

NAME OF THE FACULTY : MEENAKSHI

DISCIPLINE : ECE

SEMESTER : 3rd

SUBJECT : ELCCTRONIC DEVICES AND CIRCUITS-II

LESSON PLAN DURATION : 15 weeks (from Aug 2025 to Dec- 2025)

WORK LOAD (LECTURE/PRACTICAL) PER WEEK (IN HOURS):- LECTURE-03, PRACTICAL-02 PER GROUP

WEEK	THEORY		PRACTICAL	
	Lecture / Hrs	TOPIC (Including Assignment/Test)	Practical / Hrs	Experiment
1 st	1	Multistage Amplifiers Need for multistage amplifier	Group-1	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth and compare it with single stage amplifier
	2	Gain of multistage amplifier	Group-1	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth and compare it with single stage amplifier
	3	Different types of multistage amplifier like RC coupled and its frequency response and bandwidth	Group-2	
2 nd	4	Different types of multistage amplifier like transformer coupled and its frequency response and bandwidth	Group-1	To measure the gain of push-pull amplifier at 1KHz
	5	Different types of multistage amplifier like direct coupled and its frequency response and bandwidth	Group-1	To measure the gain of push-pull amplifier at 1KHz
	6	Class test Assignment	Group-2	
3 rd	7	Large Signal Amplifier Difference between voltage and power Amplifiers	Group-1	To measure the voltage gain of emitter follower circuit and plot its frequency response
	8	Importance of impedance matching in amplifiers	Group-1	To measure the voltage gain of emitter follower circuit and plot its frequency response
	9	Class A, Class B amplifiers, collector efficiency and Distortion in class A,B	Group-2	
4 th	10	Class AB, and Class C amplifiers, collector efficiency and Distortion in class C	Group-1	Revision Experiment Performed
	11	Single ended power amplifiers, Graphical method of calculation (without derivation) of output power; heat dissipation curve and importance of heat sinks.	Group-2	Revision Experiment Performed
	12	Push-pull amplifier, and complementary symmetry push-pull amplifier	Group-2	

5 th	13	<ul style="list-style-type: none"> • Class Test • assignment 	Group-1	1	Plot the frequency response curve of Hartley and Colpitts Oscillator
				2	
	14	Feedback in Amplifiers Basic principles and types of feedback	Group-2	1	Plot the frequency response curve of Hartley and Colpitts Oscillator
	15	Derivation of expression for gain of an amplifier employing feedback		2	
6 th	16	Effect of feedback (negative) on gain, stability, of an amplifier	Group-1	1	Plot the frequency response curve of phase shift and Wein bridge Oscillator
				2	
	17	Effect of feedback (negative) on distortion and bandwidth of an amplifier	Group-2	1	Plot the frequency response curve of phase shift and Wein bridge Oscillator
	18	RC coupled amplifier with emitter bypass capacitor		2	
7 th	19	Emitter follower amplifier and its application	Group-1	1	Use of IC 555 as monostable multi vibrator and observe the output for different values of RC
				2	
	20	<ul style="list-style-type: none"> • Class Test • assignment 	Group-2	1	Use of IC 555 as monostable multi vibrator and observe the output for different values of RC
	21	Sinusoidal Oscillators Use of positive feedback		2	
	22	Barkhausen criterion for oscillations	Group-1	1	Revision Experiment Performed
				2	
	23	Different oscillator circuits-tuned collector, Hartley and Colpitts. Their working principles (no mathematical derivation but only simple numerical problems)	Group-2	1	Revision Experiment Performed
	24	Different oscillator circuits-phase shift, Wien's bridge and crystal oscillator. Their working principles (no mathematical derivation but only simple numerical problems)		2	
9 th	25	<ul style="list-style-type: none"> • Class Test • assignment 	Group-1	1	Use of IC 555 as astable multi vibrator and observe the output at different duty cycles
				2	
	26	Tuned Voltage Amplifiers Series and parallel resonant circuits and bandwidth of resonant circuits	Group-2	1	Use of IC 555 as astable multi vibrator and observe the output at different duty cycles
	27	Multi vibrator Circuits Working principle of transistor as switch		2	
10 th	28	Concept of multi-vibrator: astable, and its applications	Group-1	1	Touse IC741 (op-amplifier) as Inverter, Adder, Subtraction, Integrator
				2	
	29	Concept of multi-vibrator: monostable and its applications	Group-2	1	Touse IC741 (op-amplifier) as Inverter, Adder, Subtraction, Integrator
	30	Concept of multi-vibrator: bistable and its applications		2	

11 th	31	Block diagram of IC555 and its working and applications	Group-1	1	Revision Experiment Performed
				2	
	32	IC555 as monostable multi-vibrator	Group-2	1	Revision Experiment Performed
				2	
	33	IC555 as astable multi-vibrator	Group-2		
12 th	34	IC555 as bistable multi-vibrator	Group-1	1	Revision Experiment Performed
				2	
	35	<ul style="list-style-type: none"> • Class Test • Assignment 	Group-2	1	Revision Experiment Performed
				2	
	36	Operational Amplifiers Characteristics of an ideal operational amplifier and its block diagram	Group-2		
13 th	37	IC-741 and its pin configuration	Group-1	1	Revision Experiment Performed
				2	
	38	Definition of differential voltage gain, CMRR, PSRR, slew rate and input offset current	Group-2	1	Revision Experiment Performed
				2	
	39	Operational amplifier as an inverter, scale changer and adder	Group-2		
14 th	40	Operational amplifier as a subtractor, differentiator and integrator	Group-1	1	Revision Experiment Performed
				2	
	41	<ul style="list-style-type: none"> • Class Test • Assignment 	Group-2	1	Revision Experiment Performed
				2	
	42	Regulated DC Power Supplies Concept of DC power supply	Group-2		
15 th	43	Line and load regulation	Group-1	1	Test
				2	
	44	Concept of fixed voltage, IC regulators (like 7805, 7905), and variable voltage regulator like (IC 723)	Group-2	1	Test
				2	
	45	<ul style="list-style-type: none"> • Class Test • Assignment 	Group-2		