

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

Department : PHYSICS
Name/s of the Faculty : Sr. JOSEPHINE DIANA
Course Title : ELECTRONICS II
Course Code : 25PH/MC/EL33
Shift : I

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall and define fundamental principle behind different electronic circuits and explain its application in real life.	K1
CO2	explain the construction, working and biasing of semiconductor devices.	K2
CO3	describe the working of amplifier, oscillator and special function diodes principles and its types.	K3
CO4	employ mathematical and graphical analysis considering different practical issues modelling of semiconductor device; analyze the performance parameters of the system.	K4
CO5	evaluate the different parameters in signal processing circuits and design different application circuits using amplifiers, oscillators and special purpose diodes.	K5

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Jun 15 – 22, 2026 (Day Order 1- 6)	1	1.1 Linear circuit analysis - Open and short circuits - The voltage and current divider circuit	K1-K5	3 hrs	1-5	Lecture	Peer share
Jun 23 – July 1, 2026 (Day Order 1- 6)	1	1.2 Superposition theorem – Maximum Power Transfer theorem – Thevenin’s theorems – Norton’s theorem.	K1-K5	3 hrs	1-5	Power Point Presentation	Oral Test and Quiz
July 2 – July 8, 2026 (Day Order 1- 6)	2	2.1 Faithfull amplification - Transistor biasing - Stabilization – Stability factor - Voltage divider bias method	K1-K5	3 hrs	1-5	Power point presentation and demonstration method	Problem Solving
July 9 – 16, 2026 (Day Order 1- 6)	2	Stability factor - Operating point – DC load lines. 2.2 Single stage transistor amplifier– Practical circuit of transistor amplifier – Multistage transistor amplifier	K1-K5	3 hrs	1-5	Lecture, Group discussion	3 rd component MCQ (20 marks) K1, K2 levels

July 17 – 24, 2026 (Day Order 1- 6)	2, 3	RC coupled transistor amplifier (No Derivation) – Operation – Frequency response - Advantages – Disadvantages.	K1-K5	3 hrs	1-5	Lecture, Learning by doing method	Quiz and peer assessment
July 25 – 28, 2026 (Day Order 1- 3)	3	3.1 Sinusoidal oscillator – Types of sinusoidal oscillators	K1-K5	1 hr	1-5	Power point presentation and video presentation	3 rd Component Assignment 10 marks – K5 level
July 29 – Aug 3, 2026	C.A. Test – I						
Aug 4 - 6, 2026 (Day Order 4 - 6)	3	3.1 Positive feedback amplifiers –Essentials of transistor oscillator – Barkhausen’s criterion.	K1-K5	2 hrs	1-5	Lecture and power point presentation	Questioning
Aug 7 – 14, 2026 (Day Order 1- 6)	3	3.2 Types of transistor Oscillators - Phase shift oscillator – principle and circuit operation	K1-K5	3 hrs	1-5	Presentation, Field trip	Problem solving
Aug 17 - 24, 2026 (Day Order 1- 6)	4	4.1 Field effect transistors – JFET –	K1-K5	3 hrs	1-5	Lecture, Problem	Class Test

		Working – Channel conductance – Space charge distribution – Difference between JFET and Bipolar transistor – JFET as an amplifier – IV characteristics – Pinch Off voltage – Parameters of JFET				solving methods	
Aug 25 – Sep 2, 2026 (Day Order 1- 6)	4	4.2 Uni Junction Transistor – Construction – Operation – Inter base resistor –Equivalent circuit – Intrinsic stand-off ratio – IV characteristics – Peak voltage valley current – Valley voltage negative resistance region.	K1-K5	3 hrs	1-5	Power point presentation and problem solving methods	Circuit Test
Sep 3 – 11, 2026 (Day Order 1- 6)	5	5..1 Introduction - Light Emitting Diode (LED) – LED Voltage and Current	K1-K5	3 hrs	1-5	Power point presentation, Think-Pair-Share method	3 rd Component Presentation/ Seminar (20 marks) K3, K4 levels
Sep 15-17, 2026	5	Advantages of LED	K1-K5	1 hr	1-5	Group discussion	Peer share

