

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Advance Manufacturing System (Branch Code - 50)

Year – II (Semester – III) (W.E.F. June 2013)

Major Elective-IV

1. Subject: Decision Modeling (735001)

Sr. No.	Course Content	Hours
1	Decision environment, Decision making process; Optimization, search problems, Heuristics, deterministic and probabilistic situations, single and multiple persons making, Introduction to related software	8
2	Linear programming problems(LPP) <ul style="list-style-type: none">• Methods to solve linear programming problems• Advance Topics in linear programming problems• Sensitivity analysis• Revised Simplex Method• Goal programming• Parametric Linear programming• Integer Linear programming	12
3	Introduction Non linear programming problems (NLPP) <ul style="list-style-type: none">• Unconstrained Non linear Algorithm Search and Gradient method• Constrained Non linear Algorithm• Geometric Programming• Separable Programming• Quadratic programming	16
4	Dynamic programming and its applications	4
5	Decision Theory <ul style="list-style-type: none">• Decision under risk• Decision under uncertainty• Decision tree for decision making, Bayesian approach in decision making	8
6	Queuing Theory, Monte Carlo simulation	8

References:

1. Ravindran A. Philips D.T and Solbetrg J.J. Operation Research: Principles Practices, John Wiley, 2nd Ed.
2. Bazzarra M S Jarvis J.J and Sherali H.D: Linear Programming and Network 2nd ED; John Wiley
3. Winston W.L Operation Research: Application and Algorithm, Kent P.W. S 2nd Ed.
4. Taha H.A. Operation Research: An Introduction, Macmillan

5. Kapoor R. Computer assisted decision models Tata McGraw Hill
6. B Banerjee: Operation Research Techniques for Management, Business Book Publishing House