



C. U. Shah University, Wadhwan City

Faculty of Computer Science

Name of Program: Master of Science in Information Technology

(Web Technology)

Semester : III

W.e.f. June-2015

Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
			Th	Tu	Pr	Total		Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni.	
								Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
4	SCS03WOR1	Operation Research	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Objectives:The course provides introduction to linear programming and transportation and assignment problem and project management.

Pre-requisites:Fundamental of mathematics

Course Outline:

Ch. No.	Chapter Name	Topics	Lect. Hours
1	Introduction of Operations Research	Basic definition, features, applications, advantages, limitations, models	04
2	Introduction of Linear Programming	Structure of Linear Programming model, advantages, limitations, applications, general mathematical model of linear programming problem	04
3	Linear Programming-The Graphical method	Definitions, Graphical solution methods of LP problem, special cases in Linear Programming	10
4	Linear Programming-The Simplex method	Standard form of an LP problem, Simplex Algorithm(maximization and minimization case), types of LP solutions	10
5	Transportation Problem	Formulation, solution, unbalanced Transportation problem. Finding basic feasible solutions – Northwest corner rule, least cost method and Vogel’s approximation method.	10
6	Assignment Problem	Formulation. Hungarian method for optimal solution. Solving unbalanced problem. Traveling salesman problem and assignment problem.	10
7	Project Management	Basic difference between PERT/CPM , phases of project management, PERT/CPM network components and precedence relationships, critical path analysis	10
Total ::			58

Teaching Methodology:Revision, Paper Solving, Seminar, Expert Talk

Books Recommended:

1. J K Sharma, "Operations Research Theory & Applications, 3e", Macmillan India Ltd, 2007.
2. P. K. Gupta and D. S. Hira, "Operations Research", S. Chand & co., 2007.
3. P. Sankara Iyer,"Operations Research", Tata McGraw-Hill, 2008.
4. A.M. Natarajan, P. Balasubramani, A. Tamilarasi, "Operations Research", Pearson Education, 2005.
5. Operation research : A Practical Approach, Tata McGraw publication