DEPARTMENT OF POLYMER SCIENCE

University College of Science
MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR–313 009

Syllabus of M.Sc. Polymer Science CBCS Scheme

Semester I

S. No.	Course Code	Title of the Course	L-T-P	No. of Credits	Max. Marks		
					Uni. Exam	Int. Exam	Total
1	M 1 POLY 01-CT 01	Inorganic Chemistry	3-1-0	4	80	20	100
2	M 1 POLY 02-CT 02	Organic Chemistry	3-1-0	4	80	20	100
3	M 1 POLY 03-CT 03	Physical Chemistry	3-1-0	4	80	20	100
4	M 1 POLY 04-CT 04	Spectroscopy in analysis-I	3-1-0	4	80	20	100
5	M 1 POLY 13-CP 13	Practical-A-I	0-0-8	4	80	20	100
6	M 1 POLY 14-CP 14	Practical-B-I	0-0-8	4	80	20	100
Total			**12-4-16**	**24**	**480**	**120**	**600**

Semester II

S. No.	Course Code	Title of the Course	L-T-P	No. of Credits	Max. Marks		
					Uni. Exam	Int. Exam	Total
1	M 2 POLY 05-CT 05	Environmental and green chemistry	3-1-0	4	80	20	100
2	M 2POLY 06-CT 06	Instrumental techniques	3-1-0	4	80	20	100
3	M 2 POLY 07-CT 07	Spectroscopy in analysis-II	3-1-0	4	80	20	100
4	M 2 POLY 08-CT 08	Fundamental of Polymer Chemistry	3-1-0	4	80	20	100
5	M 2 POLY 15-CP 15	Practical-A-II	0-0-8	4	80	20	100
6	M 2 POLY 16-CP 16	Practical-B-II	0-0-8	4	80	20	100
7	M 2 POLY 01-SE 01	Skill Course I	1-0-2	2	40	10	50
Total			**13-4-18**	26	520	130	650

Semester III

S. No.	Course Code	Title of the Course	L-T-P	No. of Credits	Max. Marks		
					Uni. Exam	Int. Exam	Total
1	M 3 POLY 09-CT 09	Physical and chemical properties of polymers	3-1-0	4	80	20	100
2	M 3 POLY 10-CT 10	Specialty polymers	3-1-0	4	80	20	100
3	M 3 POLY 19-ET 01	Materials for compounding and Reinforcement	3-1-0	4	80	20	100
5	M 3 POLY 25-ET 07	Compounding and uses of Plastics					
4	M 3 POLY 20-ET 02	Tyre and rubber processing operations	3-1-0	4	80	20	100
6.	M 3 POLY 26-ET 08	Plastic Processing technology					
11	M 3 POLY 17-CP 17	Practical-A-III	0-0-8	4	80	20	100
12	M 3 POLY 23-EP 05	Testing of Latex and identification of rubbers	0-0-8	4	80	20	100
13	M 3 POLY 29-EP 11	Identification of plastics					
		Total	**12-4-16**	**24**	**480**	**120**	**600**

Semester IV

S. No.	Course Code	Title of the Course	L-T-P	No. of Credits	Max. Marks		
					Uni. Exam	Int. Exam	Total
1	M 4 POLY 11-CT 11	**Project Work (at Research Laboratory or Industry or Institute of repute)(60 DAYS)**	0-0-8	4	-	-	100
2	M 4 POLY 12-CT 12	Polymer and Environment	3-1-0	4	80	20	100
3	M 4 POLY 21-ET 03	Rubber Product Technology	3-1-0	4	80	20	100
4	M 4 POLY 27-ET 09	Identification and testing of plastics					
5	M 4 POLY 22-ET 04	Testing and characterization of rubber product	3-1-0	4	80	20	100
6	M 4 POLY 28-ET 10	Textile Technology					
7	M 4 POLY 18-CP 18	Practical-A-IV	0-0-8	4	80	20	100
8	M 4 POLY 24-EP 06	Mechanical properties and testing of rubber	0-0-8	4	80	20	100
9	M 4 POLY 30-EP 12	Mechanical properties and testing of plastics					
10	M 4 POLY 02-SE 02	Skill Course II	1-0-2	2	40	10	50
		Total	**10-3-18**	26	520	130	650

