Title of the Course: B. Mathematics – II (Semester IV)

Programme:BBA/BMS/BAF/BBI/B.Sc. IT/BFM

Syllabus for 2 Credit Course from the Academic Year 2024-2025

Sr. No.	Heading	Particulars
1	**Description of the course:**	Business mathematics is a branch of mathematics that applies mathematical techniques to solve business problems and make informed business decisions. Its primary focus is on the practical application of mathematical concepts in various business and financial contexts. Business mathematics helps the individuals to develop their mathematical skills and knowledge necessary to solve practical problems, make sound financial decisions, and contribute to the success and efficiency of businesses across various industries.
2	**Vertical :**	Open Electives
3	**Type :**	Theory / Practical
4	**Credit**:	2 credits (1 credit = 15 Hours for Theory and 15 Hours of Practical work in a semester)
5	**Hours Allotted :**	30 Hours
6	**Marks Allotted**:	50 Marks (30 (SE) + 20 (CE))
7	**Course Objectives**: 1. To enable the students to understand the basic concepts of derivatives and the related functions including their definitions, characteristics 2. To enable the students to understand the concept of Simple interest and compound interest	
8	**Course Outcomes**: 1. Students gained a deep understanding about the different rules of derivatives and also were able to apply their knowledge to solve problems based on it. 2. Students will be able to apply their knowledge to solve the problem based on Interests and annuities	

9	**Modules**:-
	Module 1:Functions, Derivatives and their applications ● Concept of real functions: Constant function, Linear function, x^n , e^x , a^x , log x ● Demand, Supply, Total Revenue, Average revenue, Total Cost, Average Cost and Profit function. Equilibrium Point, Break-even point.Derivatives of functions:Derivative as rate measure, Derivative of x^n , e^x , a^x , log x ● Rules of Derivatives, Scalar multiplication, sum, difference, product, quotient (statements only) , Simple problems , Second order derivatives. ● Applications: Marginal Cost, Marginal Revenue, Elasticity of demand, Maxima and minima for functions in Economics and Commerce.
	Module 2: Interest and Annuity ● **Interest**: Simple interest, Compound Interest (Nominal & Effective rate of interest) Calculations involving up to 4 time periods. ● **Annuity**: Annuity immediate and its present value, Future value ● Equated Monthly Instalments (EMI) using reducing balance method & amortization of loans. Stated annual rates and Effective annual rate, ● Perpetuity and its present value. Simple problems involving up to 4 time periods.
10	**Reference Books** 1. B Aggarwal, Business Mathematics & Statistics: B Aggarwal, Ane Book Pvt. Limited, 2016 2. J. D. Gupta, P. K. Gupta and Man Mohan, Mathematics for Business Economics, 1987 3. By S. Saha and S. Mukerji, Quantitative Methods, New Central Book, 5th Revised Edition, 2002

11	**Internal Continuous Assessment: 40%**	**Semester End Examination : 60%**
12	**Continuous Evaluation through:**	Assignments (10 marks) MCQ Based Test (10 marks)

13	**Format of Question Paper:**
	Q. 1 Attempt any Two(10 marks)
	  a.
	  b.
	  c.
	Q. 2 Attempt any Two (10 marks)
	  a.
	  b.
	  c.
	Q. 3 Attempt any Three (10 marks)
	  a.
	  b.
	  c.	