Subject Code : P8MAE10

MATHEMATICAL STATISTICS

UNIT I

Collection, classification and tabulation of data, graphical and diagramatic representation – Bar diagrams, Pie diagram, Histogram, Frequency polygon, frequency curve and Ogives. Measure of central tendency – Mean, Median and Mode in series of individual observations, Discrete series, Continuous series (inclusive), More than frequency, Less than frequency, Mid-value and open-end class.

UNIT II

Measures of dispersion – Range, Quartile deviation, Mean deviation about an average, Standard deviation and co-efficient of variation for individual, discrete and continuous type data.

UNIT III

Correlation – Different types of correlation – Positive, Negative, Simple, Partial Multiple, Linear and non-Linear correlation. Methods of correlation – Karlpearson's Spearman's correlations, Concurrent deviation and Scatter diagram.

UNIT IV

Regression types and method of analysis, Regression line, Regression equations, Deviation taken from arithmetic mean of X and Y, Deviation taken from assumed mean, Partial and multiple regression coefficients – Applications

UNIT V

Sampling theory – Testing of hypothesis using normal distribution – Single mean, Two mean, Single proportion, Two proportions and Two Standard Deviations and Student – t distribution – Single mean, Two mean, Paired t-test, Simple correlation coefficient – Chi-square test-Independents of attributes and goodness of fit-applications. Analysis of variance – One-way and two-way classification with simple problems.

TEXT BOOK(S)

[1] S.C.Gupta, V.K.Kapoor, Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi, 1994.

REFERENCE(S)

[1] Freund J.E.(2001); Mathematical Statistics, Prentice Hall of India.
[2] Goon, A.M., Gupta M.K., Dos Gupta, B, (1991), Fundamentals of Statistics, Vol.I, World Press, Calcutta.