

SARDAR PATEL UNIVERSITY
B.COM SEMESTER: VI
UB06CCOM23 Business Mathematics & Statistics – VI .

Objectives: (1) To enhance analytical ability in students for processing data
 (2) To familiarize students with applications of Statistical techniques in business decision Making.

UNIT	DESCRIPTION IN DETAIL	WEIGHTAGE
1	Moments: Meaning of a random variable, Definition of probability distribution of random variable, Definition of Raw and Central moments. Relation between first four raw and central moments (without proof), Concept of coefficient of Skewness and kurtosis and their interpretations, Simple examples for obtaining the measure by using raw data, grouped data and probability distribution.	[25%]
2	Decision theory: Meaning of decision theory and its basic terminologies, Methods of solving decision problem (i) Decision under uncertainty – Maxi-max principle, Maxi-min principle, Hurwitz's principle and Laplace principle. (ii) Decision under uncertainty when events probabilities are known – E.M.V, E.V.P.I. Simple examples and their interpretations.	[25%]
3	Testing of Hypothesis: Meaning of statistical hypothesis, Definition of Null hypothesis, Alternate hypothesis, Simple and Composite hypothesis, Critical region, Type-1 and Type-II errors, Level of significance, Power of tests. SMALL SAMPLE TESTS: Definition, Assumptions, and Properties of t-distribution. Test of Significance of the difference between Sample Mean and Population Mean. Test of Significance of the difference between Means of Two Small Samples. Paired t-test for difference of two Means.	[25%]
4	CHI-SQUARE TEST, F TEST AND ANALYSIS OF VARIANCE: Definition and limitations of Chi-Square test, Goodness of fit, Test of Independence of Two Attributes and Yates's Correction. F-test (only introduction), Meaning and Assumptions of Analysis of Variance. Analysis of Variance for One Way Classification and its application.	[25%]

References:

- (1) C.R. Kothari: Quantitative Techniques, Vikas Publishing House.
- (2) Sancheti & Kapoor: Business Mathematics. Sultan Chand & sons, New Delhi.
- (3) S.C. Gupta & V.K. Kapoor: Fundamental of Mathematical statistics, Sultan Chand & sons, New Delhi.
- (4) Sancheti & Kapoor: Business Statistics. Sultan Chand & sons, New Delhi

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