

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

**Department** : Mathematics  
**Name of the Faculty** : Dr. Amalore Arumica  
**Course Title** : SEQUENCES AND SERIES  
**Course Code** : 23MT/MC/SS44  
**Shift** : II

**COURSE OUTCOMES**  
**(COs)**

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

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	<b>III Component Test I – Quiz (15marks) Portion: 1.1 &amp; 1.2</b>
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	<b>C.A. Test – I (Unit 1.3-1.4, 2)</b>						
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	<b>III Component Test II – Assignment Problems (15 marks) Portion:3.1-3.3</b>
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 $2\pi$ 5.3 Odd and Even Functions	K1-K5	3	CO1- CO5	Lecture & Problem Solving	Questioning
Mar 12 –17, 2025	<b>C.A. Test – II (Unit 3.4-3.6, 4)</b>						
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	<b>III Component Test III – Problem Solving &amp; slip test(20 marks) Portion: 5.3 &amp; 5.4</b>

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

**REVISION**