STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI
COURSE PLAN (November 2024 – April 2025)

Department   : Mathematics

Names of the Faculty : Dr. Benazir Obilia X A

Course Title   : Mathematics for Commerce

Course Code   : 23MT/AC/MT45

Shift   : II

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall and define the basic mathematical concepts on matrices, equations, differentiation, integration and linear programming problem	K1
CO2	understand and compare the concepts relating to matrices, polynomials, numerical methods and linear programming problem	K2
CO3	utilize suitable mathematical concepts and skills to solve problems including those in real life contexts	K3
CO4	analyse and examine the problem relating to the applications of matrices, differentiation, integration and optimization	K4
CO5	evaluate solutions to the problems related to matrices, equations, differentiation, integration and linear programming problem	K5

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	**Matrices** 1.1 Types of Matrices 1.2 Characteristic Equation of a matrix 1.3 Cayley – Hamilton Theorem (without proof)	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Questioning
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	**Matrices** 1.3 Cayley – Hamilton Theorem (without proof) 1.4 Eigen Values and Eigen Vectors	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Slip Test
Dec 4-11, 2024 (Day Order 1 to 6)	1 2	**Matrices** 1.5 Diagonalization of 3×3 matrices with distinct Eigen values **Theory of Equations** 2.1 Formation and Solution of Equation with Imaginary and Irrational Roots	K1-K5	5	CO1-5	Lecturing Learning by doing problems	**III Component Test 1** MCQ Test [10 marks] (Unit 1 - Section 1.1)
Dec 12-19, 2024 (Day Order 1 to 6)	2	**Theory of Equations** 2.2 Relation between Roots and Coefficients 2.3 Solution of Equations under given Conditions	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Slip Test
Dec 20, 2024 (Day Order 1)	2	**Theory of Equations** 2.3 Solution of Equations under given Conditions	K1-K5	1	CO1-5	Lecturing Learning by doing problems	Questioning
Jan 3 – 7, 2025 (Day Order 3 to 6)	2	**Theory of Equations** 2.3 Solution of Equations under given Conditions	K1-K5	3	CO1-5	Lecturing Learning by	Slip Test

		2.4 Symmetric Functions of the Roots of an Equation in terms of its Coefficients				doing problems	
Jan 8 – 17, 2024 (Day Order 1 to 6)	2 5	**Theory of Equations** 2.5 Reciprocal equations **Linear Programming Problem** 5.1 General L.P.P	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Questioning
Jan 18 - 23, 2025		**C.A. Test – I (Units 1.2 to 1.5, Unit 2)**					
Jan 24 -31, 2025 (Day Order 1 to 6)	5	**Linear Programming Problem** 5.2 Canonical and Standard Forms of L.P.P. 5.3 The Simplex Algorithm	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Questioning
Feb 3-8, 2025 (Day Order 1 to 6)	5	**Linear Programming Problem** 5.3 The Simplex Algorithm 5.4 The Big M-Method	K1-K5	5	CO1-5	Lecturing Learning by doing problems	**III Component Test 2** Assignment [15 marks] (Unit 5: Section 5.3)
Feb 10– 18, 2025 (Day Order 1 to 4)	5 3	**Linear Programming Problem** 5.4 The Big M-Method **Numerical Methods** **3.1 Algebraic and Transcendental Equations** 3.1.1 The Bisection Method	K1-K5	3	CO1-5	Lecturing Learning by doing problems	Questioning
Feb 19- 26, 2025 (Day Order 1-6)	3	**Numerical Methods** **3.1 Algebraic and Transcendental Equations** 3.1.2 Newton Raphson Method	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Questioning

		3.2 Simultaneous Equations 3.2.1 Gaussian Elimination Method				
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	3	**Numerical Methods** **3.2 Simultaneous Equations** 3.2.2 Gauss-Jordan Elimination Method 3.2.3 Gauss Jacobi Iteration Method 3.2.4 Gauss-Seidal Iteration Method	K1-K5	5	CO1-5	Lecturing Learning by doing problems	Slip Test
Mar 7 – 11, 2025 (Day Order 1 to 3)	3 4	**Numerical Methods** **3.2 Simultaneous Equations** 3.2.4 Gauss-Seidal Iteration Method **Numerical Differentiation and Numerical Integration** 4.1 Derivatives using Newton's forward difference Formula	K1-K5	2	CO1-5	Lecturing Learning by doing problems	Questioning
Mar 12 –17, 2025	**C.A. Test – II (Unit 5 and 3)**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	**Numerical Differentiation and Numerical Integration** 4.1 Derivatives using Newton's forward difference formula 4.2 Derivatives using Newton's backward difference formula	K1-K5	3	CO1-5	Lecturing Learning by doing problems	Questioning
Mar 21 - 28, 2025 (Day Order 1 to 6)	5	**Numerical Differentiation and Numerical Integration** 4.3 Trapezoidal Rule 4.4 Simpsons's one third rule 4.5 Simpson's Three Right Rule	K1-K5	5	CO1-5	Lecturing Learning by doing problems	**III Component Test 3** [25 marks] (Unit 4: Sections 4.1- 4.3)
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						