Syllabus of Statistics

Multivariate Analysis and Non-parametric Method

Credits: 04	Course Code: B060501T	Sem. V
	External Max. Marks 75	Internal Max. Marks 25

Unit	Topic	No. of Lectures
I	Elementary operation on Matrices, Rank of Matrix. Row and Column Rank, Inverse of matrix Eigen values and Eigen vectors.	08
II	Introduction to multivariate analysis, Uses and applications of multivariate analysis, Bivariate normal distribution: definition and Simple properties.	07
III	Multivariate Normal Distribution, Marginal and Conditional Distributions, Characteristics functions.	08
IV	Maximum Likelihood Estimation of Mean vector and Dispersion matrix and their Independence sufficient statistics of these estimates.	07
V	Concepts and definitions of Multiple and Partial correlations and Multiple Regressions for three variables only (with their practical applications)	08
VI	Non-parametric tests, Tests for location and symmetry, One sample tests: Sign test, Wilcoxon Signed rank tests.	07
VII	Tests for randomness: Run test, Test for goodness of fit.	07
VIII	Two sample tests: Median Test, Kolmogorov- Smirnov's test and Mann-Whitney U test.	08