

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc – Information Technology (Integrated)
Semester: V
Syllabus with Effect from: June - 2014

Paper Code: PS05FIIT01	Total Credit: 4
Title of Paper: Operation Research	

Unit	Description in Detail	Weightage (%)
I	Introduction to Operations Research(OR): History, meaning and scope of OR Phases of OR study Types of Models Applications, advantages and limitations of OR	25%
II	Linear Programming Problem(LPP) Meaning Advantages and limitations Formulation of LPP Graphical solution, Simplex method – Big M method	25%
III	Transportation Model and Assignment Model Introduction Mathematical model of Transportation problem Initial basic feasible solution by North-west corner rule, Least-cost method, Vogel's approximation method. Optimum Solution by MODI method Introduction to an Assignment Model Mathematical model of Assignment problem Solution by Hungarian method	25%
IV	Sequencing Problems and Project Scheduling in PERT-CPM Sequencing problems and Applications for two and three machines. Introduction to PERT and CPM Advantages and Assumptions Rules for Network construction Critical Path calculations, Total float, Free float	25%

Basic Text & Reference Books:

- Taha H. A. : Operations Research, Macmillan, New York (1987)
- Sharma S.D. : Operations Research. Kedar Nath Ram Nath & Co. Meerut , 1988-89.
- Gillett B. E.: Introduction to Operations Research - a computer oriented algorithmic approach, McGraw-Hill, 1976
- Bronson Richard : Operations Research, Schaum's outline Series, 1983.
- Kapoor V K : Problems and solutions in Operations Research, Sultan Chand & sons, 1996.

