

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA
Academic Lesson Plan for summer semester- 2025

Name of the teaching faculty: Umesh Chandra Sethi
Semester: 4th
No. of periods per week: 4
End semester exam: 80
Total Marks: 100

Department: Electrical Engineering
Subject: AE & OPAMP
Total Periods: 60
Class test: 20

Sl. No.	Week	Period	Topic to be Covered
1.	1 st	1 st	P-N Junction Diode and its working
2.		2 nd	V-I characteristic of PN junction Diode
3.		3 rd	Important terms such as Ideal Diode, Knee voltage
4.		4 th	Zener breakdown and Avalanche breakdown
5	2 nd	1 st	P-N Diode clipping Circuit.
6		2 nd	P-N Diode clamping Circuit
7		3 rd	Objective question related to P-N junction diode
8		4 th	Thermistors
9	3 rd	1 st	Zener Diode
10		2 nd	Tunnel Diode
11.		3 rd	PIN Diode
12.		4 th	Objective question related to special semiconductor devices
13	4 th	1 st	Classification of rectifiers
14.		2 nd	Analysis of half wave rectifiers
15.		3 rd	Analysis of full center tapped rectifiers
16.		4 TH	Analysis of Bridge rectifiers
17.	5 th	1 st	Calculation of DC output current and voltage
18.		2 nd	RMS value, Rectifier efficiency, Ripple factor, Filter
19.		3 rd	Objective question related to rectifier circuit and filter
20.		4 th	Principle of Bipolar junction transistor

21.	6 th	1 st	Different modes of operation of transistor
22.		2 nd	Current components in a transistor
23.		3 rd	Transistor as an amplifier
24.		4 th	Transistor circuit configuration
25.	7 th	1 st	Transistor circuit characteristics
26.		2 nd	Objective question related to Transistor
27.		3 rd	Transistor biasing
28.		4 th	Stabilization
29.	8 th	1 st	Stability factor
30.		2 nd	Different method of Transistors Biasing
31.		3 rd	Different method of Transistors Biasing
32.		4 th	Objective question related to Transistor circuit
33.	9 th	1 st	Practical circuit of transistor amplifier DC load line and DC equivalent circuit
34.		2 nd	AC load line and AC equivalent circuit
35.		3 rd	H-parameters of transistors
36.		4 th	Analysis of CB, CE, CC amplifier using generalized approximate model
37.	10 th	1 st	Multi stage transistor amplifier
38.		2 nd	R.C. coupled amplifier and Transformer coupled amplifier
39.		3 rd	Feed back in amplifier
40.		4 th	Power amplifier and its classification
41.	11 th	1 st	Difference between voltage amplifier and power amplifier
42.		2 nd	Class A push – pull amplifier and Class B push – pull amplifier

43.		3 rd	Oscillators and Types of oscillators
44.		4 th	Principle of operation of different oscillator
45.	12 th	1 st	Objective question
46.		2 nd	Classification of FET
47.		3 rd	Advantages of FET over BJT
48.		4 th	Principle of operation of BJT
49.	13 th	1 st	FET parameters, DC drain resistance ,
50.		2 nd	AC drain resistance and Trans-conductance, Biasing of FET
51.		3 rd	Objective question
52.		4 th	General circuit simple of OP-AMP
53.	14 th	1 st	OP-AMP amplifier stages.
54.		2 nd	Equivalent circuit of operational amplifier
55.		3 rd	Open loop OP-AMP configuration
56.		4 th	OPAMP with fed back 8.6 Inverting OP-AMP and Non inverting OP-AMP
57.	15 th	1 st	Voltage follower and buffer
58.		2 nd	Differential amplifier
59.		3 rd	Do
60.		4 th	Objective question

The lesson plan prepared by the concerned faculty.

Umesh Chandra Sethi
Guest Faculty
ELECTRICAL ENGG.