Hypertension and Hypotension, heart diseases, Varicose veins, Coronary Artery Disease, Cardiac Failure.

Unit 3:Yogic Management Of Following Diseases 2:

Yogic Management of Acid peptic disease(APD)- Indigestion Hyperacidity, Ulcer, Flatulence, Gastritis, Bowel problems - chronic Constipation, Irritable Bowel Syndrome, Ulcerative colitis
Excretory System: Renal stones.

Unit 4:Yogic Management Of Following Diseases 4:

Diabetes Mellitus (I&II); Hypo and Hyper- Thyroidism; Obesity: Metabolic Syndrome, Cancer.
Menstrual disorders: Dysmenorrhea, Oligomenorrhea, Menorrhagia: Premenstrual Syndrome: Menopause and perimenopausal syndrome: Yoga for Pregnancy and Childbirth, PCOS.

Unit 5:Yogic Management Of Following Diseases 5:
Migraine, Tension Headache, Epilepsy; pain; Parkinson's disease. Yogic Management of Sinusitis, Bronchial Asthma, Tuberculosis. Anxiety disorders: Generalised anxiety disorder, Phobias, Depression: Dysthymia, Major depression, Schizophrenia.

REFERENCE BOOKS

1. Nagarathna R and Nagendra HR, Yoga therapy for common ailments series, SVYP publications, 2010
2. Swami Karmananda, Yoga therapy for common diseases, Yoga publication trust, Munger, 2001
3. Dr Robin Monro, Dr R Nagarathna and Dr H R Nagendra, Yoga for common ailments, Gaia Publishers
4. ShivanandSaraswati: Yoga Therapy (Hindi & English)
5. Rai, Lajpat: Discovering Human Potential energy: A Physiological Approach to Yoga (Anubhava Rai Publications, 1998)
6. Nagarathna, R and Nagendra, H.R.: Promotion of Positive Health, Swami Vivekananda Yoga Prakashana, Bangalore, 2002
7. Ramesh Bijlani: Back to Health through Yoga, Rupa Publications India Pvt. Ltd, 2011
8. MDNIY publications: 10 Booklets, Yoga Therapy Series, MDNIY Publications, New Delhi, 2009
7. Swami SatyanandaSaraswati: Yoga and Cardio Vascular Management, Yoga Publication Trust, Munger, 2005
8. Nagarathna R and Nagendra H R: Yoga for Arthritis, Back pain, Diabetes, Pregnancy Breathing Practices, Swami Vivekananda Yoga Prakasana, Bangalore, 2000
9. Swami kuvalayananda and S.L. Vanikar: Yoga Therapy: Ka4alyadhama, Lonavala, Revised

YOG/C405	Practical

PRACTICAL - VI

PRACTICAL AND TEACHING PRACTICE

Asanas- **15 Marks**

1. Dwipadskandhasan
2. Karnapeedasan
3. Poorna Bhujangasan
4. Poorna Matsyendrasan
5. Vipreetshirshdwihastabaddhasan
6. Gorakshasan
7. Pakshiasan
8. Hanumanasan
9. Poorna Chakrasan
10. Vrishchikasan
11. Padma Mayurasan
12. Balgarbhasan
13. Kandpeedasan
14. Poorna Dhanurasan
15. Pranavasan

Pranayam- **05 Marks**

1. Plavini Pranayam
2. Ujjai Pranayam
3. Bhastrika
4. Bharmari

Shatkram- **10 Marks**

1. Nauli
2. Vastradhauti
3. Loghooshankhprakshalan

Mudra & Bandh- **05 Marks**

1. Mahamudra
2. Khechari Mudra

Meditation- **05 Marks**

**** 40 Marks for Demonstration and 20 Marks for Viva-Voce (Evaluated by External Examiner)**

Faculty of Science

Department of Zoology

Courses offered-

- M. Sc.
- DIPLOMA IN PUBLIC HEALTH ENTOMOLOGY (DPHE)

