

Vedang Institute of Technology, 2nd Shift

Khurda

Department of Electrical & Electronics Engineering

Lesson Plan for Odd Semester

Course: Diploma in Engineering

Teachers Name: A.Smruti Dash

Semester: 4th

Subject : **Analog Electronics and OP-AMP**

Session Duration: 2020-21 Class From: 19/04/2021 to 13/08/2021

Week	Class Day	Topic To Be Covered
1st	1st	Introduction to semiconductor and its Application
	2nd	P-N Junction Diode & Its working
	3rd	V-I characteristic of PN junction Diode.
	4th	DC load line
2nd	1st	Important terms such as Ideal Diode, Knee voltage
	2nd	Junctions break down.(Zener breakdown, Avalanche breakdown)
	3rd	P-N Diode clipping Diode Clamping Circuit.
	4th	Thermistors, Sensors & barretters
3rd	1st	Zener Diode and Tunnel Diode
	2nd	PIN Diode
	3rd	Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate:
	4th	DC output current and voltage
4th	1st	RMS output current and voltage
	2nd	Rectifier efficiency & Ripper factor
	3rd	Regulation
	4th	Transformer utilization factor
5th	1st	Peak inverse voltage
	2nd	Filters
	3rd	Shunt capacitor filter
	4th	Choke input filter
6th	1st	π filter

	2nd	Principle of Bipolar junction transistor
	3rd	Different modes of operation of transistor
	4th	Current components in a transistor
7th	1st	Transistor as an amplifier
	2nd	Transistor circuit configuration & its characteristics
	3rd	CB ,CE, CC Configuration
	4th	Transistor biasing
8th	1st	Stabilization & Stability factor
	2nd	Different method of Transistors Biasing
	3rd	Base resistor method
	4th	Collector to base bias
9th	1st	Self bias or voltage divider method
	2nd	Practical circuit of transistor amplifier, DC load line and DC equivalent circuit
	3rd	AC load line and AC equivalent circuit, Calculation of gain, Phase reversal
	4th	H-parameters of transistors
10th	1st	Simplified H-parameters of transistors
	2nd	Generalised approximate model
	3rd	Multi stage transistor amplifier
	4th	R.C. coupled amplifier and Transformer coupled amplifier
11th	1st	Feed back in amplifier
	2nd	General theory of feed back
	3rd	Negative feedback circuit
	4th	Advantage of negative feed back
12th	1st	Power amplifier and its classification
	2nd	Difference between voltage amplifier and power amplifier
	3rd	Transformer coupled class A power amplifier
	4th	Class A push – pull amplifier
13th	1st	Class B push – pull amplifier
	2nd	Types of oscillators & Essentials of transistor oscillator, Principle of operation of tuned collector, Hartley, colpitt, phase wein-bridge oscillator
	3rd	
	4th	Classification of FET, Advantages of FET over BJT and Principle of operation of BJT
14th	1st	FET parameters
	2nd	DC drain resistance, AC drain resistance, Trans-conductance
15th	1st	Biasing of FET

	2nd	General circuit simple of OP-AMP and IC – CA – 741 OP AMP
	3rd	Operational amplifier stages
	4th	Equivalent circuit of operational amplifier
	VII	Open loop OP-AMP configuration
16th	1st	Inverting OP-AMP & Non inverting OP-AMP
	2nd	Voltage follower & buffer
	3rd	Differential amplifier
	4th	Adder or summing amplifier
17th	1st	Sub tractor, Integrator, Differentiator and comparator
	2nd	Doubt Clearing & Previous Year Question Discussion
	3rd	
	4th	

A. Smudhi Dash
Faculty Signature

A. Smudhi Dash
HOD