GOVERNMENT GIRLS POLYTECHNIC BILASPUR

DEPARTMENT OF CSE / ET&T / IT

LESSON PLAN

Session : Jan-June 2026

Course Name : Fundamentals of Electrical and Electronics Engineering
Subject Code : 2000B03AT028
Name of Subject teacher : SUMEET KUMAR DEWANGAN
Lecture plus Tutorial/Week : 3
Total Period Planned : 38

Course Outcome	Topics Covered	No. of Periods
CO-1: Identify and select appropriate passive and active elements	Ideal voltage/current sources and V-I characteristics	2
	Charge, current, voltage, electrical ground	1
	Electric power, resistance, conductance, resistivity	1
	Linear and nonlinear elements	1
	Ohm's law, open and short circuit	1
	Types of resistors and colour code	1
	Capacitor: capacitance and I-V relation	2
	Types of capacitors and colour coding	1
	Inductor: inductance and I-V relation	1
	Types of inductors and colour coding	1
CO-2: Interpret Electrical and Magnetic Circuits	Electrical network, branch, node, loop, mesh	2
	Kirchhoff's Voltage Law (KVL)	1
	Kirchhoff's Current Law (KCL)	1
	Series resistors and voltage divider rule	2
	Parallel resistors and current divider rule	2
	Capacitors and inductors in series and parallel	2
	Passive sign convention	1
	Application of KCL and KVL in circuits	2
	Magnetic field and flux linkage	1
	Magnetic coupling, self and mutual inductance	1
CO-3: Test the function of PN Junction diodes and Special diodes	Semiconductor materials: intrinsic and extrinsic	2
	Charge carriers and conductivity	1
	PN junction formation	1
	Forward and reverse bias characteristics	1
	Rectifiers (half and full wave)	1
	Special diodes: Zener, LED, Photodiode	2
CO-4: Test the working of Bipolar Junction Transistor (BJT) and FET	BJT types and working principle	1
	Modes of operation of BJT	1
	BJT as amplifier and switch	1
	FET construction and working	1
	MOSFET types and working	1
CO-5: Use Number systems & logic gates to perform basic digital circuit operations.	Number systems introduction	1
	Binary, decimal, octal, hexadecimal	1
	Number system conversions	1
	Basic logic gates	1
	Universal logic gates	1