

Subject Code: 1MS3010201	Subject Title: Quantitative Methods for Business II
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1. Course Overview

Decision making in management is expected to be on the basis of data available at any point of time. The data needs to be organised, interpreted & understood. This course will help in understanding various tools & techniques in managerial statistics & its applications in decision problems.

2. Course Objectives

After the course, participants

- Would be able to solve complex business problem with mathematical & operation research techniques.
- Would be able to bring quantitative understanding in various decision making problems.

3. Teaching Scheme (Hours per week)

Lecture (Hrs.)	Tutorial	Practical	Credit	Evaluation Scheme (Marks)		Total
				University Assessment	Continuous Assessment	
3	1	0	4	60	40	100

4. Syllabus:

Module No.	Contents	Total Hours	Weight (%)
1	Linear Programming – I: Introduction of Operation Research, Meaning and Uses of Linear Programming, Mathematical Formulation of Linear Programming, Problem for Two Variables, Important Terms Used in Linear Programming, Solution of Linear Programming Problems By Graphical Method	9	20
2	Linear Programming-II: Introduction of Simplex Method, Slack Variable, Surplus Variable, Incoming Variable, Pivot Column, Pivot Row, Outgoing Variable, Solution of Linear Programming Problems By Simplex Method.	9	20
3	Transportation Problems: Formulation of Transportation Problem, Its Initial Basic Feasible Solution by North-West Corner Rule, Matrix Minima (Least Cost Method, Vogel's Approximation Method VAM), and Optimum Solution by Modified Distribution Method, Degeneracy and Its Resolution.	9	20

4	Assignment Problems: Meaning, Assignment Problem with Restriction, Unbalanced Assignment Problem, Maximization Problems and Its Optimum Solution by Hungarian Method.	9	20
5	Time Series Analysis & Set Theory Definitions, Applications and Techniques of Time Series Sets and Subsets, Unions and Intersections, Complements, Indexed Families of Sets, Cartesian Product of two Sets, relations, Partitions and Equivalence Relations, Functions, Images and Inverse Images of Sets, Composition of Functions, Finite & Infinite Sets	9	20

5. Suggested Readings

Text & Reference Books

Author/s	Publication	Title
Dean & Foster	Pearson India	Business Statistics
SanchetiKappor		Business Mathematics
Ken Black	John Wiley	Business Statistics For Com temporary Decision Making
Hillier & Lieberman	TataMcGraw Hill Publication	Introduction to Operations Research
P. K. Gupta and Manmohan	S.Chand.Co	Operation research and statistical analysis
S. D. Sharma	KedarNath& Co	Operation Research
H. A. Taha	PHI Publications	Introduction to Operations Research

6. Evaluation Scheme

Sr. No.	Component	Weight
1	University Examination * For the written examination, the open book examination may be opted by the paper setter appropriately	60%
2	Internal Assessment -Depending on the need and objectives of the subject, internal assessment should include minimum three of the following sub-components; <i>Class Test, Quiz, Assignments, Case Presentation, Class Participation, Projects, Team/Individual Assignments.</i> -The weightage of a sub-component should not exceed 50% of internal assessment component weight. -The bifurcation of sub-components shall be communicated by the instructor before commencement of the academic sessions.	40%