M.Com. Part II
Statistics : Paper IV (Principal Subject)
(To be made effective From , June - 2007]

Course Contents

Unit I : Optimisation Techniques :   **25%**

Integer programming (IP) problem- method of solving an IP problem and examples, Balanced and unbalanced transportation problem (TP), Modi method of finding an optimal solution of TP

Formulation of non-linear programming (NLP) problem. and applications, Introductions to quadratic and tract ional linear programming problems and examples.

Unit II : Network, PERT and CPM analysis :   **25%**

Concept of Network, Network diagram, definitions connected with Network Time calculations labeling method, matrix solution method, critical path method, CPM- PERT in network problems, crashing of activities in a project.

Unit III : Queuing Theory and Sequencing :   **25%**

Basic concept for a queuing system - study of $(M/M/1 : \infty / FIFO)$ and $(M/M/K : \infty / FIFO)$ queues with simple properties. Applications of queuing theory without any mathematical derivations.

Problem of sequencing - sequencing of n jobs on two and three machines.

Unit IV : Inventory Control :   **25%**

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.

Books for Reference :

1.	Hadley G.S(1974)	: Linear Programming, Addison-Wesely
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)	: Optimisation Theory & Applications. Sec.E.d. Wiley Eastarn
11.	Hadley and Whitin	: PERT CPM Management