



DEPARTMENT OF ELECTRICAL ENGINEERING
ORISSA SCHOOL OF MINING ENGINEERING KEONJHAR
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LESSON PLAN

Discipline- Electrical Engineering	Semester- 4th	Name of the Teaching Faculty- ER.SHRADHA PATRA		
Subject- Analog Electronics & Op- amp Subject Code- TH2	No. of days/week class allotted-4	Semester From Date: 16/01/2024 To Date: 26/04/2024 Number of weeks- 15		
MONTH	WEEK	NO. OF PERIODS AVAILABLE	CLASS DAY	THEORY TOPICS TO BE COVERED
JANUARY	1st	2	16/01/2024	CHAPTER 1- P-N Junction Diode, working & VI Characteristics
			20/01/2024	DC Load line, knee voltage & ideal diode
	2nd	2	22/01/2024	Types of Junction Breakdown Avalanche and Zener
			24/01/2024	P-N Diode clipping Circuit
	3rd	4	29/01/2024	P-N Diode clamping Circuit
			30/01/2024	CHAPTER 2- SPECIAL SEMICONDUCTOR DEVICES:- Thermistors
			31/01/2024	Sensors & varistors
			03/02/2024	Zener Diode
FEBRUARY	4th	4	05/02/2024	Tunnel Diode & PIN Diode
			06/02/2024	CHAPTER 3- : Classification of Rectifiers- Half Wave & Full Wave
			07/02/2024	Calculation of DC output current and voltage, RMS output current and voltage, Rectifier efficiency, Ripple factor, Regulation, Transformer utilization factor & Peak inverse voltage of HWR
			10/02/2024	Calculation of DC output current and voltage, RMS output current and voltage, Rectifier efficiency, Ripple factor, Regulation, Transformer utilization factor & Peak inverse voltage of FWR
	5th	3	12/02/2024	Filters:- Shunt capacitor filter, Choke input filter & π filter
			13/02/2024	CHAPTER 4- Principle of Bipolar junction transistor
			17/02/2024	Different modes of operation of

				transistor	
				Current components in a transistor	
	6th	4	19/02/2024	Transistor as an amplifier Transistor circuit configuration & its characteristics CB Configuration	
			20/02/2024	CLASS TEST 1	
			21/02/2024	CE Configuration & CC Configuration	
			24/02/2024	CHAPTER 5- Transistor biasing Stabilization & Stability factor	
	7th	4	26/02/2024	Different method of Transistors Biasing - Base resistor method	
			27/02/2024	Collector to base bias & Voltage Divider method	
			29/02/2024	CHAPTER 6- Practical circuit of transistor amplifier	
			02/03/2024	DC load line and DC equivalent circuit	
	MARCH	8th	3	04/03/2024	AC load line and AC equivalent circuit
				06/03/2024	Calculation of gain
09/03/2024				Phase reversal	
9th		4	11/03/2024	H-parameters of transistors	
			12/03/2024	Amplified H -parameters of transistors	
			13/03/2024	Generalised approximate model and analysis of CB amplifier using it	
			16/03/2024	CE, CC amplifier using generalized approximate model	
10th		4	18/03/2024	Multi stage transistor amplifier	
			19/03/2024	R.C. coupled amplifier	
			20/03/2024	Transformer coupled amplifier Feed back in amplifier	
	23/03/2024		General theory of feed back Negative feedback circuit Advantage of negative feed back		
11th	2	27/03/2024	Power amplifier and its classification Difference between voltage amplifier and power amplifier		
		30/03/2024	Transformer coupled class A power amplifier Class A push – pull amplifier Class B push – pull amplifier		
APRIL	12th	3	02/04/2024	Oscillators ,Types of oscillators Essentials of transistor oscillator	
			03/04/2024	Principle of operation of Hartley & colpitt oscillator	

13th	4	06/04/2024	INTERNAL ASSESSMENT Phase shift & wein bridge oscillator Classification of FET Advantages of FET over BJT Principle of operation of FET FET parameters Biasing of FET
		08/04/2024	
		09/04/2024	
		10/04/2024	
14th	3	13/04/2024	General circuit simple of OP-AMP and IC - CA - 741 OP AMP Operational amplifier stages Equivalent circuit of operational amplifier Open loop OP-AMP configuration OPAMP with fed back Inverting OP AMP Non inverting OP-AMP Voltage follower & buffer Differential amplifier Adder or summing amplifier
		15/04/2024	
		16/04/2024	
		20/04/2024	
15th	3	22/04/2024	Sub tractor Integrator Differentiator Comparator
		23/04/2024	
		24/04/2024	

Shradha Patra
16/01/2024

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