Lesson Plan

Name of the Faculty : Er. Karuna
Discipline : ECE
Semester : 4^{TH}
Subject : Analog Circuits
Lesson Plan Duration : 15weeks (from January to May 2026)
****Work Load (Lecture/Practical) per week (in hours):** Lectures-03

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical Day	Topic
1st	1st	Introduction to Amplifier Models	1st	To Design a simple common emitter (CE) amplifier circuit using BJT and find its gain and frequency response.
	2nd	Amplifier Types: Voltage amplifier		
	3rd	Current amplifier, Trans-conductance amplifier		
2nd	4th	Trans-resistance amplifier	2nd	To design a BJT Emitter Follower and determine its gain, input and output Impedance.
	5th	Small Signal analysis of BJT amplifier		
	6th	Common Emitter and common base		
3rd	7th	Common collector amplifier using re model	3rd	To design and test the performance of Phase Shift Oscillator using Op-Amp 741.
	8th	Small Signal Analysis of the CS JFET amplifier		
	9th	Estimation of Voltage Gain		
4th	10th	Input resistance, Output resistance	4th	To design and test the performance of Wien bridge Oscillator using Op-Amp 741.
	11th	Transistor Frequency Response		
	12th	Class A, Class B, Class C amplifier		
5th	13th	Sessional-1	5th	Viva Voce 1
	14th			
	15th			
6th	16th	Calculation of Maximum Efficiency	6th	To design and test the performance of BJT- RC Phase Shift Oscillator for f0≤10khz
	17th	Frequency response of the amplifier		
	18th	Low frequency, mid frequency and high frequency region		
7th	19th	Effect of Cascading of amplifier on the frequency Response	7th	To design and test the performance of BJT- Hartley Oscillator for RF range f0 ≥100khz
	20th	Cut-off Frequencies		
	21st	Bandwidth and Voltage gain		
8th	22nd	Miller effect	8th	To design and test the performance of BJT- Colpitt Oscillator for RF Range f0 ≥100khz.
	23rd	Feedback in Amplifiers: Voltage series		
	24th	Current Series, Voltage Shunt		
9th	25th	Current shunt, effect of feedback on	9th	

		gain		To design an Astable Multivibrator using 555 timer.
	26th	Band width, input impedance, output impedance		
	27th	REVISION		
10th	28th	Sessional-2	10th	Viva Voce 2
	29th			
	30th			
11th	31st	Oscillators: Barkhausen criterion for oscillator	11th	To design a Monostable Multivibrator using 555 timer.
	32nd	RC phase shift oscillator, Wein bridge oscillator		
	33rd	LC oscillator: Hartley oscillator		
12th	34th	Collpit oscillator, derivation of frequency of oscillation	12th	To design a Schmitt trigger using Op-amp and verify its operational characteristics.
	35th	555 Timer: operation as astable & monostable multivibrator		
	36th	Op-amp Applications: simple op-amp circuits: adder, subtractor		
13th	37th	Schmitt Trigger, Differential amplifier	13th	To Design an adder circuit using Op-Amp to add three dc voltages.
	38th	Calculation of Differential gain, common mode gain		
	39th	CMRR, OP-AMP design		
14th	40th	Design of differential amplifier for a given specification	14th	To design a subtractor using Op-amp to subtract DC voltages v1 and v2
	41st	Design of gain stages and output stages		
	42nd	Revision		
15th	43rd	Sessional-3	15th	Internal Viva
	44th			
	45th			

Er. Karuna
Assistant Professor
ECE Department, ACE