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

M.Sc. ZOOLOGY

PROGRAMME SPECIFIC OUTCOMES (PSO)

- M.Sc. Zoology is a 2 year postgraduate course run under the CBCS scheme. It relates with the study of animal kingdom starting from a single cell, their structure, function, biochemistry, physiology, cell and molecular biology, biotechnology, conservation biology, bioinformatics etc.
- The entire syllabus is divided into four semesters each having 4 theory papers and 2 practicals accounting to a total of 16 theory and 8 practicals for each student.
- Third semester offers 2 elective courses namely Entomology and Insect Toxicology and Wildlife Biology.
- Students are gain expertise and indepth theoretical and practical knowledge of all the basic and allied field s of Zoology.
- The programme is designed in such a way to provide both academic and professional training and proficiency in animal science.
- The course imbibes students with state of art knowledge of every aspect animal science and its allies.

PROGRAMME OUTCOMES (PO)

- To understand the existing and new avenues of the biological sciences with special reference to animal science and imbibe the knowledge from all different perspectives.
- To Gain knowledge and understand concepts in all the contemporary fields of Zoology.
- To provide students with a broad understanding of animals and their interactions with the environment and to explain how organisms function at the level of the gene, cell, tissue, organ, organ-system and physiology.
- To equip students with competent and significant research knowledge to engage in any biomedical or bioscience research.
- To enable the students for gaining competencies for various competitive examinations of private and Government sectors as teachers, lecturers, food inspector, environmental inspectors etc.

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

SEMESTER I

Paper I: Biosystematics, Structure and Function of Invertebrates (Course Code- MI ZOO 01CT-01)

Course Outcome:

- To study the fundamentals of taxonomy, nomenclature and classification of invertebrates.
- To study molecular cytotaxonomy and role of genetics in taxonomy.
- To know the functional aspects of different systems of invertebrates.
- To study the various physiological mechanisms of various organ systems like locomotory, integumentary, reproductive, digestive etc., in invertebrates.
- To make students aware about how life evolved from simple to complex organization by modification in various systems and thus enhancing efficiency in Invertebrates.
- To help explain and compare the functional morphology of invertebrates.

Paper II: Ethology and Evolution (Course Code- MI ZOO02CT-02)

Course Outcome:

- Students would be imparted knowledge about basic and important concepts of ethology
- To give an insight into the various methods of studying animal behavior.
- To study about social organization, animal societies and its importance.
- To get acquainted with different types of learning and biological rhythms.
- To know the history and concept of evolution.
- To understand the mechanisms and factors involving in evolution process.
- To know the evolutionary patterns of various animals at micro and macro level.

Paper III -Instrumentation and Techniques in Biology (Course Code-MI ZOO03 CT03)

Course Outcome:

- To study the principle, working mechanism and application of various types of microscopes like electron, phase contrast, atomic absorption etc., used in biological experiments.
- To study the principle, working mechanism and application of various types of instruments like pH meter, spectrophotometer, centrifuge etc., used in biological experiments.
- To know the different types of separation techniques of electrophoresis and chromatography.
- To understand the technique of histological slide preparation by knowing the concepts of fixation, staining techniques etc.,
- To get aware about section cutting using mictrotome, cryostat etc.,
- To know about techniques like decalcification, cryopreservation, freezing techniques etc.

Paper IV: Cell and Molecular Biology (Course code-MI ZOO 04 CT-04)

Course Outcome:

- To gain insight into how processes are integrated at the molecular level to create a functional eukaryotic cell.
- To provide knowledge about the biomembranes, transport across them.
- To know the principles of cell communication and adhesion and cell- cell signaling.
- To acquire advanced knowledge of molecular biology of cell cycle, its regulation and the checkpoints.
- To study the biology of aging, genetic mechanism of cell death in terms of necrosis and apoptosis.
- To have an insight into the intracellular transport mechanism, protein trafficking and their regulation.
- To know about chromation, karyotype, somatic cell genetics etc.,

