

## LESSON PLAN

**Name of Faculty** : **Monika**  
**Discipline** : **Electronics & Communication Engg.**  
**Semester** : **3<sup>rd</sup>**  
**Subject** : **Electronic Devices & Circuits**  
**Lesson Plan Duration** : **16 weeks**

**Work load (Lecture /Practical) per week (in hours): Lectures—03, Practical—03**

Week	Theory		Practical	
	Lecture Day	Topic (Including Assignment/ Test	Practical Day	Topic
1 <sup>st</sup>	1	Review of Amplifiers	1	Review of Lab/ Practicals.
	2	Need for multistage amplifier & Gain of multistage amplifier		
	3	RC coupled multistage amplifier, its frequency response and bandwidth		
2 <sup>nd</sup>	4	Transformer coupled Multistage Amplifier, its frequency response and bandwidth.	2	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth and compare it with single stage amplifier.
	5	Direct coupled multistage amplifier, its frequency response and bandwidth.		
	6	Difference between voltage and power amplifiers, Importance of impedance matching in amplifiers.		
3 <sup>rd</sup>	7	Class A & Class B amplifiers,	3	To measure the gain of push-pull amplifier at 1 KHz.
	8	Class AB and Class C amplifiers, collector Efficiency & Distortion in Class A, B, C amplifiers.		
	9	Single ended Power amplifiers, Graphical method of calculation (without derivation) of output power, heat dissipation curve and importance of heat sinks.		
4 <sup>th</sup>	10	Push Pull Amplifier	4	Revision / File Assessment
	11	Complementary Symmetry Push-Pull amplifier.		
	12	Assignment topic/Test/Quiz.		
5 <sup>th</sup>	13	Basic principal and types of feedback, derivation of expression for gain of an amplifier employing feedback	5	To measure the voltage gain of emitter follower circuit and plot its
	14	Effect of feedback (negative) on gain,		

		stability, distortion and bandwidth of and amplifier.		frequency.
	15	RC coupled amplifier with emitter bypass capacitor.		
6 <sup>th</sup>	16	Emitter follower amplifier and its application.	6	Revision
	17	Assignment –Topic & Class work Checking		
	18	Expert lecture		
7 <sup>th</sup>	19	Sessional Test	7	Plot the frequency response curve of Hartley and Colpitt's Oscillator
	20	Use of positive feedback, Bark-hausen criterion for oscillations.		
	21	Working principle of Tuned Collector Oscillator		
8 <sup>th</sup>	22	Working principle of Hartley and Colpitt's Oscillator Circuits.	8	Plot the frequency response curve of phase shift and Wein bridge Oscillator.
	23	Working principle of Phase shift and wein- bridge Oscillator Circuits.		
	24	Working principle of crystal Oscillator Circuit.		
9 <sup>th</sup>	25	Revision	9	Revision
	26	Series and parallel resonant circuit and bandwidth of resonant circuits.		
	27	Single tuned voltage amplifier & its frequency response.		
10 <sup>th</sup>	28	Double tuned voltage amplifier & its frequency response.	10	Use of IC 555 as monostable multivibrator and observe the output for different values
	29	Expert Lecture		
	30	Working principle of transistor as switch.		
11 <sup>th</sup>	31	Concept of multi-vibrator: a stable, mono-stable, and bistable and their applications.	11	Use of IC as a stable multivibrator and observe the output at different duty cycles.
	32	Concept of multi-vibrator: a stable, mono-stable, and bistable and their applications.		
	33	Concept of multi-vibrator: a stable, mono-stable, and bistable and their applications.		
12 <sup>th</sup>	34	Block diagram of IC555 and its working and applications.	12	Revision
	35	IC555 as monostable and astable multi-vibrator and bistable multivibrator.		

	36	Assignment topic/sessional.		
13 <sup>th</sup>	37	Characteristics of an ideal operational amplifier and its block diagram.	13	To use IC 741 (op-amp) as 1. Inverter 2. Adder 3. Subtractor 4. Integrator
	38	IC-741 and its pin configuration		
	39	Definition of differential voltage gain, CMRR, PSRR, slew rate and input offset current.		
14 <sup>th</sup>	40	Operational amplifier as an inverter, scale change, adder Subtractor, differentiator, and integrator.	14	To realize positive and negative fixed voltage DC power supply using three terminal voltage regulator IC (7805, 7812)
	41	Operational amplifier as an inverter, scale change, adder Subtractor, differentiator, and integrator		
	42	Operational amplifier as an inverter, scale change, adder Subtractor, differentiator, and integrator.		
15 <sup>th</sup>	43	Concept of DC power supply, line and load regulation	15	Prototype making/ practice
	44	Concept of fixed voltage, IC regulators (like 7805, 7905), and variable		
	45	Voltage regulator like (IC 723)		
16 <sup>th</sup>	46	Revision/ seminar	16	Viva Voice
	47	Revision/ Seminar		
	48	Sessional		