SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.11)
Syllabus as per NEP 2020 with effect from the Academic Year 2023-2024

Bachelor of Commerce (B.Com.)

Semester - I

Course Code Inter Disciplinary	UB01IDCOM01	Title of the Course	BUSINESS MATHEMATICS & STATISTICS-I
Total Credits of the Course	04	Hours per Week	04

Course Objectives	1. This course aims to furnish the students with the Mathematical and Statistical foundation required for business management and to know thefunction of Mathematics and Statistics in the Management field.
	2. To provide college students with reinforcement of Mathematical and Statistical computations.

	Course Content	
Unit	**Description**	**Weightage (%)**
1.	**Function and Limit :** Concept of a single variable (linear, quadratic and exponential function only) Domain, co-domain, and range of a function. Concept of limit of a function, Rules of limit, Simple examples where is in a polynomial or rational function.	25 %
2.	**Set Theory and Determinants :** 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. Determinants: Meaning, Determinants and their basic properties of determinant (without Proof, without examples), Cramer's Method (For two variables)	25 %
3.	**Matrix**: Type of matrices: Square, Null, Identity, Transpose of Matrices, Symmetric, Skew symmetric, Singular, Non Singular, Inverse, Adjoin of matrix. Matrices - scalar multiplication, Addition, Subtraction, Multiplication. Solution of a system of two linear equations using matrix.	25 %
4.	**Interpolation and Extrapolation** Meaning of Interpolation and Extrapolation, Assumptions, Importance and uses of interpolation and Extrapolation, Operators Δ , E and D (without proof), methods of interpolation and extrapolation; 1. Newton's Method 2. Binomial expansion method 3. Lagrange's method, Simple examples on these methods.	25 %

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Teaching-Learning Methodology	Lecture, Assignment, Quiz, Seminars, Mooc videos, Content- Focused Methods and Interactive / Participative Methods.

Evaluation Pattern		
Sr. No.	**Details of the Evaluation**	**Weightage**
1.	Internal Written (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes	
1.	Lead to the student to understand how to process and interpret information to arrive at logical conclusions to common business mathematical and statistical applications.
2.	Apply the knowledge of mathematics and statistics in solving business problems.
3.	Analyse and demonstrate mathematical and statistical skills required in intensive areas in Economics and business.

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	Business Mathematics-1, Garg Publication, Ahmedabad.

On-line resources to be used if available as reference material
On-line Resources
1. https://youtu.be/1wsF9GpGd00
2. https://youtu.be/OAh573i_qn8
3. https://youtu.be/GGQngIp0YGI

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