Practical I: (Paper I and II) (Course code-MI ZOO 05 CP 01)

Course Outcome:

- This course involves the practical knowledge related to theory papers I and II.
- It acquaints the students with various types of invertebrates by studying museum specimens and slides of their internal parts etc.
- Students are imparted practical knowledge of preparing permanent slides of various materials available as well as by collection of material.
- Virtual dissection helps to have practical knowledge about the anatomy of different animals.
- Experiments related to animal behavior provide practical insight into hoe the behavior is performed and varies under different circumstances.
- Exercises on evolutionary biology give clear indication of how estimations of gene and genotype frequencies are made.

Practical II: (Paper –III and IV) (Course code-MI ZOO 06CP-02)

Course Outcome:

- This course involves the practical knowledge related to theory papers III and IV.
- To demonstrate the practical usage of various instruments.
- To prepare paraffin block, perform sectioning, and prepare double stained slide.
- To know and prepare different solutions, fixatives and stains.
- To prepare slides of mitosis and meiosis to demonstrate cell division.
- To study human karyotype and sex chromatin.

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

SEMESTER II

Paper I: Biodiversity and Conservation Biology (Course code-M2 ZOO 01CT-05)

Course Outcome:

- To learn the concepts of biodiversity and mega diversity of India.
- To study the different causes leading to habitat destruction, impacts of climate change, overexploitation and environmental impact assessment.
- To gain knowledge about Conservation biology and methods of conservation.
- To know about different conservation categories of animals and global as well as national conservation agencies.
- To study different palnt and animal interaction in the context of population ecology and community ecology.
- To know about Restoration ecology, human conflicts with animals and species reintroduction programmes.

Paper II: Environmental Toxicology (Course Code-M2 ZOO 02 CT06)

Course Outcome:

- To have a wide knowledge about environmental toxicology.
- To understand the Environmental stress and its management strategies.
- To know the different types of pollution and their control.
- To have an insight into the general principles of toxicology, toxicokinetics and toxicodynamics.
- To know the bioindicators and biomarkers of environmental health.
- To study different toxicants, their mechanism of action and kinetics.
- To gain insight into the safety evaluation of toxicants, risk management, assessment and monitoring.

Paper III: Developmental Biology (Course code-M2ZOO03CT-07)

Course Outcome:

- To get knowledge about gametogenesis, fertilization and its mechanism.
- To know about the mechanism of cleavage, blastulation and gastrulation in different animals.
- To have an insight into mechanisms of induction, competence and differentiation.
- To know how animals achieve symmetry and axis.
- To study morphogenesis and organogenesis and their genetic mechanism.
- To know how evolution has changed the development process in the phylogeny.
- To gain knowledge about modern techniques of developmental biology and socio ethical issues.

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

Paper IV: Animal Physiology and Immunology (Course Code-M2ZOO 04CT08)

Course Outcome:

- To help the students in understanding how the body functions adapts with respect to its external and internal environment.
- To study about thermoregulation, osmotic balance, hormonal regulation in relation to the environment.
- To understand the all areas of immunology and study the innate and adaptive immunity, antigens and antibodies.
- To know about the immune deficiency diseases, hypersensitivity and vaccines.

Practical I: (Paper I and II) (Course Code-M2 ZOO05- CP03)

Course Outcome:

- This course involves the practical knowledge related to theory papers I and II.
- The students are given exposure to field by visits to natural habitats and protected areas and wetlands of Rajasthan for detailed study.
- Analysis of habitat characteristics and determination of various parameters of population and species.
- Practical demonstration and performance of bioassays of different pesticides and dose calculation are taught.
- Effect of heavy metal toxicity on various mammalian tissues is demonstrated.

