

QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Sem	Subject Code	Category	Lecture		Theory		Practical	Credits
II	21CPCO2D	Core VIII	6 hrs per week	90	6 hrs per week	90	-	4

COURSE OBJECTIVE:

This course aims to provide knowledge on how to apply the quantitative methods for taking effective business decisions.

COURSE OUTCOMES:

CO Number	CO Statement	Knowledge Level (K1 – K4)
CO1	To interpret and analyze various quantitative techniques used by industries.	K2
CO2	To apply the inventory control concept in decision making.	K3
CO3	To apply quantitative techniques to technical problems in business management.	K3
CO4	To critically evaluate the optimal job assignments for getting best possible solution.	K3
CO5	To grasp and inculcate queuing theory with effective models.	K4

**Knowledge Level: K1- Remember; K2- Understand; K3- Apply; K4 Analyse*

Mapping with Programme Outcomes

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	S	M	M
CO2	M	S	S	M	M	S
CO3	S	S	M	M	S	M
CO4	M	M	S	M	M	S
CO5	S	M	S	S	S	M

S-Strong; M-Medium; L-Low

Unit – I Quantitative Techniques and Network Analysis

Quantitative techniques – Meaning – Characteristics – Linear programming – Formulation method – Graphical method – Simplex Method – Maximization – Minimization (Big M Method) – Network analysis – Network diagram – PERT – CPM.

Unit – II Inventory control:

Inventory models – Meaning – Definition – General concepts – Various cost concepts – Techniques of Inventory control – Determination of stock levels – EOQ – Formula method – Tabular method.

Unit – III Transportation

Transportation model – Definition – Formulation and selection of Transportation methods – North west corner – Least cost method – Vogel's approximation method – Unbalanced transportation problem – Degeneracy in Transportation problem.

Unit – IV Assignment

Assignment Model – Definition – Formulation and solution of Assignment models – Simplex and Hungarian method – Unbalanced Assignment Problem.

Unit –V Queuing Theory:

Queuing theory – Meaning – Objectives – Elements/Structure of Queuing system – Limitations of Queuing theory – Application of Queuing models.

DISTRIBUTION OF MARKS: THEORY 20% AND PROBLEMS 80%

TEACHING METHODOLOGY

The course is covered by adopting a combination of lecture methods, class presentation by groups of students, self study sessions. Each student is required to do the back ground reading from the specified chapters of the prescribed book before coming to class.

TEXT BOOKS:

S.No	Authors	Title	Publishers	Year of Publications
1	P.R. Vittal and V. Malini	Operations Research	Margham Publications	2005
2	P.R. Vittal	Quantitative Techniques	Margham publications	2007
3	J.K. Sharma	Operations research	Sultan Chand and Sons	2010
4	Dr D Joseph anbarasu	Business statistics and operations research	Lintec Press Trichy	2015
5	P.R.Gupta and Man Mohan	Operation Research	Sultan Chand and sons, New Delhi	2016

REFERENCE BOOKS:

S.No	Authors	Title	Publishers	Year of Publications
1	PA. Navanitham	Business Statistics and Operations Research	Jai Publishers	2010
2	P.R Vital	Business statistics and operation research	Margham publications	2016
3.	C.R.Kothari	Quantitative Techniques	Vikas publishing house	2015
4.	J.K. Sharma	Mathematical Models in operation research	TMH publishers	2014

SYLLABUS DESIGNER:

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