

PAPER-III BUSINESS STATISTICS

M .M. - 80

- UNIT-I** **Univariate Analysis** :- An overview of central tendency, dispersion and skewness.
- Data Sources** :- Primary and secondary; Primary data collection techniques- schedule, questionnaire, and interview.
- UNIT-II** **Probability Theory** : Probability classical, relative, and subjective probability; Addition and multiplication probability models; Conditional probability and Baye"s theorem.
- Probability Distributions** : Binomial, Poisson, and normal distributions: Their characteristics and applications.
- Statistical Decision Theory** : Decision environment; Expected profit under uncertainty and assigning probabilities; Utility theory.
- UNIT-III** **Sampling and Data Collection** : Sampling and sampling (probability and non-probability) methods; Sampling and non-sampling errors; Law of Large Number and Center Limit Theorem; Sampling distributions and their characteristics.
- Statistical Estimation and Testing** : Point and interval estimation of population mean, proportion and variance; Statistical testing - hypotheses and errors; Sample size; Large and small sampling tests - Z tests, T tests and F tests.
- Non Parametric Tests** : Chi-square tests; sign tests; Wilcoxon Signed-Rank tests; Wald-Wolfowitz tests; Kruskal-Wallis test.
- UNIT-IV** **Correlation and Regression Analysis** : Two variables case.
- Index Numbers**: Meaning and types; Weighted aggregative indices - Laspeyre's and Paasch's indices; Laspeyre's and Paasch's indices compared; Indices of weighted average of (price-quantity) relatives; Tests of adequacy; Special Problems- Shifting the base; splicing overlapping index series; Uses and problems.
- UNIT-V** **Statistical Quality Control**:- Causes of variations in quality characteristics; Quality control charts purpose and logic; Construction a control chart-Computing the control limits (X and R charts) Process under control and out of control; Warning limits; Control charts for attributes fraction defective and number of defects; Acceptance sampling.