Practical II: (Paper III and IV) (Course code-M2 ZOO6CP-04)

Course Outcome:

- This course involves the practical knowledge related to theory papers III and IV.
- It gives knowledge about the structure of reproductive organs.
- To acquire students with basic knowledge of experimental embryology that leads to understanding cleave, blastula and gastrula.
- To demonstrate the development of chick embryo.
- To help study the internal structure of various immune organs viz spleen, thymus, bone-marrow, kidney, lymph nodes etc.
- Demonstration of different experiments of blood related to clotting and bleeding time, formation of haematin crystals and differential staining.

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

SEMESTER III

Paper I: Vertebrates (Course code-M3ZOO01CT-09) (Core)

Course Outcome:

- To critically examine the origin and diversification history of vertebrates.
- To study the origin and classification of vertebrates.
- To have an insight into various concepts of origin and phylogenetic relationship of vertebrates starting from agnatha, gnathostomes, pisces, amphibians, reptiles, aves and mammals.
- Evolutionary significance of vertebrates is studied.

Paper II: Computational biology, Biostatistics and Bioinformatics (Course Code-M3 ZOO 02 CT-10)) (Core)

Course Outcome:

- To learn the strategies of data collection, analysis of data, measurement of central tendencies and different sampling techniques.
- To understand the proper interpretation of data generated in the biology using correlation, regression and significance tests.
- To have access to computer statistical programs – Prism, SPSS.
- To have knowledge about probability and different probability distribution.
- To understand the Statistical designing of experiments and importance of research designs.
- To give knowledge about computer and its applications for further research and to use of different scientific database.
- To introduce to bioinformatics and various tools like proteomics, genomics, microarray etc.

Elective I A: Entomology and Insect Toxicology

Paper I: SYSTEMATIC ENTOMOLOGY AND INSECT ECOLOGY (Course Code-M3ZOO 03 ET-01A) (Elective)

Course Outcome:

- To give a detailed knowledge about Origin and Evolution of insects.
- To know taxonomical position, classification and use of identification keys for the largest inhabitants of the earth i.e., insects.
- To give knowledge about collection, identification and preservation aspects of insects.
- To study about different insect societies and their success rate.
- To provide information about the ecology, population dynamics, intra and interspecific relations along with human and insect interactions.

Elective I B: Wildlife Biology

Wildlife Biology I : Biodiversity and Wildlife Ecology (Course Code-M3ZOO-03 ET01B) (Elective)

Course Outcome:

- To understand the concepts, levels and values of biodiversity alongwith different types of species of biodiversity importance.
- To study the organization and characteristics of biotic community and population ecology
- To know about the Ecology of major habitats, patterns of habitat utilization and dispersion.
- To have idea about the Major vegetation types of India, phenology and distribution.
- To study the forest soils, conservation methods and forest menstruation.
- To provide insight into Silviculture.

Elective II A: Entomology and Insect Toxicology

Paper II: Insect Organization and Physiology (Course Code-M3ZOO04 ET02A) (Elective)

Course Outcome:

- To inculcate knowledge of morphology and physiology of insects.
- To study the integument, appendages and wing development.
- To have knowledge about various systems namely muscular, digestive, circulatory, excretory and respiratory systems of insects and to know their physiology and how they make insects the most successful organisms on the earth.
- To provide information about the morphology and physiology of neuro endocrine system.
- To impart knowledge about the reproductive, endocrine system, growth, development and metamorphosis in insects.

Elective II B : Wildlife Biology

Wildlife Biology II : Conservation Biology (Course Code-M3ZOO 04ET02B) (Elective)

Course Outcome:

- To gain knowledge about Conservation biology and biodiversity conservation
- To have an insight into *ex situ* and *in situ* methods of conservation
- To have an idea about international conservation bodies – IUCN, UNDP, FAO, WWF
- To have knowledge about national parks, wildlife sanctuaries and biosphere reserves of India

- To know about the formation and management of zoological parks and zoo sanitation
- To have an idea of Indian wildlife and endangered and threatened species
- To impart knowledge about wildlife forensics, conservation ethics and values

Practical- I (Core Paper I & II) (Course Code-M3ZOO05CP05)

