SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (QPM)
Semester: III
Syllabus with effect from: June - 2015

Paper Code: QP - 303	Total Credit:
Title Of Paper: Operations Research - II	

Unit	Description in Detail	Weightage (%)
I	Transportation Problem(TP): Introduction, Area of application, mathematical model of TP- maximization and minimization problems, Terminologies used in LPP. Degeneracy, Balanced and unbalanced TP. North-West Corner Method(NWCM), Least Cost Method(LCM), Vogel's Approximation Method(VAM), Modified Distribution Method(MODI)	**[12]**
II	Assignment Problem(AP): Introduction, Area of application, mathematical model of AP- maximization and minimization problems ,Hungarian Method, Multiple Optimal Solutions.	**[8]**
III	Network Analysis: Introduction, Minimal spanning tree problem, Maximal flow problem. PERT and CPM- Terminologies used, Similarity and Differences, steps in PERT and CPM.	**[10]**
IV	Inventory Control-Deterministic and Probabilistic models, Non-linear Programming Problem- Kuhn-Tucker Conditions, Introduction to Simulation Techniques and Sequencing Problems,	**[10]**

Basic Text & Reference Books:-

- Kambo, N.S.(1991) Mathematical Programming Techniques Affiliated East-West Press Pvt.Ltd.
- Hadley,G. (1987) Linear Programming.
- Taha, H.A.(1992) Operations Research 5th Ed., Macmillan
- Kanti Swarup, Gupta P. K. and Man Mohan Singh (1977) Operations Research, Sultan Chand & Sons.
- N. D. Vohra (2011) Quantitative Techniques in Management, 4th Ed., Mc Graw Hill.
- V. K. Kapoor(1998) Problems & Solutions in Operations Research, 2nd Ed., Sultan Chand & Sons.
- S. D. Sharma (2001) Operations Research, 13th Ed., Kedar Nath Ram Nath & Co.
- J. K. Sharma(2009) Quantitative Techniques For Managerial Decisions, 1st Ed. , Macmillan