

Govt. Polytechnic Hamirpur (H.P.)
Practical Planning & Coverage

Branch : Electrical Engineering Semester: 5th
Subject : BEE Session: Aug- Dec 2026
Teacher: Vivek Kishore Lab : Machine Lab

Pract. No.	Description of Practical	Reference for Procedure/ Writeup	Likely Dates	Actual Dates	Signature
1.	Familiarization to basic equipment like ammeter, voltmeter, watt meter, energy meter, DSO/CRO, multi-meter etc. and their operation, uses.	Lab Manual	G1- G2-		
2.	Determine the value of resistor and capacitor using multimeter/ LCR meter.	Lab Manual	G1- G2-		
3.	Apply the Kirchhoff's Current Law in a dc circuit and verify the result using current divider rule	Lab Manual	G1- G2-		
4.	Apply the Kirchhoff's Voltage Laws in a dc circuit and verify the result using voltage divider rule.	Lab Manual	G1- G2-		
5.	Demonstration of Faraday's law of electromagnetic induction	Lab Manual	G1- G2-		
6.	Observe the effect on voltage and current by grouping of cells in series and parallel..	Lab Manual	G1- G2-		
7.	Measure the amplitude, frequency and time period using CRO/DSO	Lab Manual	G1- G2-		
8.	Identify the terminals of PN diode using multimeter and plot the VI characteristics of PN diode	Lab Manual	G1- G2-		


Signature of Teacher with Date


Signature of H.O.D.

Govt. Polytechnic Hamirpur (H.P.)
Lecture Planning (Theory)

Branch : Electrical Engg. Semester: Ist.

Subject : BEE Session: Aug – Dec 2026

Teacher: Vivek Kishore Class Room : _____

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1.	9	Unit 1: Electrical Fundamentals	Electrical quantities (Definitions & S.I. Units): Charge, Current, Voltage, E.M.F., Power, Energy. Electrical circuit elements: Resistor, inductor, capacitor. Ohms law, combination of resistances in series and parallel, Factors affecting resistance and concept of resistivity. Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL), Voltage and current divider rules.	R1,R4,R5	
2.	8	Unit 2: Electromagnetism and Magnetic Circuits	Basic concepts of magnetism (Definitions & S.I. Units): magnetic flux, flux density, magnetic field intensity, permeability, reluctance. Faraday's laws of electromagnetic induction and Lenz's law, Analogy between electric and magnetic circuits.	R5	
3.	8	Unit 3: Electrical Energy: Advantages & Applications	Difference between AC and DC supply, Various domestic, commercial, and industrial applications of electrical energy. Advantages of electrical energy over other forms of energy. Earthing (Definition), Equipment Earthing, purpose of Earthing. Batteries: Various types of batteries, their comparisons & applications, Grouping of cells in series and parallel.	R6	
4.	8	Unit 4: Introduction to Semiconductors Technology	Introduction to semi-conducting materials, Doping, Intrinsic and extrinsic semiconductors. PN junction diode: PN junction formation, depletion region, potential barrier, forward and reverse biasing, knee voltage, reverse breakdown voltage, V-I characteristics & its applications. LEDs and Applications of LEDs.	R1,R2,R3	
5.	8	Unit 5: Basic of Digital Electronics	Number systems: Binary, Decimal, Hexadecimal & Octal. Base conversions of number systems (Binary to Decimal and vice versa), Basic Laws & Theorems of Boolean algebra. Introduction to logic gates, their symbols and truth tables: AND, OR, NOT, NAND, NOR, Exclusive OR and Exclusive NOR gates. Universal logic gates.	R1,R2,R3	

 11/11/2026



REFERENCE BOOKS AND SUGGESTED LEARNING RESOURCES

1. ABC of Electrical Engineering, B.L.Theraja and A.K.Theraja – S. Chand Publishers, New Delhi.
2. Basic Electrical and Electronics Engineering, S.K.Bhattacharya - Pearson Education.
3. Basic Electric Engineering, DP Kothari and Nagrath - Tata McGraw Hill.
4. Basic Electrical Engineering, VN Mittle and Arvind Mittle - McGraw Hill.
5. Basic Electrical Engineering, V.K.Mehta & Rohit Mehta - S. Chand Publishers.
6. Fundamentals of Electrical Engineering, Tarlok Singh - S.K.Kataria & Sons.

ONLINE RESOURCES

1. Swayam Portal <https://swayam.gov.in>



Signature of Teacher with Date



Signature of H.O.D.