GOVERNMENT GIRLS POLYTECHNIC BILASPUR

DEPARTMENT OF CSE/IT/ELECTRONICS

LESSON PLAN

Session : Jan-June 2025

Course Name : BASIC ELECTRONICS ENGINEERING
Subject Code : 2028275(028)
Name of Subject teacher : SUMEET KUMAR DEWANGAN
Lecture plus Tutorial/Week : 3
Total Period Planned : 37

Course Outcome	Topics Covered	No. of Periods
CO-1 Use semiconductor diodes in various electronics circuits.	PN junction formation and depletion region	2
	Construction, symbol and equivalent circuit of PN diode	1
	Barrier potential and forward/reverse biasing	2
	V–I characteristics of PN junction diode	1
	Diode current equation and static/dynamic resistance	1
CO-2 Test the performance of different types of rectifiers and filters.	Need for rectification and rectifier parameters	2
	Ripple factor, efficiency and PIV	1
	Half wave rectifier: circuit and working	2
	Full wave rectifier (center tapped)	1
	Bridge rectifier and comparison of rectifiers	1
CO-3 Test function of Zener diode, clipper and clamper circuit.	Zener diode construction and working	2
	Zener and avalanche breakdown phenomenon	1
	Zener diode as voltage regulator	2
	Clipper circuits: concept and types	1
	Clamper circuits: working and types	1
CO-4 Test the working of Bipolar Junction Transistor (BJT) and FET.	BJT construction, types (NPN/PNP) and operation	2
	Modes of operation and current gain (α, β)	1

	Need for transistor biasing and basic biasing circuits	2
	Voltage divider biasing and thermal runaway	1
	Transistor configurations: CE, CB and CC	1
	Input and output characteristics and gain	1
	Introduction to FET, construction and working	1
CO-5 Use OP-AMP for various applications.	Differential amplifier basics and working	2
	Op-Amp IC 741 block diagram and concept of virtual ground	1
	Inverting and non-inverting op-amp configurations	2
	Important op-amp parameters and datasheet identification	1
	Applications: summing, integrator and differentiator amplifiers	1