

20BB102 BUSINESS MATHEMATICS

Hours Per Week :

L	T	P	C
4	-	-	4

Total Hours :

L	T	P
50	-	-

COURSE DESCRIPTION AND OBJECTIVE:

The objective of this course is to familiarize the students with mathematical tools useful for decision making. Students will learn set theories, types of matrices, binomial theorem, derivatives of standard function and knowledge of integrals. (Proofs and derivations are excluded).

COURSE OUTCOMES:

Upon completion of the course, student will able to achieve the following outcomes:

COs	Course Outcomes	POs
1	Understanding the various types of sets, set operations, Cartesian product of sets.	1
2	Understanding the Types of matrices, matrix operations, and method of solving simultaneous equations.	2
3	Understanding the concept of Binomial theorem, position of terms, binomial coefficients and its applications	1
4	Understand, to solve linear and quadratic equations	2
5	Understand the derivative of a function and the derivatives of standard functions, additive, multiplicative and quotient rules of derivatives, maxima and minima of a function.	2

SKILLS :

- ✓ *List out the various cyber offences and the penalties for the same.*

UNIT - I**L-10**

Set Theory: Definition of Set, Presentation of Sets, Different types of Sets- Null Set, Finite and Infinite Sets, Universal Set, Subset, Power Set etc., Set operations: Laws of algebra of Sets and problems., Cartesian product of sets.

UNIT - II**L-10**

Matrix Algebra: Introduction, operations on matrices: Addition, subtraction and multiplication of matrices –ad-joint of matrix, inverse of a matrix - solution of simultaneous equations (Cramer's rule and matrix inverse method), rank of matrix

UNIT - III**L-10**

Binomial Theorem: Statement of the theorem for positive integral index - General term - Middle term - Equidistant terms- Simple properties of binomial coefficient.

UNIT - IV**L-10**

Linear and quadratic equations: Equations, identities, inequalities, degree of equation, simultaneous linear equations: algebraic solution, method of substitution, method of elimination, method of cross multiplication. Quadratic equations: method of factorization method of completing a perfect square.

UNIT - V**L-10**

Differentiation: Interdiction basic laws of derivatives- product rule – quotient rule - higher order Derivatives - maxima and minima of functions. (Simple algebraic and simple trigonometric functions only)

TEXT BOOKS:

1. D. C. Sancheti and Kapoor V.K., Business mathematics Sultan Chand & sons, New Delhi, 6thedition

REFERENCE BOOKS:

1. Business Mathematics, Sancheti. D.C., Sultan Chand, 1979, New Delhi, 6th edition.
2. Kappor V.K., Introductory Business Mathematics", 14th revised, New Delhi, Sultan Chand, 2005.