10 ME 324 OPERATIONS RESEARCH
III B.Tech II Semester
(with effect from the academic year 2013-2014)

Lectures/week: 4 Hrs. *Credits: 4*
University Exam:3 Hrs *Sessional Marks: 40*
End Examination Marks: 60

UNIT-I
Introduction to general nature of Operations Research Models and their types, Introduction to LP Problems, examples, Graphical method of solution. Simplex Algorithm, Degeneracy, Duality.

UNIT-II
Transportation and Assignment problems, and Traveling Salesman Problems, introduction to non-linear programming – Lagrangian multiplier techniques.

UNIT-III
Replacement models – Replacement of items that deteriorate with time- with and without change in money value, group replacement of items that fail suddenly.
Sequencing models: n-job two machines, n-job three machines, and 2- job m-machines.

UNIT-IV
Inventory models, costs used in inventory models, Basic inventory models with and without Shortages. Quantity discounts (Price breaks): Purchasing models with one price break and two price breaks - Single period models with probabilistic demand and without set up cost.
Inventory control: ABC & VED Analysis. Fixed order quantity, Fixed order interval systems and S-s policy.

UNIT-V
Waiting line models – Basic structure of queuing models, single server and multi server models- Stress is only on applications.
Game theory: Two – person .zero- sum games, saddle point, Algebraic and Arithmetic methods, Priinciple of Dominance, Graphical method. Introduction to Simulation.

TEXT BOOKS:

1. Introduction to Operations Research : Hira and Gupta
2. Introduction to Operations Research : Sharma S.D

REFERENCES:

1. Introduction to Operations Research : Hamdy A Taha
2. Introduction to Operations Research : Hiller and Lieberman
3. Operations Research : Pannerselvam R.