Course Outcome:

- This course involves the practical knowledge related to core theory papers I and II.
- It acquaints the students with various types of vertebrates by studying museum specimens and slides of their internal parts etc.
- Students are imparted practical knowledge of preparing permanent slides of various materials available
- Virtual dissection helps to have practical knowledge about the anatomy of different vertebrate animals.
- Comparison of axial skeleton of pisces, amphibians, reptiles, aves and mammals gives an idea about the bones and their development
- Understand the application of statistical techniques in biological research.
- To know the statistical problems in biological science which are useful for the students for their research works.
- To work on computer statistical programs – Prism, SPSS
- To have practical knowledge about how to perform various statistical tests like significance tests, ANOVA, etc.
- To use various bioinformatics tools like proteomics, genomics, microarray etc.
- To calculate probability and different probability distribution.

Practical-II (Elective I A and II A: Entomology and Insect Toxicology) (Course Code -M3ZOO 05 EP01A)

Course Outcome:

- This course involves the practical knowledge related to elective IA and IIA theory papers.
- Students are exposed to field visits for identification and collection of insects of various orders.
- To inculcate practical knowledge and usage of various collection, identification and preservation methods of insects at various stages
- Dissections of insects from different orders gives an insight of the anatomy of various systems
- To demonstrate the different types of antennae, mouthparts, wings etc., which are an important parameter for identification
- Insect preservation boxes are made for future studies
- Microtomy of internal organs helps to analyze the detailed structure

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

Practical-II (Elective I B and II B: Wildlife Biology) (Course Code-M3ZOO05 EP01B) Biodiversity, Wildlife Ecology and Conservation Biology

Course Outcome:

- This course involves the practical knowledge related to elective IB and II B theory papers.
- The students are given exposure to field by visits to Zoological garden and a small report is submitted by them.
- Practical knowledge about identification of mammalian species using hair imprinting and scat analysis is given which is an important aspect for wildlife studies.
- Analysis of population density, species dominance, habitat characteristics etc., are done in field.
- Soil and water analysis in the field are demonstrated.

SEMESTER IV

Paper II: Applied Zoology (Course Code-M4ZOO01CT11) (Core)

Course Outcome:

- To study the concepts of applied zoology.
- To study various protozoans, helminthes and insects in relation to the human diseases they cause.
- To acquire information on beneficial insects, sericulture and apiculture.
- Students are introduced to vector biology and are imparted knowledge regarding different vector borne diseases especially in humans and their recent facts.
- To impart knowledge about agricultural pests.
- Brief idea of pisciculture, fish industry, pearl culture and pearl industry are given.
- To provide knowledge about Sustainable agriculture, organic farming and vermicomposting.

Paper II: Animal Biotechnology (Course Code-M4ZOO02CT-12) (Core)

Course Outcome:

- To give an insight into the various aspects of biotechnology, rDNA technology and genetic engineering.
- To provide knowledge about dealing with different procedures involving genes viz., isolation, sequencing, labeling, probing, cloning techniques etc.
- To study different hybridization techniques, DNA fingerprinting, blotting techniques etc.
- To study the mechanism of gene regulation, gene targetting, gene therapy and human genome project.
- To learn the application of biotechnology and genetic engineering in various fields.
- To study the Role of biotechnology in health care diagnosis.
- To learn the Intellectual Property Rights and patenting laws.
- To give knowledge about Ethical and social implications of gene technology.

