Subject Code : 8ACBB2C

OPERATIONS RESEARCH

OBJECTIVE: To facilitate the students to understand the scientific methods available to take proper decisions in the allocation of scarce resources, their optimum use in maintaining inventory, in replacing machines and in forecasting the trends that are affected by many contingent factors.

UNIT I

Operations Research: Meaning – Models – Scope – Phases – Limitations – Operation Research and Decision-making – Linear Programming Problem: Formulation of L.P.P. – Solution to an L.P.P. – Graphical Method.

UNIT II

Transportation Problem: Solving T.P. By North West Corner Rule, Least Cost Method and Vogel's Approximation Method.

UNIT III

Inventory Control: Categories of Inventory – Reasons for carrying inventory – costs and terms associated with Inventory – Deterministic and Probabilistic Inventory Problem.

UNIT IV

Assignment Problem: Solving Assignment Problem- Travelling Salesman Model – Maxima & Minima Method – Hungarian Method.

UNIT V

Replacement Decisions: Replacement of Equipment that deteriorates gradually – Replacement of Equipment that fails suddenly.

(Marks: Theory 20% and Problems 80%)

TEXT RECOMMENDED:

Operations Research – KANTI SWARUP, P.K. GUPTA AND MAN MOHAN, Sultan Chand & Sons

BOOKS FOR REFERENCE:

Quantitative Techniques for Decision Making – ANAND SHARMA, Himalaya Publishing House
Quantitative Techniques – C.R. KOTHARI, Vikas Publishing House