

SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Mathematics)
Semester: III
Syllabus with Effect from: June-2015

Paper Code: US03EMTH06	Total Credit: 2
Title Of Paper: Operation Research - I	

Unit	Description in detail	Weighting (%)
I	History, Meaning and application of OR. Introduction to LPP, General and Standard Formulation of LPP, Problems of formulation of LPP, Solution of LPP using Graphical method.	
II	Solution of LPP using Simplex method and Big M method. Duality in LPP (Concept only)	
III	Transportation Problems : Introduction, Mathematical formulation of Transportation problem, Methods of finding initial basic feasible solution. <ul style="list-style-type: none"> ➤ North West Corner Method (N- W Corner method) ➤ Row Minima Method ➤ Column Minima method ➤ Matrix Minima Method (Least Cost Entry Method) ➤ Vogel's Approximation method (VAM) 	
IV	Modified distribution (MODI) method for finding optimum solution of transportation Problem, Unbalanced TP, Degenerate TP.	

Basic Text & Reference Books:-

Operations Research by S D Sharma

Chapter - 1 - 1.1, 1.2, 1.3

Chapter - 3 - 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.10, 3.11

Chapter - 5 - 5.1, 5.2, 5.3, 5.4, 5.5.6, 5.8.1, 5.8.2, 5.8.3

Chapter - 7 - 7.1 to 7.5 (theorems without proof), 7.7 (introduction only)

Chapter - 11 - 11.1, 11.2, 11.3, 11.4, 11.8, 11.9, 11.10, 11.11, 11.12

Reference Books:

Operations Research by J K Sharma

Operations Research: An Introduction by Hamdy A Taha

Operations Research by Kanti Swarup and Man Mohan Gupta