Elective I A: Entomology and Insect Toxicology

Paper I: Economic and Commercial Entomology (Course Code-M4ZOO03 ET - 01A) (Elective)

Course outcomes:

- To impart knowledge about pests of economic importance and their management
- To study about synthetic insecticides, assessment of pest staus and their chemical control
- To provide an insight into the biological control of insects and integrated pest management

- To acquaint with role of biotechnology and nanotechnology in insect control
- To give knowledge of medical entomology where life cycle, disease transmission and control measures of flies, fleas and ticks etc.,
- To have an insight of mosquito borne diseases, other vector borne diseases, disease outbreak and integrated vector management strategies
- To study commercial entomology by providing an insight into apiculture, sericulture and lac culture and their status in India

Elective I B: Wildlife Biology

Paper I B: Wildlife Biology : Indian Wildlife (Course code-M4ZOO 03ET -01B) (Elective)

Course outcomes:

- To study about various aspects of Indian wildlife.
- To study the various Zoogeographical regions of India and their fauna and special mention of fauna of Thar desert.
- To have an insight into the Status, distribution, physical characteristics and ethology of important endangered animals and plants of the country.
- To study about the different special wildlife programs like Project Tiger, Project Elephant, Operation Rhino, Project Crocodile running in the country.
- To gain knowledge about Wildlife Institutes in India and wildlife legislation including different acts and plans.
- To study the damages caused by wildlife- their identification and control.

Elective II A: Entomology and Insect Toxicology

Paper II: Insect Toxicology and Forensic Entomology (Course Code-M4ZOO04ET -02A) (Elective)

Course outcomes:

- To study the different toxicological parameters and impact of insecticide misuse.
- To impart knowledge about mode of action of organophosphates and carbonates on target organism.
- To have an insight into how Bioassay of insecticide is done in laboratory and the methods of diluting insecticide to a recommendation level.
- To study the host plant resistance mechanism and transgenic crops in pest management.
- To impart knowledge about the research methodology and use of statistics in entomology.
- To study the role of insects and other arthropods in forensics i.e., forensic application of entomology which is of utmost importance in current scenario.

Elective II B : Wildlife Biology

Paper II: Wildlife Biology : Wildlife Management (Course Code-M4ZOO 04ET - 02B)

- To provide knowledge about wildlife management and strategies.
- To give information about History and cultural background of Indian Wildlife.
- To study the different methods of wildlife counting like census method, mark recapture methods etc.
- To introduce students to remote sensing and Geographic Information System (GIS).
- To impart knowledge about forest management, forest laws, acts and principles.
- To provide insight into social forestry and how involvement of common people, extension and education, tourism, finance help in wildlife management
- To demonstrate the application of biostatistics in wildlife.

Practical- I (Core Paper I & II) (Course Code-M4ZOO06-CP06)

Course Outcome:

- This course involves the practical knowledge related to core theory papers I and II.
- Students are given practical knowledge of rearing and the life cycle study of any stored product pest, phytophagous pests or medically important insects.
- To study permanent slides of disease causing protozoans, helminthes and arthropods.
- Extraction and quantification of DNA is practically demonstrated.
- Practical knowledge and demonstration of Agarose gel electrophoresis for DNA, RNA and protein.

Practical-II (Elective I A and II A: Entomology and Insect Toxicology)

Entomology and Insect toxicology (Course Code-M4ZOO06-EP02A)

Course Outcome:

- Students are given practical knowledge about Collection ,identification and rearing of phytophagous pests and different mosquitoes.
- Estimation of LD50 and LC 50 of insecticides using insects is demonstrated.
- Students are acquainted with techniques of appliances used for the application of insecticides.
- Analysis of Blood cells, meiotic and polytene chromosomes is being practically taught.
- Various rearing techniques, mechanisms and use of equipments is learnt by the student.

DEPARTMENT OF ZOOLOGY
UNIVERSITY COLLEGE OF SCIENCE, MLSU, UDAIPUR

Practical-II (Elective I B and II B: Wildlife Biology)

Indian Wildlife and Wildlife Management (Course Code-M4ZOO06-EP02B)

Course Outcome:

- Visit to natural habitats and wildlife sanctuaries, desert, mountain range, wetland and especially Rajasthan for the detail study.
- Visit to wetland for demonstration and field exposure of students.
- Students are aquainted with use of Taxonomic identification and preparation of taxonomic key of given animals.
- Practical knowledge of POP preparation of pugmarks and footprints, designing the animal housing, enclosures, Permanent preparation of barbs of different avian feathers and use of statistical parameters is imparted.
- Students also have to submit a project report on the different field visits done.

