

(COMMON FOR THE FACULTIES OF ARTS & SCIENCE)

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

FIRST YEAR B.A /B.Sc

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)

**PAPER -II
PROBABILITY THEORY**

TIME: 3 hours

Max. Marks

UNIT - I

Random experiment, sample space, events, elements of an event, union and intersection of events, mutually exclusive, exhaustive, independent and equally likely events. Classical and Statistical definitions of probability and simple problems, Axiomatic approach to probability. Addition law of probability for two or more events.

UNIT - II

Conditional probability, Multiplication law of probability, Statistical independence of events, Baye's theorem and its simple applications.

UNIT - III

Random Variable Discrete and continuous random variables, Probability mass and density functions,- joint, marginal and conditional probability functions, Distribution functions.

UNIT -IV

Mathematical Expectation Definition of expectation, Addition and Multiplication laws of expectation, Moments in terms of expectation, variance and covariance for the linear combination of random variables. Elementary idea of conditional expectation. Schwartz's inequality.

UNIT - V

Moment generating and Cumulants generating functions with properties, Characteristic function with properties (without proof).

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.
3. Goon A.M., Gupta M., K. Das Gupta B (1999) : Fundamentals of Statistics, Vol.11, World Press Calcutta

Reference Books :

1. Gokharoo D.C. and Saini, S.R. : Mathematical Statistics (Hindi edition), Navkar Prakashan, Ajmer.
2. Bhargava, S.L. and Agarwal, S.M. : Mathematical Statistics (Hindi edition), Jaipur Publishing House, Jaipur.
3. David, R. (1996) : Elementary Probability, Oxford Press.
4. Bhat B.R., Srivenkatramana T and Madhava. K.S.(1977) : A Beginner's Text, Vol II New Age Rao International (P) Ltd