



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 June – 2026

Bachelor of Commerce (B.Com.)

Semester – I

Course Code	UBB1MDBMS01	Title of the Course	Business Mathematics and Statistics-I
Total Credits of the Course	04	Hours per week	04

Course Learning Outcomes: Having completed this course, the students will be able to	
CLO 1	Analyse and apply concepts of set theory and determinants to solve logical, algebraic and basic system-based problems relevant to business decision contexts.
CLO 2	Apply matrix operations and evaluate solutions of linear equations (two and three variables) to interpret and solve business-related quantitative problems.
CLO 3	Analyse and compute various measures of central tendency to interpret data and support informed decision-making in commerce.
CLO 4	Evaluate variability in data using appropriate measures of dispersion and interpret consistency and reliability for business analysis.

Course Content			
Unit No.	Description	Weightage (%)	CLO(s)
1.	Set Theory and Determinant: Set Theory: Sets, Subsets, Equality of two sets, null set, universal set, power set, complements of a set, union and intersection of sets, difference of two sets. Venn Diagram (Concept only), Laws of algebra of sets, De 'Morgan laws and Cartesian Product of two sets. Applications of set theory in commerce. Determinant: Meaning of 2×2 Determinant, Expansion of third order determinant, properties of determinant (without proof), Cramer's Method for solving system of linear equations (For two variables only)	25%	CLO 1
2.	Matrix: Definitions of matrix, Type of matrices: Row matrix, Column Matrix, Square Matrix, Null Matrix, Transpose of Matrix, Symmetric Matrix, Skew symmetric Matrix, Diagonal Matrix, Scalar Matrix, Identity Matrix, Adjoin of Matrix, Inverse of Matrix, Addition, Subtraction, Scalar product and Multiplication of Matrices, Solution of linear equations for two and three variables. Applications of Matrix in Commerce	25%	CLO 2



3.	Measures of Central Tendency: Introduction to Statistics, Merits and demerits of Statistics, Meaning of Measure of central Tendency, Characteristics of Ideal measures of central Tendency, Definition and calculation of mean, Median Mode Quartiles Deciles and Percentiles, Combined Mean	25%	CLO 3
4.	Measures of Dispersions: Meaning of Measure of dispersion, Characteristics of Ideal measure of dispersion, Definition and calculation of Range, Quartiles Deviation, Standard Deviation, Variance, Coefficient of Variance (CV), Relative measures of dispersion	25%	CLO 4

Teaching-Learning Methodology	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 (%)
1	Class Test (at least one)	15 (30%)
2	Quiz (at least one)	15 (30%)
3	Active Learning	05 (10%)
4	Home Assignment	05 (10%)
5	Class Assignment	05 (10%)
6	Attendance	05 (10%)
Total Internal (%)		50 (100%)
Final Examination		50 (100%)

Notes:

- ❖ Multiple Choice Questions will be based on Bloom's Taxonomy Level 1 & 2.
- ❖ Class Test and Written examination questions will be based on various levels of Bloom's Taxonomy.

CLO-PLO Matrix (Course Learning Outcomes-Programme Learning Outcomes)

CLO	PLO										
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CLO1	1	2	2	2	–	1	–	–	1	–	–
CLO2	1	2	2	2	–	2	–	–	1	–	–
CLO3	1	2	2	2	–	2	–	–	1	1	–
CLO4	1	2	2	2	–	2	–	–	1	1	–

(Scale: 3: Strong, 2: Moderate, 1: Low, ---: No Correlation)

Suggested Learning Material Books:

Sr. No.	Title	Author(s)	Year / Edition	Publisher
1	Statistics: Theory, Methods and Applications	D. C. Sancheti & V. K. Kapoor	2010 7th Edition	Sultan Chand & Sons, New Delhi
2	Business Mathematics	V. K. Kapoor	1991 Revised Edition	Sultan Chand & Sons, New Delhi
3	Business Mathematics	R. S. Soni	2009	Pitamber Publishing House



4	Business Mathematics	Trivedi & Trivedi	2011	Pearson India Limited, New Delhi
5	Business Statistics	Dr. P. C. Tulsian	2010 2nd Edition	S. Chand Publishing, New Delhi
6	Business Statistics	H. R. Vyas	2017 1st Edition	B. S. Shah Publication, Ahmedabad
7	Statistics for Management	Richard I. Levin & David S. Rubin	2011 7th Edition	Pearson India, New Delhi
8	Business Statistics: For Contemporary Decision Making	Ken Black	2023 11th Edition	John Wiley & Sons

Online Resources (Open Sources)

Sr. No.	Description of Resource	Web Link
1	AtoZmath – Online resource for learning Business Mathematics, Statistics, formulas, solved examples, and practice problems	https://atozmath.com/default.aspx
2	INFLIBNET e-PG Pathshala – E-learning resources on Mathematics, Statistics, and related subjects for higher education	https://epgp.inflibnet.ac.in
3	SWAYAM MOOC Courses – Online courses in Mathematics and Statistics offered by the Government of India	https://swayam.gov.in