



**Bachelor of Business Administration (BBA)- General
Semester - I**

Course Code	UM1IDBBA01	Title of the Course	BUSINESS MATHEMATICS-I
Total Credits of the Course	04	Hours per Week	04

Course Objectives	1. To develop a deep understanding of mathematical concepts and techniques those are relevant to business and economics.
	2. To develop the ability to use mathematical tools and techniques to analyze data, solve problems, and make informed decisions.
	3. To develop the ability to communicate mathematical ideas and solutions clearly and effectively to others.

Course Content		
Unit	Description	Weight(%)
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 of two polynomial.	25 %
2.	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. 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 %
3.	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.	25 %
4.	Linear Programming Problem (LPP) and Transportation Problem: Meaning and Mathematical form of LPP, Assumptions and limitations of LPP, uses of LPP, Definitions: Objective functions Constrains, Solution, Feasible solution, Optimum Feasible solution, Solution of LPP by Graphical Method. Transportation Problem: Meaning of Transportation Problem, Solution of Transportation problems by North-West Corner Rule, Matrix Minima (Least Cost) Method, Vogel's Approximation Method	25 %





Teaching-Learning Methodology	Lecture, Assignment, Quiz, Seminars, MOOCs videos, Content- Focused Methods and Interactive / Participative Methods.
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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	Students will be able to use functions to model real-world situations and make predictions based on those models.
2	Students will be able to calculate limits to analyze the behavior of functions and predict future trends.
3	Students will be able to use linear programming to make decisions about how to allocate resources and maximize profits.
4	Students will be able to use transportation problems to make decisions about logistics and supply chain management.

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.





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==>