DIPLOMA IN PUBLIC HEALTH ENTOMOLOGY (DPHE)

PROGRAMME SPECIFIC OUTCOMES (PSO)

- PG Diploma in Public Health Entomology is a1-yeardiploma course run under the CBCS scheme in the department of zoology. It relates with the study of many vectors borne diseases such as malaria, dengue, chikungunya, scrub typhus, zika etc.
- The entire syllabus is divided into 2 semesters each having 4 theory and 2 practicalpapers accounting to a total of 8 theory and 4practicals for each student.
- First semester has introductory part of various national programmes, morphology and biology of vectors, lifecycle of disease-causing agents and their control strategies.
- Second semester has knowledge about arboviruses,medically important vectors, and their control strategies.
- Students are gain expertise and in-depth theoretical and practical knowledge about the public health concern related to vector borne diseases.
- The programme is designed in such a way to provide both academic and professional training as well as field practices.

PROGRAMME OUTCOMES (PO)

- To understand the morphology, biology and behaviour of medically important vectors and pathogens.
- To Gain knowledge and understand concepts of public health concern.
- To equip students with field and significant research knowledge as well as practices in public health concern.

SEMESTER I

Paper I: Anophelines, Culicines and their medical importance (DPHE 1- CT-01A)

Course Outcome:

The paper 1 cover detailed study on morphology of anopheles, culex, aedes and its habitat which is useful to understand the bionomics and distribution of these mosquito and understand the malaria, lymphatic filariasis, and other arthropods diseases spreading and transmission. It also includes general characteristics of Mosquitoes and their identification. It also reveals about Concepts and control/management. Principles of malaria eradication and control: Malaria Control in India – NMCP, NMEP, MPO, PfCP, UMS, RBM, EMCP, NVBDCP, WHO, Global Malaria Control Strategy.

Paper II: Sand flies, Black flies, Muscoid flies and their medical Importance (DPHE 1- CT-02A)

Course Outcome:

This paper 2 included morphology and biology of Sand fly and muscoid flies and understanding the biology about myiasis, kala azar, onchoceriasis diseases. It also includes Distribution, Behaviour, Biology Disease transmission cycle of these diseases. The Study of forensic flies and its role in crime detection is help in the forensic crime detection and pattern wise succession pattern of different types of flies on an animal caracaces.

Paper III: Other Arthropods of Medical and Veterinary Importance (DPHE 1- CT-03A)

Course Outcome:

The paper 3 includes about the study of Classification, morphology and life cycle of fleas, lice, ticks, bugs, cockroach, and Cyclops that are vector for many diseases. This paper is also important to understand Arthropods vectors of human disease the spread many diseases to human.

Paper IV: Integrated Methods of Vector Management (DPHE 1- CT-04A)

Course Outcome:

The paper 4 contain detail account of Integrated vector management of vectors that is important to the efficient control of disease transmitting vectors. It gives us a detailed account about Insecticides, Insect Growth Regulators, Insecticide Application Equipments, Agriculture and Public Health Practices, Community participation in vector management and sustainable use of insecticides. Insecticide Resistance and Management Present status of insecticide resistance and Impact of insecticide resistance on the control of vectors also important that covers in this paper.

Practicals I (DPHE 1- CP-01A)

Course Outcome:

- To get practical knowledge and hand practices about collection and identification of medically important insects and mounting of their body parts.
- It also helps in differentiation of mosquitoes and field survey of mosquitoes.
- To gain practical knowledge about different aspects of vector biology and rearing of medically important insects.

Practicals II (DPHE 1- CP-02A)

Course Outcome:

- To get practical knowledge about collection, sampling and live demonstration of vectors.
- To get practical knowledge about handling of different pesticide application equipments
- To get practical knowledge about monitoring of insecticide resistance/susceptibility in field strains against larvicides/adulticides.

