

Programme Name	Master of Commerce
Semester	Fourth
Paper No	4.32
Course Code	
Course Name	Operation Research (Paper – 1)
Course Type	Elective Course
Effective from	DECEMBER 2012
Objective	To introduce the important ideas in operation research which are both fundamental and long lasting. To provide the theoretical aspects of the subject with practical application to real-life industrial, business problems with some changes as per the requirements.

Unit No.	Topic No.	Content	Hrs.	Marks W + %	Credit
1	01	Network PERT and CPM analysis Concept of network diagram definitions connected with network time calculations method. matrix solution method critical path method PERT in network problems crashing of activities in a project.	15	25	01
2	02	Queuing theory and Sequencing Basic concepts for a queuing system - study of (M/M/I : FIFO) and (MMK : FIFO) queues with simple properties Applications of queuing theory without any mathematical derivations. Problem of sequencing - sequencing of n jobs on two and three machines.	15	25	01
3	03	Inventory Control Cost associated with inventory - classification of inventory system hot size models with and without shortages (back order policy only) inventory models under price breaks and quantity discount deterministic inventory models under given-restrictions - ABC and VED analysis of inventory.	15	25	01
4	04	Marked Research Definition of marked research-scope problem formulation cost value and round off. use of EMV and EVPI approach research design data collection univariate and bivariatic analytical tools and methods applied research problems including case studies Bayesian approach to problems of marked research.	15	25	01

References :

1. Hadley G.S (1974) : Linear programming, Addison-Wesley
2. Gass S.I. : Linear programming
3. Sharma J.K. : Intro. to O.R.
4. Taha H.A. : Operation Research - An Introduction
5. Sharma S.D. : Intro. to O.R.
6. Hillier and Lieberman : Operation Research
7. Vajda S. : Game Theory with Application
8. Hadley G.S. : Non-linear and Dynamic programming
9. Naddor e. : Inventory systems
10. Rao S.S.(1984) : Optimization Theory & Applications,
Sec.Ed. Wiley Eastern
11. Hadley and Whitin : PERT CPM Management

Note : One Question from each unit with internal options. 60 % for examples and 40 % for theory weightage compulsory for each question. And each question should contain two or three sub-questions.