

STATISTICAL METHODS

UNIT – I – SAMPLING

Sampling – Methods of sampling – simple random sampling – Stratified random sampling and systematic and non-sampling errors.

UNIT – II – FUNDAMENTALS CONCEPTS

Types of data – Histogram and frequency polygon – Rules for forming frequency distributions – Relative and cumulative frequency distribution – Mean – Median – Mode – Variance – Standard deviation – skew ness and kurtosis.

UNIT – III – PHYSICAL APPLICATINS OF PROBABILITY

Probability – Definition Axiometric approach of Probability – Mathematical expectation – Binomial distribution – Poisson distribution – Relation between binomial and Poisson's distribution – Webul's and exponential distribution – Normal distribution – Fitting curve – Application.

UNIT – IV – LINEAR AND NONLINEAR FUNCTIONS

Curve fitting – Methods of least squares fit to a straight line parabola, exponential and polynomial.

Regression – Multiple regression – Multiple linear, polynomial and nonlinear functions – Physical applications.

UNIT – V – CORRELATION THEORY

Linear correlation – Measure of correlation – Coefficient of correlation – Multiple correlation – Coefficient of multiple correlation – Testing of correlation – Rank correlation – Applicatin.

Books for Study and Reference:

1. Schamu's outline series – Theory and problems of Statistics - M.R.Speigel – McGraw Hill – 1981.
2. Elementary statistics – A.C.Hoel-John Wiley & sons – 1976.
3. Mathematical statistics – J.N.Kapur and H.C.Saxena – S.Chand & co. – 1976.
4. Elements of statistics – B.N. Asthana – Chaithanya Publishing House-Allahabad – 1970.