



SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY'S
R. N. G. PATEL INSTITUTE OF TECHNOLOGY - RNGPIT

An Autonomous Institute u/s UGC Act 1956

Approved by AICTE & affiliated to Gujarat Technological University

Bardoli - Navsari Road, At: Isroli (tarpore), Po: Afwa, Tal: Bardoli, Dist: Surat, Pin - 394620
Phone: 95129 00457, 95129 00458 • Email: Info@rngpit.ac.in • Website: www.rngpit.ac.in

Program Name: MBA
Level: Post Graduation
Branch: Logistics & Supply Chain Management
Course / Subject Code: 1MB1201
Course / Subject Name: Quantitative Methods

w. e. f. Academic Year:	2024-25
Semester:	II
Category of the Course:	Core Course (CC)

Prerequisite:	
Rationale:	

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	To Understand the role of quantitative methods in decision-making.	U
02	To apply statistical tools to summarize and interpret supply chain data.	A
03	To apply forecasting methods to real-world supply chain problems.	A
04	To develop basic skills for quantitative application in business situations.	U
05	To formulate linear programming models	C

*Revised Bloom's Taxonomy (RBT)

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				SEE (TH)	IAT	CCE	SEE (P)	
4	0	0	4	70	30	50	00	

SEE: Semester End Examination

IAT: Internal Assessment Test



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CCE: Continuous and Comprehensive Evaluation

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Introduction to Quantitative Methods <ul style="list-style-type: none"> Basics of quantitative methods: Definition and scope Importance in logistics and supply chain management Introduction to data types: Qualitative vs. Quantitative Tools for data collection and analysis 	5	25%
2.	Transportation and Queuing Methods <ul style="list-style-type: none"> Introduction to Transportation Problems Solution Methods for Transportation Problems Variants of Transportation Problems Queuing Models and Applications Introduction to Queuing Theory 	5	25%
3.	Forecasting Techniques <ul style="list-style-type: none"> Time series analysis Moving averages and exponential smoothing Linear regression for demand forecasting 	5	25%
4.	Linear Programming and Optimization <ul style="list-style-type: none"> Basics of linear programming: Objective function, constraints Applications in transportation and warehouse optimization Solving problems using graphical and simplex methods 	5	25%
5.	Students will be engaged in practical activities such as case study analysis, role-play, field assignments, workshops, guest lectures, and field visits. Application of descriptive statistics in logistics	--	30 Marks
Total			100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)



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Evaluation:

Students shall be evaluated on the following components:

A	Continuous and Comprehensive Evaluation	(Internal Assessment – 50 Marks)
	Practical activities suggested in Module V	30 Marks
	Class Presence & Participation	10 Marks
	Quiz	10 Marks
B	Internal Assessment Test	(Internal Assessment-30 Marks)
C	Semester End Examination	(External Assessment-70 Marks)

References/Suggested Learning Resources:

(a) Books:

1. Render, B., Stair, R. M., & Hanna, M. E. (2017). *Quantitative Analysis for Management*. Pearson.
2. Ken Black, Business Statistics: Contemporary Decision Making, Wiley publications, latest edition.
3. Statistics for Management, Levin and Rubin, 7th Edition, Pearson
4. Statistics for Management, T. N. Srivastava and Shailaja Rego, 2nd Edition, TMH

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