SEMESTER 2

Paper I: Anophiline and Culicine Diagnosis, treatment and prognosis (DPHE 2- CT-05B)

Course Outcome:

Mosquito borne diseases are major threat to the human health. The 1st paper covers the diagnosis, treatment and prognosis method of mosquito borne disease. It involves Life cycle of human malaria parasites and Transmission factors, Taxonomic position and Distinguishing characters of different species of human malarial parasites. Arboviruses such as Dengue, Chikungunya, Japanese encephalitis, Zika, West Nile, and Yellow fever viruses are also affect the human health that is also covered in in this paper.

Paper II: Sand flies, Black flies, Muscoid flies and their medical ImportanceMedical importance of sand fly – borne diseases: MAJOR Diseases arising from sand flies black flies and mucoid flies(DPHE 2- CT-06B)

Course Outcome:

The paper 4 cover many important aspects about medical importance of fleas, lice, ticks, bugs, cockroach, Cyclops. It also includes Various National Vector Borne Disease Control Programmes in India and Role of WHO and major National institutes in eradication of fly borne diseases.

Paper III: Other Arthropods of Medical and Veterinary Importance (DPHE 2- CT-07B)

Course Outcome:

The paper understands us about many diseases like chagas disease, trench fever, relapsing fever, typhus, plague, Lyme disease, KFD, CCHF, Q fever, babesiosis, tularemia, cockroach borne diseases. It also helps to understand the transmission and controlling measures of these diseases.

Paper IV: Biological & Environmental Methods for the Control of Vectors (DPHE 2- CT-08B)

Course Outcome:

The paper 4 cover many important aspects related to the environmental and biological of control of vectors and pesticides management. It reveals about the biological control of

vectors by Larvivorous fish, Biocontrol/predatory potential, and Natural enemies of Arthropods.

practical I (DPHE 2- CP-03B)

- To get practical knowledge and hand practices about staining process, Blood smear preparation and identification of malaria parasite, Parasite counting and density grading.
- Demonstration of membrane filtration technique, ICT card test, and Og4C3 technique.
- It also helps to gain Clinical symptoms, Clinicopathological studies, Treatment Diagnosis, Prognosis and Vaccination process, public health issues.
- To gain practical knowledge about Isolation and identification of bacterial pathogens, Testing of mosquito larvicidal and pupicidal activity and different aspects and techniques of vector control strategies.

Practical II (DPHE 2- CP-04B)

- To get knowledge about identification of larvivorous fish.
- To get knowledge about handling of equipments for Environmental Management.
- To get knowledge aboutdemonstration of community mobilization techniques

Programme Specific Outcomes Sample PSOs of BSc Zoology

PSO1. Understand the nature and basic concepts of cell biology, Biochemistry, Taxonomy and ecology.

PSO2. Analyse the relationships among animals, plants and microbes

PSO3. Perform procedures as per laboratory standards in the areas of Biochemistry, Bioinformatics, Taxonomy, Economic Zoology and Ecology

PSO4. Understand the applications of biological sciences in Apiculture, Aquaculture, Agriculture and Medicine

Course Outcomes Sample COs of the course “Animal Diversity – Non Chordata”

CO1 Describe general taxonomic rules on animal classification

CO2 Classify Protista up to the phylum using examples from parasitic adaptation

CO3 Classify Phylum Porifera with taxonomic keys

CO4 Describe the phylum Coelenterata and its polymorphism

CO5 Write down the life history of Fasciola and its classification

CO6 Describe Phylum Nematoda and give examples of pathogenic Nematodes

CO7 Identify the characters of Phylum Annelida with its classification

CO8 Write down the classification and characteristics of Phylum Arthropoda

CO9 Identify the given Mollusca with respect to their economic importance

CO10 Write down the classification and characteristics of Phylum Echinodermata, Phylum Hemichordata and minor phyla