

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

Department : **Mathematics**
Name of the Faculty : **Dr. Arputha Christy K**
Course Title : **Discrete Mathematics**
Course Code : **25MC/ME/DM33**
Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall basic concepts of graph theory and acquire knowledge of logical techniques and their applications.	K1
CO2	develop a logical understanding of the subject with mathematical skills that provide the clear understanding for the physical laws	K2
CO3	apply techniques to solve graph theory problems and demonstrate key concepts of propositional calculus, lattices, and Boolean functions	K3
CO4	analyze sets relevant to data structures and examine the properties of various graph types through illustrative examples	K4
CO5	evaluate discrete mathematics concepts and select appropriate graph theory techniques to analyze graphs.	K5

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Jun 15 – 22, 2026 (Day Order 1- 6)	1	Logic and Propositional Calculus 1.1 Tautology and contradiction 1.2 Equivalence of formulae 1.3 Duality law	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Jun 23 – July 1, 2026 (Day Order 1- 6)	1	Logic and Propositional Calculus 1.3 Duality law 1.4 Tautological implications 1.5 Normal forms –Disjunctive normal forms Conjunctive	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
July 2 – July 8, 2026 (Day Order 1- 6)	1&2	Logic and Propositional Calculus 1.5 Normal forms –Disjunctive normal forms Conjunctive normal forms.	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning

		Lattices 2.1 Lattices – Introduction 2.2 Principle of duality					
July 9 – 16, 2026 (Day Order 1- 6)	2	Lattices 2.3 Properties of Lattices 2.4 Sub Lattices 2.5 Distributive Lattice modular lattices	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
July 17 – 24, 2026 (Day Order 1- 6)	2	Lattices 2.6 Bounded lattice 2.7 Complemented lattice	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	III Component-1 MCQ Test Section 1.1, 1.4-1.5 [15 marks]
July 25 – 28, 2026 (Day Order 1- 3)	2&3	Lattices 2.7 Complemented lattice Boolean Algebra 3.1 Boolean Algebra Definition	K1- K5	3	CO1-5	Lecture, Discussions and Problem Solving	Questioning

		3.2 Basic laws of Boolean Algebra					
July 29 – Aug 3, 2026	C.A. Test – I (Unit 1 and 2)						
Aug 4 - 6, 2026 (Day Order 4 - 6)	3	Boolean Algebra 3.2 Basic laws of Boolean Algebra	K1- K5	1	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Aug 7 – 14, 2026 (Day Order 1- 6)	3	Boolean Algebra 3.3 Principle of duality for Boolean Algebras 3.4 Boolean expression	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Aug 17 - 24, 2026 (Day Order 1- 6)	3	Boolean Algebra 3.5 Boolean function 3.6 Literal – Minterm and Maxterm 3.7 Normal forms and Canonical forms.	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Aug 25 – Sep 2, 2026 (Day Order 1- 6)	4	Basic Concepts of Graph theory 4.2 Isomorphism	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	III Component- 2

		4.3 Operations on graphs					Assignment Sections 3.2 & 3.5 [10 marks]
Sep 3 – 11, 2026 (Day Order 1- 6)	4	Basic Concepts of Graph theory 4.4 Degree Sequence 4.5 Connectedness - Walks, Trails and Paths	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Sep 15-17, 2026 (Day Order 1 - 3)	4	Basic Concepts of Graph theory 4.5 Connectedness - Walks, Trails and Paths 4.6 Matrix Representation of graphs	K1- K5	3	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Sep 18 –23, 2026	C.A. Test – II (Unit 3 & 4)						
Sep 24 - 28, 2026 (Day 4 – 6)	5	Trees 5.1 Characterisation of Trees	K1- K5	1	CO1-5	Lecture, Discussions and Problem Solving	Questioning

Sep 29 – Oct 7, 2026 (Day Order 1 - 6)	5	5.2 Centre of a Tree Eulerian and Hamiltonian Graphs 5.3 Eulerian graphs	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	Questioning
Oct 8 - 14, 2026 (Day Order 1 - 6)	5	Trees Eulerian and Hamiltonian Graphs 5.3 Eulerian graphs 5.4 Hamiltonian graphs	K1- K5	4	CO1-5	Lecture, Discussions and Problem Solving	III Component-3 Test Sections 5.1-5.3 [25 marks]
Oct 15 - 21, 2026 (Day Order 1- 4)	REVISION						