

17HS025 Statistical Methods

After the completion of the course, the student will be able to achieve the following outcomes:

COs	Outcomes
1	Identify the existence of correlation in the given data
2	Using regression, predict the future values of the variables
3	Fit an appropriate curve for the given data
4	Identify appropriate significance test for the given data
5	Apply significance tests to industrial and research data

SKILLS

- ✓ Carryout the correlation and regression analysis for industrial and research data
- ✓ Fit appropriate curves to the given data and predict the future values of the variables using tools
- ✓ Apply different significant tests to test the measures of the sample data

Unit-I

Correlation: Def., scatter diagram, its coefficient and its properties. , scatter diagram, computation of correlation coefficient for ungrouped data. spearman's rank correlation coefficient, properties of spearman's correlation coefficients and problems.

Unit-II Regression: simple linear regression, properties of regression coefficients. Regression lines, Concept of Correlation ratio, partial and multiple correlation coefficients, correlation verses regression and their problems.

Unit – III

Curve fitting: Method of least square - Fitting of linear, quadratic, Exponential and power curves and their problems.

Unit-IV

Attributes : Introduction, Nature, and consistency and mention its conditions. Independence and association of attributes, co-efficient of association, coefficients of contingency and their problems.

Unit –V

Exact sampling distributions: Concept of population, Parameter, random sample, statistic, sampling distribution, standard error. Statement and Properties of χ^2 , t, F distributions and their inter relationships.

Text books

1. BA/BSc II year statistics - statistical methods and inference - Telugu Academy by A. Mohanrao, N.Srinivasa Rao, Dr R.Sudhakar Reddy, Dr T.C. Ravichandra Kum.
2. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI.
3. Fundamentals of Mathematics Statistics: VK Kapoor and SC Gupta.

Reference Books:

1. Outlines of statistics, Vol II : Goon Guptha, M.K.Guptha, Das Guptha B.
2. Introduction to Mathematical Statistics : Hoel P.G.