(COMMON FOR THE FACULTIES OF ARTS & SCIENCE)
THIRD 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)

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-I
STATISTICAL INFERENCE

TIME: 3 hours   **Max. Marks**

UNIT -1

Testing of Hypothesis Null, Alternative, Simple and composite hypotheses, Two types of errors, Power of the test, Power curves in simple cases, critical region and best critical region (BCR). Most powerful and uniformly most powerful tests. Neyrnan- Pearson's Lemma, Determination of B.C.R for testing simple v/s simple hypothesis in uniform and normal populations.

UNIT-II

General theory of test of significance for large samples for testing of means and proportions, Determination of Sample size, Test of significance based on 't' distribution.

UNIT-III

Tests of significance based on Chi-square and F-sampling distributions.

UNIT-IV

Methods of estimation: Method of moments, Method of least squares and Method of maximum likelihood estimation with their properties (without proof).

UNIT -V

Elements of Non-parametric Inference: Sign, Median and run test.

Elements of Sequential Analysis, Construction of sequential probability ratio tests (SPRT), O.C. and A.S. N. functions. Applications of SPRT for testing simple v/s simple hypothesis in case of Bernoulli and Normal populations.

Recommended Books :

1. GuptA. S.C.and Kapoor V.K.   : Fundamentals of Mathematical 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   Goon, A.M.,Gupta, M.K.   : An outline of Statistical Theory,Vol.2. The
    and Das Gupta, B.(1980)   world Press Publishers Private Ltd. Calcutta.
3. Rohatgi, V.K.(1986)   : An Introduction to probability theory & Math.
                                       Statistics, Wiley Eastern.
4. Mood A.M.,Graybill,: F.A. and   : Introduction to the theory of Statistics, Boes,
    D.C.(1974)   Third edition McGraw Hill