

604: Operation Research

1. Operations Research: Concept and Significance of operations research; Evolution of operations research; Steps in designing operations research studies; Operations research models.
2. Linear Programming and its Applications: Graphic method and simplex method; Duality problem; Transportation problem; Assignment problem.
3. Introduction to other Types of Programming: Goal programming; Integer programming; Dynamic programming; Non-linear programming (introductory only).
Waiting Line Models: Waiters and services; Mathematical distribution of queues; Basic models of queuing theory and applications.
4. Inventory Control: Deterministic models and probabilistic models
Game Theory: Zero sum game; Pure and mix strategies; Criteria of sharing strategies.
5. Simulation: Application of simulation techniques; Monte-Carlo approach.
Net-Work Analysis: Introduction to PERT and CPM; Application areas of PERT and CPM

Suggested Readings:

1. Agrawal, J. D. and Sagarika Ghosh: Quantitative Techniques for Financial Analysis, Indian Institute of Finance, New Delhi.
2. Billy, E. Gillett: Introduction to Operations Research – A Computer oriented Algorithmic Approach, Tata McGraw Hill Publishing Ltd., New Delhi.
3. Lucey, T: Quantitative Techniques, D. P. Publications, London.
4. Sharma, K. R: Quantitative Techniques and Operations Research: Kalyani Publication, Ludhiana.
5. Taha, Hamdy A: Operations Research – An Introduction, Prentice Hall, Delhi.
6. Vazsonyi, Andrew and Herbert F. Spriner: Quantitative Analysis for Business, Prentice Hall, New Delhi.
7. Vohra, N. D: Quantitative Techniques in Management, Tata McGraw-Hill, New Delhi.
8. Wanger, H. M: Principles of Operations Research, Prentice Hall, Delhi.
9. Wastsman, Terry J. and Parramor Keith: Quantitative Methods in Finance, International Thompson Business Press.
10. Sharma SC, Sehenoy GV, Srivastava VK: Quantitative Techniques for Managerial Decision Making; Wiley Western Ltd, New Delhi.