

**(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	
			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
<b>Total Marks</b>			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 –I**  
**PROBABILITY DISTRIBUTIONS**

**TIME: 3 hours**

**Max. Marks**

**UNIT I**

Chebyshev's inequality, Weak law, of large numbers, Central limit theorem for i.i.d. random variables and simple problems on them.

**UNIT II**

Uni-variate Discrete Probability Distributions: Bernoulli, Binomial and Poisson distributions with their derivations, properties and simple applications. Fitting of Binomial and Poisson distributions.

**UNIT III**

Negative-Binomial and Hyper-geometric distributions with their derivations, properties and simple applications. Elementary idea of Geometric and Multinomial distributions.

**UNIT IV**

Univariate Continuous Probability Distributions: Rectangular, Normal and Cauchy distributions, with their derivations- properties and simple applications. Fitting of normal distribution.

## UNIT V

Exponential, Beta type I, Beta type II and Gamma distributions with their derivations, properties and simple applications.

### Recommended Books:

1. Gupta S.C. Kapoor V.K. : Fundamentals of and Mathematical Statistics, Sultan Chand & Sons, New Delhi
2. Kapur, J.N.and Saxena H.C. : Mathematical Statistics, S.Chand & Company Ltd New Delhi.
3. Goon A.M., Gupta & Das Gupta, B. : An outlines of Statistical Theory Vol. I & II, World Press, M. K. Calcutta