

Course Code	BBA6B13
Title of the Course	MANAGEMENT SCIENCE
Semester	6
No. of Credits	4
No. of Contact Hours	80
Hours/week	5

Module I : Operations Research: Concept - Meaning and Definition – Development of OR – Characteristics of OR – Scope & Objectives of OR – Phases of OR – Techniques of OR – OR and Modern Business Management.

15 hours

Module II : Linear Programming Problem: Meaning & Objective of LP – Applications of LP – Formulation of Mathematical Model to a LPP – Objective function – Constraints – Solution to LPP (Graphical solution only) – Advantages & Disadvantages of LP.

15 hours

Module III : Network Analysis: Meaning and Objectives – Network Techniques – Managerial applications of Network Techniques – PERT & CPM – Network diagram – activity – Event – Dummy Activity – Construction of Network diagram – Numbering of events – Activity & Event times – Float & Slack – Steps in the application of CPM – Critical activity – Finding of critical path & Estimated Duration – Time estimates in PERT – Steps involved in PERT calculations – Difference between PERT & CPM (only simple problems are expected – Crashing of activity timing not expected)

25 hours

Module IV : Decision Theory: Decision making situations – Decision making under certainty - Decision making under uncertainty : Payoff, Regret (Opportunity loss), Maximax criterion – Minimax criterion, Laplace criterion & Hurwicz alpha criterion – Decision making under risk : Expected Monetary Value (EMV) , Expected Opportunity Loss (EOL) , Expected Value of perfect information (EVPI) – Decision making under competition – Game Theory (Theory only) – Decision Tree.

10 hours

Module V : Transportation Model: Structure of Transportation problem – solution for Transportation problem – North West Corner Method (NWCM) – Least Cost Method (LCM) – Vogel's Approximation method (VOM) (Simple problems only).

15 hours

Reference Books:

- 1)– V.K Kapoor, Operation research Techniques for Management Sulthan Chand & Sons.
- 2)– Taha, Operations Research - An Introduction Prentice hall.
- 3)– J.K. Sharma. Operations Research Theory and Application
- 4)– J.K. Sharma, Operations Research Problems and Solutions Macmillan.
- 5)– Paneerselvam, Operations Research Prentice hall of India.