

(COMMON FOR THE FACULTIES OF ARTS & SCIENCE)
THIRD YEAR B. Sc./B.A
STATISTICS
2016-17

Papers	Periods per week	Examination Hours	Maximum Marks	
			B.A	B.Sc.
Theory Papers				
Paper I	2	3	45	50
Paper II	2	3	45	50
Paper III	2	3	45	50
Practicals**	4	4	65	75
Total Marks			200	225

* 1 Period 1 hours

** per batch

NOTE:

1. Common papers will be set for both the Faculties of Arts & Science.
2. Students are allowed to use simple electronic desk calculators (as per University guidelines).
3. Statistical Tables may be used (as per University guidelines)

Visit to Local Governments/ Organizations, Semi Governments Departments/ Organizations, Government Undertaking Organizations, Statistical Institute of repute, Private sector Statistical Organization and Research Stations within Udaipur Division may be organized to familiarize students with the practical work done at these centers

PAPER - II
DESIGN OF EXPERIMENTS AND STATISTICAL QUALITY CONTROL

TIME: 3 hours

Max. Marks

UNIT-1

Analysis of variance for one-way and two-way classification (with one observation per cell). Linear model and its different types, Transformations, Basic concepts in design of experiments, Criteria for a good design, Uniformity trials, Size and Shape of block and plots.

UNIT-II

Completely randomized and Randomized block designs.
Efficiency of Randomized block design over Completely randomized design.

UNIT-III

Latin square design.

Missing plot technique, Estimation of single missing value in Randomized block and Latin square designs.

UNIT-IV

Statistical Quality Control: Process control and Product control, Control charts, 3 σ -control limits, Tools for SQC, Control charts for variables and attributes, \bar{X} and R charts, \bar{X} and S charts, p, np and c-charts. Criterion for detecting lack of control in various charts. Natural tolerance and specification limits, Modified control limits.

UNIT-V

Principles of Acceptance Sampling Problem of lot acceptance, good and bad lots, producer's & Consumer's risk, single & double sampling plans and their O.C. functions. Concepts of AQL, LTPD, AOQL, Average amount of Inspection and ASN functions.

Recommended Books :

1. Gupta S.C. and Kapoor V.K. : Fundamentals of Applied Statistics, Sultan Chand & Sons, New Delhi.
2. Goon, A.M., Gupta, M.K. and Dasgupta, B. : Fundamentals of Statistics, Vol.I. The World Press Pvt. Ltd. Calcutta
3. Cochran, W.G. and Cox, G.M : Experimental Designs, John Wiley & Sons, New York.

Reference Books :

1. Goulden, C.H. : Methods of Statistical Analysis (Hindi Ed.) Bihar Hindi Granth Academy, Patna
2. Snedecor, G.W. : Statistical Methods (Hindi Ed.) Commission of Scientific & Technical Words, Ministry of Education, Govt. of India
3. Mukhopadhyay, : Applied Statistics, New Central Book Agency Pvt., Ltd. Calcutta P. (1999)
4. Montgomery, D.C'.(1991) : Design and Analysis of Experiments, Wiley Eastern.
5. Duncan A.J. (1914) : Quality Control and Industrial Statistics. Fourth editions, Taraporewala & Sons.
6. Montgomery, C. (1991) : Introduction to the Statistical Quality Control (Second edition.) John Wiley & Sons.