

**PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF APPLIED SCIENCES & HUMANITIES**

**LESSON PLAN**

**Name: - Mr. Rajeev Saini**

**Subject Name: - Basic Electrical engineering**

**Semester/Session: -2<sup>nd</sup> Sem. (Session 2021-22)**

**Subject Code: - ES-101A**

Sr. No	Lecture No.	Description of Topic	Tentative date	Methodology	CO
1	L1	Discussion about subject, Course outcomes and Exam pattern	28-03-2022	Discussion with Students	<b>CO1</b>
2	L2	<b>Unit-1:</b> Some Basic Definitions, Ohm's Law, Series and Parallel Circuits	29-03-2022	Lecture	
3	L3	Numerical based on ohms law, series and parallel circuits	30-03-2022	Lecture	
4	L4	KVL, KCL and its numerical, Terms used in network terminology, Circuit elements classification	31-03-2022	Lecture	
5	L5	Mesh analysis of resistive circuit	04-04-2022	Lecture	
6	L6	Numericals on Mesh analysis of resistive circuit	05-04-2022	Lecture	
7	L7	Node Voltage analysis of Circuits	06-04-2022	Lecture	
8	L8	Numericals on Node Voltage analysis of Circuits	07-04-2022	Lecture	
9	L9	Concept of Super Mesh & Super Node	11-04-2022	Lecture	
10	L10	Star Delta transformation derivation	12-04-2022	Lecture	
11	L11	Numericals on Star Delta transformation	13-04-2022	Lecture	
12	L12	Superposition theorem	14-04-2022	Lecture	
13	L13	Numericals on Superposition theorem	18-04-2022	Lecture	
14	L14	Thevenin's Theorem and its numericals	19-04-2022	Lecture	
15	L15	Norton's Theorem and its numericals	20-04-2022	Lecture	
16	L16	Maximum Power Transfer Theorem and its numericals	21-04-2022	Lecture	

17	L17	Revision of Unit 1	25-04-2022	Flip Learning	
18	L18	<b>Unit 2: AC Fundamentals: Introduction and Some definitions, Generation of AC quantities, EMF equation of AC quantities</b>	26-04-2022	Using animated video	<b>CO2</b>
19	L19	Peak value and Average value, RMS value of alternating quantity	27-04-2022	Lecture	
20	L20	Numerical on Phasor addition and subtraction	28-04-2022	Lecture	
21	L21	Mathematical representations of Phasors	02-05-2022	Lecture	
22	L22	AC circuits with pure Resistor, Inductor, Pure capacitor	03-05-2022	Lecture	
23	L23	RL series combination, RC series circuits	04-05-2022	Lecture	
24	L24	RLC Series Circuits and Series resonance	10-05-2022	Lecture	
25	L25	Series RLC Circuit design using Multisim/ECS	11-05-2022	Using Multisim/ECS software	
26	L26	AC parallel circuits, phasor method	12-05-2022	Flip Learning	
27	L27	J- method for solving parallel circuits	16-05-2022	Lecture	
28	L28	Test of unit 2	17-05-2022	Lecture	
29	L29	<b>Unit 3: Introduction to three phase circuits</b>	18-05-2022	Lecture	<b>CO3</b>
30	L30	Generation of alternating 3- phase emf, Phase sequence and its importance	19-05-2022	Lecture	
31	L31	Voltage and current relations in star connections	23-05-2022	Lecture	
32	L32	Voltage and current relations in delta connections	24-05-2022	Lecture	
33	L33	Measurement of 3-phase power by two wattmeter method for various types of star connected balanced loads.	25-05-2022	Lecture	
34	L34	Measurement of 3-phase power by two wattmeter method for various types of delta connected balanced loads.	26-05-2022	Lecture	
35	L35	Introduction to magnetic circuits	30-05-2022	Lecture and discussion with students	

36	L36	Single Phase Transformer: Principle, construction	31-05-2022	Lecture	<b>CO4</b>
37	L37	Emf equation, Ideal transformer, Transformer at no load	01-06-2022	Lecture	
38	L38	Phasor diagram at on load conditions	02-06-2022	Lecture	
39	L39	Losses & Efficiency, regulation, Concept of auto transformer	09-06-2022	Lecture	
40	L40	OC & SC test, equivalent circuit	13-06-2022	Lecture	
41	L41	Revision of unit 3	14-06-2022	Lecture	
42	L42	<b>Unit 4: Electrical Machines:</b> Introduction, Construction of DC machine	15-06-2022	Power Point Presentation	
43	L43	Working of dc machine with commutator action, Speed control of dc shunt motor	16-06-2022	Power Point Presentation	
44	L44	Construction and working of a three-phase induction motor	20-06-2022	Lecture	
45	L45	Generation of rotating magnetic fields, Significance of torque-slip characteristic	21-06-2022	Lecture	
46	L46	Significance of torque-slip characteristic	22-06-2022	Lecture	
47	L47	Basics of Single-phase induction motor,	23-06-2022	Lecture	
48	L48	Capacitor start capacitor run Single-phase induction motor working	27-06-2022	Flip Learning	
49	L49	Basic construction and working of synchronous generator and motor	28-06-2022	Lecture	
50	L50	Electrical Installations: Switch Fuse Unit (SFU), MCB, ELCB, MCCB	29-06-2022	Lecture	
51	L51	Types of Wires and Cables, Earthing	30-06-2022	Lecture	

**\*Highlighted part represents Content beyond Syllabus topics**