

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

Department : MATHEMATICS
Name of the Faculty : Dr. V. DHANALAKSHMI
Course Title : ALGEBRA AND TRIGONOMETRY
Course Code : 25MT/MC/AT14
Shift : 1

COURSE OUTCOMES (COs)

COs	Description						CL
CO1	recall the fundamental notions of Algebra, Trigonometry and the various series expansions						
CO2	interpret the acquired knowledge and use it for expressing algebraic equations, categorizing trigonometric problems and to estimate the roots of the equations						
CO3	apply the concepts of equations, series categorization and the relation between trigonometric functions to solve relevant problems						
CO4	analyze the types of Eigenvectors and its applications, to estimate the sum of infinite series and to illustrate the occurrence of roots and approximation of limits						
CO5	evaluate higher order equations to predict their roots and to experiment on similar matrices for the diagonalization process, validate the trigonometric formulas using suitable examples						
Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods

Aug 4 - 6, 2026 (Day Order 4 - 6)	3	Properties of Matrices 3.2 Cayley - Hamilton Theorem	K1-K5	2	CO1-5	Lecture	Real World Examples
Aug 7 – 14, 2026 (Day Order 1- 6)	3	Properties of Matrices 3.3 Similar Matrices 3.4 Diagonalization of a Matrix	K1-K5	4	CO1-5	Problem Solving	Workshop
Aug 17 - 24, 2026 (Day Order 1- 6)	4	Trigonometry - I 4.1 Expansions of $\cos n\theta$, $\sin n\theta$ and $\tan n\theta$ 4.2 Expansions of $\cos^n \theta$ and $\sin^n \theta$ in a Series of Sines and Cosines of Multiples of θ .	K1-K5	4	CO1-5	Visual Aids	Assignment from Applications of Matrices (10 marks)
Aug 25 – Sep 2, 2026 (Day Order 1- 6)	4	Trigonometry - I 4.2 Expansions of $\cos^n \theta$ and $\sin^n \theta$ in a Series of Sines and Cosines of Multiples of θ .(contd.) 4.3 Expansions of $\cos \theta$ and $\sin \theta$ in Powers of θ	K1-K5	4	CO1-5	Presentation	Questioning
Sep 3 – 11, 2026 (Day Order 1- 6)	4	Trigonometry - I 4.3 Expansions of $\cos \theta$ and $\sin \theta$ in Powers of θ (contd.)	K1-K5	4	CO1-5	Presentation	Questioning
Sep 15-17, 2026 (Day Order 1 - 3)	5	Trigonometry – II 5.1 Euler's Formula for $e^{i\theta}$	K1-K5	2	CO1-5	Lecture	Questioning

Sep 18 –23, 2026	C.A. Test – II (Unit 3 & 4 – 4.1, 4.2)						
Sep 24 - 28, 2026 (Day 4 – 6)	5	Trigonometry – II 5.2 Hyperbolic Functions	K1-K5	2	CO1-5	Lecture	Questioning
Sep 29 – Oct 7, 2026 (Day Order 1 - 6)	5	Trigonometry – II 5.3 Relations between Circular and Hyperbolic Functions	K1-K5	4	CO1-5	Presentation	Problem Assignment from Unit 4 (20 marks)
Oct 8 - 14, 2026 (Day Order 1 - 6)	5	Trigonometry – II 5.4 Inverse Hyperbolic Functions in Terms of Logarithmic Functions	K1-K5	4	CO1-5	Lecture	Questioning
Oct 15 - 17, 2026 (Day Order 1- 3)	REVISION						