List of Courses
Core Courses: Theory

Course Code	Tittle of Course
M 1 POLY 01-CT 01	Inorganic Chemistry
M 1 POLY 02-CT 02	Organic Chemistry
M 1 POLY 03-CT 03	Physical Chemistry
M 1 POLY 04-CT 04	Spectroscopy in analysis-I
M 2 POLY 05-CT 05	Environmental and green chemistry
M 2 POLY 06-CT 06	Instrumental techniques for analysis
M 2 POLY 07-CT 07	Spectroscopy in analysis-II
M 2 POLY 08-CT 08	Fundamental of Polymer Chemistry
M 3 POLY 09-CT 09	Physical and chemical properties of polymers
M 3 POLY 10-CT 10	Specialty Polymers
M 4 POLY 11-CT 11	Industrial Training and Project work
M 4 POLY 12-CT 12	Polymer and Enviournment

Core Courses: Practicals

Course Code	Title of Course
M 1 POLY 13-CP 13	Practical-A-I
M 1 POLY 14-CP 14	Practical-B-I
M 2 POLY 15-CP 15	Practical-A-II
M 2 POLY 16-CP 16	Practical-B-II
M 3 POLY 17-CP 17	Practical-A-III
M 4 POLY 18-CP 18	Practical-A-IV

SEMESTER-IV

M 4 POLY 11-CT 11

Project Work (at Research Laboratory or Any Industry or Institute of repute)(60 DAYS)

Credits: 4 **Max Marks:100**

General Guidelines for Preparation of Project Report

(For specific details the students are advised to consult their respective supervisors)

1. Strictly follow the format given to write the manuscript of the project.
2. On the front page include title of the project (font size 21, centered). The title should not contain abbreviation and scientific names of organisms should be in *italics*. This page should not be numbered.
3. Starting from second page, the pages must be numbered consecutively, including figures and table.
4. Text should be 1.5 point spaced type written using Times New Roman Font, Font Size 12, on one side of A 4 Size paper, with 1.5 inch margins throughout. Scientific names of the organisms should be in *italics.* Main headings (Summary, Introduction, Chapter details, Conclusions and References) should be bold type, justified and separated from the text.
5. The full text of project should not exceed 20-25 one side typed pages.
6. Literature citation in the text should be cited in alphabetic order. The form and style of references should be as indicated below.

(a) Journal article

Carvalho, L.C., Goulao, L., Oliveira, C., Goncalves, C.J. and Amancio, S. 2004. Rapid assessment for identification of clonal identity and genetic stability of *in vitro* propagated chestnut hybrids. Plant Cell Tiss. Org. Cult. 77:23-27.

Chae, W.B., Choi, G.W. and Chung, I.S. 2004. Plant regeneration depending on explant type in *Chrysanthemum coronarium* L. J. Plant Biotech. 6:253-258.

(b) Book reference

Salisbury, F. B., Ross, C. W. 1992. Plant Physiology. 4th edn. Wadsworth Publishing Company. Belmount.

(c) Edited books

Constantine, D.R. 1986. Micropropagation in the commercial environment. In : "Plant Tissue Culture and its Agricultural Applications". L.A. Withers and P.G. Alderson (Eds.) pp. 175-186. Butterworths, London, UK.

(d) Paper presented at a conference

Chaturvedi, H.C. 1992. Hardening of *in vitro* raised plants for transplant success. A state of art report. Paper presented in DBT Project Monitoring Committee Meeting held on 6th-7th July, 1992 in DBT, New Delhi, India.

(e) Proceeding of a symposium

Rajsekharan, P. E., Ganeshan, S. 2005. Designing *exsitu* conservation strategies for threatened medicinal plant species of South India. In: " Proc. Natl. Symp. and 27th Annual Meeting of PTCA(I)." A.K. Kukreja *et al* (Eds). Pp.159-164. CIMAP, Lucknow, India.

(f) Thesis/ Dissertation

Dave, N. 2004. Factors influencing micropropagation of two varieties of *Achras sapota* and their rootstock *Mimusops hexandra*. Ph.D. Thesis, Mohanlal Sukhadia University, Udaipur, India.

(g) Patent

Trepaginer, J.H. 2000. New surface finishings and coatings. US Pat 1276323 (to DuPont Inc, USA). 27 June, 2000. Chem Abstr, 49 (2000) 27689.

(h) Reports

Anonymous, 1976. The Wealth of India. Raw Meterials. Vo. X. pp. 44-48. CSIR, New Delhi, India.