

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**COURSE PLAN (June - November 2026)**

Department : **Mathematics**
Name/s of the Faculty : **Dr. Subbulakshmi P (2 hours) & Dr. Amalore Arumica (2 hours)**
Course Title : **Business Mathematics and Statistics**
Course Code : **23MT/ME/BS33**
Shift : **II**

COURSE OUTCOMES (COs)

COs	Description						CL
CO1	recall key concepts in matrices, numerical methods, hypothesis testing, ANOVA, and regression						K1
CO2	explain principles of methods like eigenvalues, hypothesis testing, and correlation						K2
CO3	apply techniques such as Newton-Raphson Method, ANOVA, and regression to real-world problems						K3
CO4	analyse data sets and mathematical models to identify patterns and support decision-making						K4
CO5	evaluate solutions for new problems in practical contexts						K5
Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Jun 15 – 22, 2026 (Day Order 1- 6)	1	Matrices 1.1 Characteristic equation of a matrix	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing	Questioning

	3	Tests of Significance 3.1 Testing of hypothesis				Problems	
Jun 23 – July 1, 2026 (Day Order 1- 6)	1	Matrices 1.1 Characteristic equation of a matrix 1.2 Cayley - Hamilton Theorem (without proof)	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Slip Test
	3	Tests of Significance 3.1 Testing of hypothesis Chi-Square Test 3.2 Characteristics and assumptions					
July 2 – July 8, 2026 (Day Order 1- 6)	1	Matrices 1.2 Eigen values and eigen vectors	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Questioning
	3	Tests of Significance Chi-Square Test 3.3 Goodness of fit					
July 9 – 16, 2026 (Day Order 1- 6)	1	Matrices 1.3 Eigen values and eigen vectors 1.4 Diagonalization of 3×3 matrices with distinct eigen values	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	III Component Test -1 (MCQ) Units 1, 3 Sections: 1.1

	3	Tests of Significance Chi-Square Test 3.3 Goodness of fit 3.4 Test of independence					3.1, 3.2 (15 marks)
July 17 – 24, 2026 (Day Order 1- 6)	1	Matrices 1.5 Diagonalization of 3×3 matrices with distinct eigen values	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Questioning
	3	Tests of Significance Chi-Square Test 3.4 Test of independence					
July 25 – 28, 2026 (Day Order 1- 3)	4	Analysis of Variance 4.1 One way classification	K1-K5	1	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Slip Test
July 29 – Aug 3, 2026	C.A. Test – I [Units 1, 3 Sections (1.2 – 1.5, 3.3 - 3.4)]						
Aug 4 - 6, 2026 (Day Order 4 - 6)	2	Numerical Methods Algebraic and Transcendental Equations 2.1 The Bisection method	K1-K5	2+1	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Questioning & Problem Solving
	4	Analysis of Variance 4.1 One way classification					

Aug 7 – 14, 2026 (Day Order 1- 6)	2	Numerical Methods Algebraic and Transcendental Equations 2.2 Newton Raphson Method	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Slip Test
	4	Analysis of Variance 4.2 Two way classification					
Aug 17 - 24, 2026 (Day Order 1- 6)	2	Numerical Methods Algebraic and Transcendental Equations Simultaneous Equations 2.3 Gauss Jacobi iteration method	K1-K5	2+2	CO1-5	Lecture and Group Discussion Learning by Doing Problems	Questioning & Problem Solving
	4	Analysis of Variance 4.2 Two way classification 4.3 Variance ratio test (F- Test)					
Aug 25 – Sep 2, 2026 (Day Order 1- 6)	2	Numerical Methods Algebraic and Transcendental Equations Simultaneous Equations. 2.4 Gauss - Seidal iteration Method	K1-K5	2+2	CO1-5	Presentation Lecture and Group Discussion	III Component Test - 2 Problem solving assignment

	4	Analysis of Variance 4.3 Variance ratio test (F-Test)					Units 2, 4 Sections 2.1, 4.1 (10 marks)
Sep 3 – 11, 2026 (Day Order 1- 6)	5	Correlation 5.1 Correlation and causation 5.2 Types of correlation Regression 5.4 Regression 5.5 Difference between correlation and regression	K1-K5	2+2	CO1-5	Presentation Lecture and Group Discussion	Slip Test
Sep 15-17, 2026 (Day Order 1 - 3)	5	Regression 5.4 Regression 5.5 Difference between correlation and regression	K1-K5	1	CO1-5	Presentation Lecture and Group Discussion	Questioning & Problem Solving
Sep 18 –23, 2026	C.A. Test – II [Units 2, 4, 5 Sections (2.2 – 2.4, 4.2 - 4.3, 5.1, 5.2, 5.4, 5.5)]						
Sep 24 - 28, 2026 (Day 4 – 6)	5	Correlation 5.3 Karl Pearson's	K1-K5	2+1	CO1-5	Lecture and Group Discussion	Slip Test

