

B.A/B. Sc-I Semester-II

Paper-I (ST-201)

Time: 3 Hours

M.M.:B. Sc: 40+10*

B.A: 28+7*

* Internal Assessment

Statistical Methods-II

Note : There will be nine questions in all. Question No.1 will be compulsory covering whole of the syllabus and comprising 5 to 8 short answer type questions. Rest of the eight questions will be set from the four units uniformly i.e. two from each unit. The candidate will be required to attempt five questions in all selecting one question from each unit and the compulsory one. All the questions will carry equal marks except the compulsory question, the distribution of marks for which will be as follows:-

B.Sc.8 marks and B.A. 6 marks.

UNIT-I

Correlation : Concept and types of correlation, methods of finding correlation - scatter diagram, Karl Pearson's Coefficient of correlation (r), its properties, coefficient of correlation for a bivariate frequency distribution. Rank correlation with its derivation, its merits and demerits, limits of rank correlation coefficient, tied or repeated ranks.

UNIT-II

Curve Fitting : Principle of least squares, fitting of straight line, second degree parabola, power curves of the type $Y=aX^b$, exponential curves of the types $Y=ab^X$ and $Y=ae^{bX}$.

UNIT-III

Linear Regression : Two lines of regression, regression coefficients, properties of regression coefficients, angle between two regression lines, standard error of estimate obtained from regression line, correlation coefficient between observed and estimated values, distinction between correlation and regression.

UNIT-IV

Multiple Regressions for Three variables: Plane of regression, properties of residuals, variance of the residual. Multiple and partial correlation coefficients: coefficient of multiple correlation and its properties, coefficient of partial correlation and its properties, multiple correlation in terms of total and partial correlations coefficient of determination.

Books recommended

S. No.	Title of Book	Name of author	Publisher
1.	Introduction to Theory of Statistics	Mood A.M., Graybill F.A. & Boes D.C.	McGraw Hill
2.	Applied General Statistics	Croxton F.E., Cowden D.J. & Kelin S.	Prentice Hall
3.	Basic Statistical Computing	Cooke, Cramar & Clarke	Chapman & Hall
4.	Statistical Methods	Snedecor G.W. & Cochran W.G.	Low State Uni. Press
5.	Fundamentals of Mathematical Statistics	Gupta S.C. & Kapoor V.K.	Sultan Chand & Sons