

QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Credit Allotted: 5

Max. Marks: 75

Objectives : To make the students to understand the various techniques of statistics used in business for taking decisions.

Unit - I Concept of probability Distributions :

Probability meaning & theorem, Types of Probability, Baye's Theorem – Binomial Distribution - Poisson Distribution – Normal Distribution.

Unit - II Testing of Hypothesis

Definition of Hypothesis –Types of Hypothesis – Type I Error - Type II Error – Testing of Population Mean – Proportion – Difference between Means –Difference between proportions – ANOVA – Chi - square Test.

Unit - III

Transportation Problems – Initial Basic Feasible Solutions by North west corner Rule – Matrix Minima method - Vogel's Approximation Method – Optimization test by Modi Method - Assignment problems.

Unit IV – Linear Programming and Theory of Games

Meaning of Linear Programming – Basic concepts and notation – Linear Programming Model – Formulation – graphic and simple solution– Theory of games – Types of games – Dominance – Rule for Dominance – Solution through graphic Simplex Method. (Simple Problems only)

Unit V - Network Analysis – CPM and PERT

Introduction to Network Analysis – Preparation of Network Diagram – Critical Path Method (CPM) – Time cost Consideration – Limitation of CPM – Programme Evaluation and Review Technique (PERT) - Advantages and Limitations of PERT – Similarities and Dissimilarities of PERT and CPM.

(Theory: 30 Marks; Problem: 45 Marks)

Books for Reference:

1. Richard I. Levin, and Rubin, Statistics for Management – Prentice Hall of India.
2. Homy A. Taha, Operations Research – An Introduction, McMillan.
3. Richard I Levin, Charles A. Kirpathic and David S.Rubin, Quantitative Approaches to Management, McGraw Hill.
4. Bunkdick F.S. Et.al. Principles of Operations Research for Management, Richards D. Irwin.
5. Anderson, Sweeney, Williams, An Introduction to Management Science : Quantitative Approaches to Decision Making, 7th ed. West Publishing Company, 1994.
6. Quantitative Methods – S.P. Gupta
7. Quantitative Methods – Gopi Kuttan, Himalaya Publications
8. Quantitative Methods - Kanthi Swarup – Sultan Chand Publications