(COMMON FOR THE FACULTIES OF ARTS & SCIENCE)
MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR
SECOND YEAR B. Sc./B.A
STATISTICS
2016-17

Papers	Periods per week	Examination Hours	Maximum Marks	
Theory Papers			**B.A**	**B.Sc.**
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)

PAPER – II
SAMPLING DISTRIBUTIONS AND ELEMIENTS OF ESTIMATION

TIME: 3 hours   **Max. Marks**

UNIT I
Uni-variate Sampling Distributions: Concept of random sampling, statistic and sampling distribution. Concept of standard error of an estimate. Standard errors of sample mean, sample proportions. Sampling distribution of sum of binomial, Poisson and mean of normal distribution its derivation, distribution, Chi-square distribution its derivation, properties and problems.

UNIT II
t, F, and Z sampling distributions with their derivations, properties and Inter-relationships with Chi-square distribution.

UNIT III
Elements of Point Estimation: Concept of point estimation, properties of point estimators such as consistency, unbiased ness, efficiency and simple notion of sufficiency, Factorization theorem (without proof).

UNIT IV

Bias, Mean Square error, variance and relation among them of an estimator, Minimum variance unbiased estimator and its properties (excluding, Cramer-Rao inequality) and problems on them.

UNIT V

Interval Estimation: Concept of interval estimation, confidence interval and confidence coefficient. Confidence interval for mean and variance in case of normal population. Definition of order Statistic and sampling distributions of medic-in and 'range from any uni-variate population.

Recommended Books:

1. Gupta.S.C., Kapoor,V.K.   : Fundamentals of Mathematical and Statistics, Sultan Chand & Sons, New Delhi
2. Kapur J.N. and Saxena, H.C. : Mathematical Statistics S.Chand & Company Ltd., New Delhi.

Reference Books:
1. Singh, J.   : Statistical Inference (Hindi edition) Madhya Pradesh Hindi Granth Academy, Bhopal.
2. Freund J.E.(2,001)   : Mathematical Statistics Prentice Hall of India
3. Goon A.M. Gupta, M.K. and Das Gupta   : An out lines of Statistical Theory Vol. I & II World Press, Calcutta.