MA641  Operations Research

Credit: 3-0-0-0  Approval: Approved in 2nd Senate
Prerequisites: None
Students intended for: Ph.D./ M.S./B.Tech
Elective or Core: Elective  Semester: Odd/Even: Even

Course content:

• Introduction to Operations Research, Models and Modelling in Operations Research, Graphical Method, Simplex Method and its variants. [10 hours]

• Sensitivity Analysis, Duality and Post-Optimal Analysis, Advanced Linear Programming: Bounded Variables, Parametric Linear Programming, Revised Simplex Algorithm, Goal Programming, Dual Simplex Method, Integer Linear Programming. [12 hours]

• Transportation Model and its Variants: Balanced and Unbalanced Transportation Problem, Transhipment, Assignment Problem: Auction and Hungarian Method, unbalanced assignment problem. Sequencing Problem and Variants: Algorithms for processing n-jobs through m-machines. Traveling Salesman Problem, Heuristics and Branch and Bound and Gomory’s Algorithms. [12 hours]

• Project Evaluation and Review Technique, Critical Path Method. [6 hours]

Text & Reference Books:


