

ELECTRONICS AND COMMUNICATION ENGINEERING
DEPARTMENT
Lesson plan

Name of Faculty	Expert
Discipline	Electronics And Communication Engineering
Semester	Third Sem (3rd sem)
Subject	ELECTRONIC DEVICES AND CIRCUITS - II
Lesson Plan Duration	From Sep 2023
Work Load [Theory + Practical] Per Week	[03+02]

Week	Day	Theory Topic/ Assignment/ Test	No.	Practical
1st	1	Unit 1: Need for multistage amplifier.	1	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth.
	2	Gain of multistage amplifier.		
	3	Different types of multistage amplifier like RC coupled.		
2nd	1	Transformer coupled, direct coupled amplifier.	2	To measure the gain of push-pull amplifier.
	2	Frequency response and bandwidth of multistage amplifier.		
	3	Unit 2: Difference between voltage and power amplifiers.		
3rd	1	Importance of impedance matching in amplifiers.	3	To measure the voltage gain of emitter follower circuit and plot its frequency response.
	2	Class A, Class B, Class AB, and Class C amplifiers.		
	3	Collector efficiency and Distortion in class A, B, C.		
4th	1	Single ended power amplifiers.	4	To observe the output wave form of Hartley Oscillator.
	2	Graphical method of calculation (without derivation) of output power.		
	3	Heat dissipation curve and importance of heat sinks.		
5th	1	Push-pull amplifier, and complementary symmetry push-pull amplifier.	5	To observe the output wave form of Colpitt's Oscillator.
	2	Single and double tuned voltage amplifiers and their frequency response characteristics.		
	3	REVISION.		
6th	1	REVISION.	6	To observe the output wave form of RC phase shift Oscillator.
	2	UNIT 3: Basic principles and types of feedback		
	3	Derivation of expression for gain of an amplifier employing feedback.		
7th	1	Effect of feedback (negative) on gain, stability, distortion and bandwidth of an amplifier	7	To observe the output wave form of Wein bridge Oscillator.
	2	RC coupled amplifier with emitter		

		bypass capacitor		
	3	Emitter follower amplifier and its application.		
8 th	1	REVISION	8	Use of IC 555 as mono astable multivibrator and observe the output for different values of RC.
	2	UNIT 4 - Use of positive feedback		
	3	Barkhausen criterion for oscillations		
9 th	1	Different oscillator circuits-tuned collector, Hartley, Colpitts.	9	Use of IC 555 as astable multivibrator and observe the output at different duty cycles.
	2	Phase shift and Wien's bridge oscillator.		
	3	Crystal oscillator. Working principles (no mathematical derivation but only simple numerical problems)		
10 th	1	REVISION	10	To use IC 741 (op-amplifier) as Inverter.
	2	UNIT 5 - Working principle of transistor as switch		
	3	Concept of multi-vibrator.		
11 th	1	Multi-vibrators, astable and monostable.	11	To use IC 741 (op-amplifier) as Adder.
	2	Bistable multi-vibrator and applications.		
	3	Block diagram of IC555 and its working and applications.		
12 th	1	IC555 as monostable.	12	To use IC 741 (op-amplifier) as Subtractor.
	2	Astable and Bistable multivibrator.		
	3	Characteristics of an ideal operational amplifier and its block diagram.		
13 th	1	IC-741 and its pin configuration	13	To use IC 741 (op-amplifier) as Integrator.
	2	REVISION		
	3	REVISION		
14 th	1	Definition of differential voltage gain.	14	Revision
	2	CMRR, PSRR, slew rate and input offset current.		
	3	Operational amplifier as an inverter, scale changer, adder, subtractor, differentiator, and integrator.		
15 th	1	Operational amplifier as scale changer, adder, subtractor, differentiator, and integrator.	15	Revision
	2	Operational amplifier as subtractor, differentiator, and integrator.		
	3	Revision of Old Question Papers		