MCC: 405 QUANTITATIVE TECHNIQUE-I (OR)

Module-I   (13 hours)

Introduction to Linear Programming: Problem formulation, graphical solution of LPP, Simplex algorithm, Big-O method, Two phase simplex method, Duality, Dual theorems, Transportation Problem, Assignment problem, Transshipment Problem.

Module-II   (13 hours)

Queuing Theory: Basic structure of queuing model, Role of exponential distribution, Birth and death process, Queuing models based on Birth-and-death process, Queueing models based on Non- exponential distributions

Inventory Theory: Components of inventory models, Deterministic Continuous-Review model, deterministic Periodic-Review model, Deterministic Multiechelon inventory models for supply chain management.

Module-III   (14 hours)

Project management: Visual display of a project, Sheduling a project with PERT/CPM, Dealing with uncertain activity, Time-cost trade-offs, Scheduling and controlling project costs, Evaluation of PERT/CPM

Decision analysis: Decision making without experimentations, Decision making without experimentations, Decision trees, Utility theory

Text Book:

1. Frederick S. Hiller, Gerald J. Lieberman, "Introduction to Operations Research", Eighth Edition, McGraw Hill Education, New Delhi

Reference Books:

1. W. L Winston, " Operations Research Application and algorithm, Fourth Edition, CENGAGE Learning India Pvt Ltd, New Delhi.
2. Taha," Operations Research", Eighth Edition, Pearson Education Inc, New Delhi
3. J. K. Sharma, " Operations Research theory and application", 3rd Edition MacMillan India Ltd.
4. Ravidran, Philips, Solberg, " Operations Research, Principles and Practice", Second Edition, John Wiley and Sons, 2006