

C P PATEL AND F H SHAH COMMERCE (AUTONOMOUS) COLLEGE, ANAND

(Managed by SARDAR PATEL EDUCATION TRUST, ANAND)

AFFILIATED TO SARDAR PATEL UNIVERSITY, V V NAGAR

An ISO 9001 2015 Certified / An ISO 14001-2015 Certified / An ISO 21001-2018 Certified
GUJARAT INSTITUTIONAL RATING FRAMEWORK (4 STAR)

AAA Reaccredited CGPA 3.56 – GRADE **A⁺** KCG-Dept of Edu. Got of Gujarat-April 2017

NAAC Reaccredited - CGPA 3.30 - GRADE **'A⁺'** UGC – MHRD, Govt of India – June 2022

Syllabus as per NEP 2020 with effect from the Academic Year 2023-2024

Bachelor of Business Administration (BBA-General)

Semester - I

Course Code	UM1MDBBA01	Title of the Course	BUSINESS MATHEMATICS-I
Total Credits of the Course	04	Hours per Week	04

Course Objectives	1. To develop mathematical skills and their application in various business contexts
	2. To enhance their ability to analyze and interpret financial data.
	3. To make informed business decisions and effectively communicate mathematical concepts in a business environment.
	4. To develop the ability to communicate mathematical ideas and solutions clearly and effectively to others.

Course Content

Unit	Description	Weightage (%)
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. Application 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 and three variables only.	25 %
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. Application of Matrix in commerce.	25 %

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3.	Mathematics in Finance: Compound Interest, Nominal and Effective Rates of Interest, Continuous compounding, Concept of Present value and Amount of a Sum, Annuity (only for a fixed period of time), Present and Future value of Annuity, Sinking funds (with equal payments and equal time intervals)	25%
4.	Co-ordinate Geometry: Cartesian Co-ordinate System, Distance between two points (without proof), slope of line, slope of parallel and perpendicular lines, Intersect point of two lines, Equations of line (1)Two Point Form (2) Point and Slope form (3) Intercept and slop form (4) Two Intercept form and example on it. Application of Coordinate Geometry in commerce.	25 %

Teaching-Learning Methodology	Lectures, Assignment, Quiz, Seminars, Content- Focused Methods, Interactive / Participative Methods and online lectures.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination	30%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Viva voce, Attendance	20%
3.	Semester end Examination	50%

Course Outcomes	
1.	Students will be able to understand and apply the principles of set theory in business related problems.
2.	Students will be demonstrate a solid understanding of determinants and their properties, and apply them in solving business-related problems, such as solving systems of linear equations and evaluating the feasibility of business plans.

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3.	Student will be able to manipulate matrices effectively, including matrix operations, determinants, inverses, and transpose, and apply them in various business applications, such as production planning and financial analysis.
4.	Students will be able to apply mathematical concepts and techniques in the field of finance, such as understanding interest rates and calculating present and future values of annuities.
5.	Students will enhance their thinking and analytical abilities in business problem-solving.

Suggested References

Sr. No.	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	Trivedi and Trivedi: Business Mathematics, Pearson India Limited. New Delhi.
5	Dr. K R Kachot: Business Mathematics, Mahajan Publication House, Ahmedabad
6	A G Patel & G C Patel : Business Mathematics for BBA, Atul Prakashan, Ahmedabad
7	H R Vyas: Business Mathematics, Sudhir Prakashan, Ahmedabad

On-line resources to be used if available as reference material

On-line Resources:

<https://atozmath.com/default.aspx>

<https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=ZLChEzEhCZ8yCri36nSF3A==>
