

Orissa School of Mining Engineering Keonjhar

Department of Electrical Engineering

Lesson Plan (

VISION OF OUR DEPARTMENT:

provide excellent knowledge and enrich the problem solving skills of the students in the field of Electrical Engineering with a focus to prepare the students for industry need, recognized as innovative leader, responsible citizen and improve the environment.

MISSION OF OUR DEPARTMENT:

1. Prepare the students with strong fundamental concepts, analytical capability, and problem solving skills. Create an ambience of education through faculty training, self-learning, sound academic practices and research endeavors.
2. Provide opportunities to promote organizational and leadership skills in students through various extra- curricular and co-curricular events.
3. To make the students as far as possible industry ready to enhance their employability in the industries.
4. To improve department industry collaboration and to maintain effective operational environment.

Program Educational Objectives

The Program Educational Objectives (PEOs) of the Electrical Engineering Department are given below:

1. PEO1- To engage in Design of Systems, tools and applications in the field of electrical Engineering and allied engineering Industries.
2. PEO2- To apply the knowledge of electrical engineering to solve problems of social relevance and/or pursue higher education
3. PEO3- To work effectively as individuals and as team members in multidisciplinary projects by exhibit leadership capability, triggering social and economic commitment and inculcate community services and protect environment
4. PEO4- Engage in lifelong learning, career enhancement and adapt to changing professional and societal needs.



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: 14/02/2023 To Date: 23/05/2023 Number of weeks- 15		
MONTH	WEEK	NO. OF PERIODS AVAILABLE	CLASS DAY	THEORY TOPICS TO BE COVERED
FEBRUARY	1st	4	14/02/2023	CHAPTER 1- P-N Junction Diode, working & VI Characteristics
			15/02/2023	DC Load line, knee voltage & ideal diode
			17/02/2023	Types of Junction Breakdown- Avalanche and Zener
			17/02/2023	P-N Diode clipping Circuit
	2nd	4	21/02/2023	P-N Diode clamping Circuit
			22/02/2023	CHAPTER 2- SPECIAL SEMICONDUCTOR DEVICES:- Thermistors
			24/02/2023	Sensors & barretters
			24/02/2023	Zener Diode
	3rd	4	28/02/2023	Tunnel Diode & PIN Diode
			01/03/2023	CHAPTER 3- : Classification of Rectifiers- Half Wave & Full Wave
MARCH			03/03/2023	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

			03/03/2023	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
	4th	2	10/03/2023	Filters:- Shunt capacitor filter, Choke input filter & π filter
			10/03/2023	CHAPTER 4- Principle of Bipolar junction transistor
	5th	4	14/03/2023	Different modes of operation of transistor Current components in a transistor
			15/03/2023	Transistor as an amplifier Transistor circuit configuration & its characteristics CB Configuration
			17/03/2023	CLASS TEST 1
			17/03/2023	CE Configuration & CC Configuration
	6th	4	21/03/2023	CHAPTER 5- Transistor biasing Stabilization & Stability factor
			22/03/2023	Different method of Transistors Biasing - Base resistor method
			24/03/2023	Collector to base bias & Voltage Divider method
			24/03/2023	CHAPTER 6- Practical circuit of transistor amplifier
	7th	4	28/03/2023	DC load line and DC equivalent circuit
			29/03/2023	AC load line and AC equivalent circuit
			31/03/2023	Calculation of gain
			31/03/2023	Phase reversal
APRIL	8th	2	04/04/2023	H-parameters of transistors
			05/04/2023	Amplified H -parameters of transistors
	9th	2	11/04/2023	Generalised approximate model

				and analysis of CB amplifier using It
			12/04/2023	CE, CC amplifier using generalized approximate model
	10th	4	18/04/2023	Multi stage transistor amplifier
			19/04/2023	R.C. coupled amplifier
			21/04/2023	Transformer coupled amplifier Feed back in amplifier
			21/04/2023	General theory of feed back Negative feedback circuit Advantage of negative feed back
	11th	4	25/04/2023	Power amplifier and its classification Difference between voltage amplifier and power amplifier
			26/04/2023	Transformer coupled class A power amplifier Class A push – pull amplifier Class B push – pull amplifier
			28/04/2023	INTERNAL ASSESSMENT
			28/04/2023	INTERNAL ASSESSMENT
MAY	12th	2	02/05/2023	Oscillators ,Types of oscillators Essentials of transistor oscillator
			03/05/2023	Principle of operation of Hartley & colpitt oscillator
	13th	4	09/05/2023	Phase shift & wein-bridge oscillator
			10/05/2023	Classification of FET Advantages of FET over BJT Principle of operation of FET
			12/05/2023	FET parameters
			12/05/2023	Biasing of FET
	14th	2	16/05/2023	General circuit simple of OP-AMP and IC – CA – 741 OP AMP Operational amplifier stages Equivalent circuit of operational amplifier
			17/05/2023	Open loop OP-AMP configuration

				OPAMP with fed back Inverting OP-AMP Non inverting OP-AMP Voltage follower & buffer
	15th	1	23/05/2023	Differential amplifier Adder or summing amplifier Sub tractor Integrator Differentiator Comparator

Total — 47 out
Class of 60

Shradha
10/2/2023

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PTGF ELECTRICAL
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10/2/23

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