

Hour	Unit	Topic	Teaching Methodology	Remarks
1	I	Introduction to Electric Circuits & Basic Definitions	Whiteboard	
2	I	Electrical Circuit Elements: Resistor (R), Inductor (L), Capacitor (C)	Whiteboard	
3	I	Voltage and Current Sources – Independent & Dependent Sources	Whiteboard	
4	I	Ohm's Law – Explanation & Applications	Whiteboard	
5	I	Series and Parallel Circuits	Whiteboard	
6	I	Source Transformation Techniques	Whiteboard	
7	I	Kirchhoff's Laws – KVL & KCL	Whiteboard	
8	I	Faraday's Laws of Electromagnetic Induction	Whiteboard	
9	I	Lenz's Law	Whiteboard	
10	I	Solving Simple Problems on DC Circuits	Whiteboard	
11	II	Sinusoidal Waveforms – Representation	Whiteboard	
12	II	Peak, Average and RMS Values	Whiteboard	
13	II	Phasor Representation of AC Quantities	Whiteboard	
14	II	Analysis of Single-phase AC Circuit with R Only	Whiteboard	
15	II	Analysis of Single-phase AC Circuit with L Only	Whiteboard	
16	II	Analysis of Single-phase AC Circuit with C Only	Whiteboard	
17	II	AC Series Circuits: RL Combination	Whiteboard	
18	II	AC Series Circuits: RC Combination	Whiteboard	
19	II	AC Series Circuits: RLC Combination	Whiteboard	
20	II	Real Power, Reactive Power, Apparent Power & Power Factor	Whiteboard	
21	II	Solving Simple Problems on AC Circuits	Whiteboard	
22	III	DC Generator – Principle of Operation & Construction	Whiteboard	
23	III	EMF Equation of DC Generator	Whiteboard	
24	III	Classification of DC Generators	Whiteboard	
25	III	Open Circuit Characteristic (O.C.C)	Whiteboard	
26	III	Internal & External Characteristics of Shunt Generator	Whiteboard	

27	III	Applications of DC Generators	Whiteboard	
28	III	DC Motor – Principle of Operation & Torque Equation	Whiteboard	
29	III	Classification of DC Motors	Whiteboard	
30	III	Speed Control Methods of DC Motors	Whiteboard	
31	III	Operation of 3 Point Starter	Whiteboard	
32	III	Applications of DC Motors	Whiteboard	
33	IV	Formation of PN Junction Diode	Whiteboard	
34	IV	V-I Characteristics of PN Junction Diode	Whiteboard	
35	IV	Diode as a Switch	Whiteboard	
36	IV	Zener Diode – Characteristics	Whiteboard	
37	IV	Zener Diode as Voltage Regulator	Whiteboard	
38	V	BJT – Introduction & Configurations (CB, CE, CC)	Whiteboard	
39	V	Input & Output Characteristics of Transistor in CB Configuration	Whiteboard	
40	V	Input & Output Characteristics of Transistor in CE Configuration	Whiteboard	
41	V	Input & Output Characteristics of Transistor in CC Configuration	Whiteboard	
42	V	Relationship between α , β and γ	Whiteboard	
43	V	FET – Introduction & Characteristics of JFET	Whiteboard	
44	V	MOSFET – Enhancement and Depletion Modes	Whiteboard	
45	All	Recap, Revision & Solving Simple Problems	Whiteboard	