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

Department : Mathematics
Name/s of the Faculty : Dr. A. S. Shanthi
Course Title : SEQUENCES AND SERIES
Course Code : 23MT/MC/SS44
Shift : I

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall the fundamental concepts of sets, sequences and series	K1
CO2	understand various concepts related to sets, sequences and series	K2
CO3	apply related theorems and techniques to solve problems on real numbers, sequences and series	K3
CO4	analyze the structure and properties of real numbers, sequences and series	K4
CO5	evaluate the limits of sequences and series and test their convergence	K5

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	1.1 Functions – Real Valued Functions 1.2 Equivalence, Countability	K1-K5	5	CO1-CO5	Lecture & Problem Solving	Questioning
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	1.3 Real Numbers	K1-K5	5	CO1-CO5	Group discussion	Quiz
Dec 4-11, 2024 (Day Order 1 to 6)	1& 2	1.4 Least Upper Bounds 2.1 Definition of Sequence and Subsequence	K1-K5	5	CO1-CO5	Learning by Doing	**III Component Test I –Quiz (15 marks) Portion: 1.1 & 1.2**
Dec 12-19, 2024 (Day Order 1 to 6)	2	2.2 Limit of a Sequence 2.3 Convergent and Divergent Sequences	K1-K5	5	CO1-CO5	Lecture & Problem Solving	Questioning
Dec 20 2024 (Day Order 1)	2	2.4 Bounded Sequences 2.5 Monotone Sequences	K1-K5	1	CO1-CO5	Group discussion	Quiz
Jan 3 – 7, 2025 (Day Order 3 to 6)	2	2.6 Operations on Convergent and Divergent Sequences	K1-K5	3	CO1-CO5	Learning by Doing	Slip test
Jan 8 – 17, 2024 (Day Order 1 to 6)	3	3.1 Limit Superior and Limit Inferior 3.2 Cauchy Sequences	K1-K5	5	CO1-CO5	Lecture & Problem Solving	Questioning
Jan 18 - 23, 2025	**C.A. Test – I (Unit 1.3-1.4, 2)**						
Jan 24 -31, 2025 (Day Order 1 to 6)	3	3.3 Convergence and Divergence 3.4 Series with Non-negative Terms	K1-K5	5	CO1-CO5	Group discussion	Quiz

Feb 3-8, 2025 (Day Order 1 to 6)	3	3.5 Alternating Series 3.6 Conditional Convergence and Absolute Convergence	K1-K5	5	CO1-CO5	Learning by Doing	Slip test
Feb 10– 18, 2025 (Day Order 1 to 4)	4	4.1 Tests for Absolute Convergence	K1-K5	4	CO1-CO5	Lecture & Problem Solving	**III Component Test II – Assignment Problems (15 marks) Portion: 3.1-3.3**
Feb 19- 26, 2025 (Day Order 1-6)	4	4.2 Series whose terms form a Non-increasing Sequence	K1-K5	5	CO1-CO5	Group discussion	Quiz
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	4	4.3 Summation by Parts 5.1 Definition of Fourier Series	K1-K5	5	CO1-CO5	Learning by Doing	Slip test
Mar 7 – 11, 2025 (Day Order 1 to 3)	5	5.2 Expansions of Periodic Functions with Period 2π 5.3 Odd and Even Functions	K1-K5	3	CO1-CO5	Lecture & Problem Solving	Questioning
Mar 12 –17, 2025	**C.A. Test – II (Unit 3.4-3.6, 4)**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	5.4 Half-range Fourier Series	K1-K5	2	CO1-CO5	Group discussion	Quiz
Mar 21 - 28, 2025 (Day Order 1 to 6)	5	5.5 Development in cosine and sine Series	K1-K5	5	CO1-CO5	Learning by Doing	**III Component Test III – Problem Solving & slip test (20 marks) Portion: 5.3 & 5.4**

Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**