



## B. J. VANIJYA MAHAVIDYALAYA

(Autonomous)

(Grant-in-Aid)

(Affiliated to Sardar Patel University)

Vallabh Vidyanagar- 388 120, Dist. Anand, Gujarat, India

Accredited with CGPA of 2.78 on four-point scale at B++ Grade by NAAC

Syllabus as per the NEP 2020 with effect from December - 2024

Bachelor of Commerce (B. Com.)

Semester – II

Course Code	UB02MDCOM01	Title of the Course	Business Mathematics & Statistics - II
Total Credits of the Course	04	Hours per week	04

<b>Course Objectives:</b>	<ol style="list-style-type: none"><li>1) To understand the basic concepts of Mathematics and Statistics.</li><li>2) To develop proficiency in the application to solve business problems by various Mathematical and Statistical Techniques.</li><li>3) To understand the important role of Mathematical and Statistical techniques plays in all facets of the business world.</li><li>4) This course aims to furnish the students with the Mathematical and Statistical foundation required for business management and to know the function of Mathematics and Statistics in the Management field.</li></ol>
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Course Content		
Unit No.	Description	Weightage (%)
1)	<b>Linear Programming Problem:</b> Meaning, Nature, Limitations of LP, Uses of LP. Definitions of important terms of LPP: Solution, Constrains, BFS, FS, Objective Functions. Graphical Method of solving the LPP with practical applications in the field of Commerce.	25%
2)	<b>Transportation Problem:</b> Meaning of Transportation Problem and General form of Transportation Problem. Methods of solving Transportation Problem. 1. N-W Corner Rule, 2. Matrix Minima Method, 3. Vogel's Approximation Method. Examples based on these methods. Unbalanced Transportation Problem.	25%
3)	<b>Derivatives and Applications of Derivatives:</b> Derivatives of Explicit, Composite and Implicit Functions, Derivatives of Exponential and Arithmetic Functions, Rules of Differentiation	25%



	(without proof), Higher Order Derivatives, Maxima and Minima of a Function in Simple Polynomial Form.	
4)	<b>Sampling: (Theory Only)</b> <ul style="list-style-type: none"> <li>● Terminology: Population, Sample, Parameter, Statistics</li> <li>● Characteristics of Ideal Sample</li> <li>● Population Survey V/s Sample Survey</li> <li>● Concept of Sampling errors and Non-Sampling Errors</li> <li>● Sampling Methods: Procedure, Merits, Demerits: Simple Random Sampling, Stratified random Sampling, Systematic Sampling, Cluster Sampling</li> </ul>	25%

<b>Teaching-Learning Methodology</b>	The course would be taught /learnt through ICT (e.g. Power Point Presentation, Audio-Visual Presentation), Lectures, Group Discussions, Quizzes, Assignments, Case Study and Browsing E- Resources.
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**Internal and External Examination Evaluation**

Sr. No.	Details of the Evaluation / Exam Pattern	50 Marks (%)	25 Marks (%)
1)	Class Test (at least one)	15 (30%)	10 (40%)
2)	Quiz (at least one)	15 (30%)	05 (20%)
3)	Active Learning	05 (10%)	----
4)	Home Assignment	05 (10%)	05 (20%)
5)	Class Assignment	05 (10%)	----
6)	Attendance	05 (10%)	05 (20%)
<b>Total Internal (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>
<b>Final Examination (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>

Sr. No.	Course Outcomes: Having completed this course, the learner will be able to
1)	To have a proper understanding of Statistical and Mathematical applications in Economics, Finance, Commerce and Management Integrate international business concepts with functioning of global trade.
2)	Convert the problem into a Mathematical model and solve it manually.
3)	Student should demonstrate proficiency in calculating and interpreting determinants, using them in solving systems of linear equations, and applying them to model real-world business scenarios.
4)	Understand and critically discuss the issues surrounding sampling and significance

Sr. No.	Suggested References:
1)	Sancheti & Kapoor: Statistic: Theory, Methods and Applications, Sultan Chand & Sons, New Delhi.



2)	Kapoor, V. K.: Business Mathematics, Sultan Chand and Sons, New Delhi.
3)	Soni, R. S.: Business Mathematics, Pitamber Publishing House.
4)	H. A. Taha, Operations Research Macmillan Publishing Co. Inc.
5)	J. K. Sharma: O. R. Theory and Applications, Macmillan India Ltd.
6)	A.J. Patel, H.S. Doshi: Operations Research, Himalaya Publishing House.

Sr. No.	On-Line Resources available that can be used as Reference Material
1)	<a href="https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/157">https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/157</a>
2)	<a href="https://youtu.be/86NwKBcOlow">https://youtu.be/86NwKBcOlow</a>
3)	<a href="https://youtu.be/Ow3XWYnPgSM">https://youtu.be/Ow3XWYnPgSM</a>
4)	<a href="https://www.youtube.com/live/8npk04bd2XA?feature=share">https://www.youtube.com/live/8npk04bd2XA?feature=share</a>

