

Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj
Master of Science (Computer Applications & Information Technology)
Semester: VIII

Paper Code: CECS817		Total Credit : 4 Total Marks : 70 Time : 3 Hrs
Title of Paper: Optimization Techniques		
Unit		
	Description	Weighting
I	Linear Programming Model Mathematical Formulation Graphical Solution of linear programming models Simplex method Artificial variable Techniques- Variants of Simplex method	20%
II	Transportation and Assignment Model Mathematical formulation of transportation problem Methods for finding initial basic feasible solution optimum solution Degeneracy Mathematical formulation of assignment models Hungarian Algorithm Variants of the Assignment problem	20%
III	Integer Programming Model Formulation – Gomory’s IPP method – Gomory’s mixed integer method – Branch and bound technique.	20%
IV	Scheduling by PERT and CPM Network Construction – Critical Path Method – Project Evaluation and Review Technique – Resource Analysis in Network Scheduling	20%
V	Sequencing and Simulation Two Machine Problem Three Machine Problem Simulation and related numerical Importance of Simulation in Computer Science	20%
Basic Text & Reference Books :-		
1.	Taha H.A., “Operations Research : An Introduction “ 8th Edition, Pearson Education, 2008.	
2.	John W. Chinneck “Feasibility and Infeasibility in Optimization Algorithms and Computational Methods’ Springer, 2008	

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Unit	Description		Total Marks
I	Q.1 (A) Short Medium Questions. (With Internal Option)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Answer the Following. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	