

KIIT POLYTECHNIC
Department of Electrical Engineering

LESSON PLAN

Session :: Winter – 2022
Course Type :: Theory
Semester/Branch :: 3rd Semester, Electrical Engineering
Subject (with code) :: Electrical Engg. Material (Th4)
Contact hours/week :: 4 hours/week
Name of Faculty :: Khusboo Parvin

SL. NO	CLAS S ID	COURSE CONTENT	MODE OF DELIVERY	EXHIBIT/ REFERENCE
	1	Introduction to atomic theory, inter atomic bonds.	Lecture (Explanation)	Study material
	2	Introduction to resistivity, factor affecting resistivity.	Lecture (Explanation)	Study material
	3	Classification of conducting materials.	Lecture (Explanation)	Study material
	4	Low resistivity material & its applications.	Lecture (Explanation)	Study material
	5	High resistivity material & its applications.	Lecture (Explanation)	Study material
	6	Superconductivity & its applications.	Lecture (Explanation)	Study material
	7	Question & Answer discussion		Previous year question paper
	8	Electron energy & energy band theory, excitation of atoms.	Prompt & clue	Study material
	9	Semiconductor materials, covalent bonds.	Lecture (Explanation)	Study material
	10	Intrinsic & Extrinsic semiconductors.	Lecture (Explanation)	Study material
	11	Recap and summarization		Class notes
	12	N-type & P-type materials, Minority &		https://www.youtube

		Majority materials	Students Presentation	.com/watch?v=DvYfs6rXKuE
	13	Minority & majority carriers.	Lecture (Explanation)	Study material
	14	Semi-conductors materials & application of semi-conductor materials	Lecture (Explanation)	Study material
	15	Rectifier, Temp- sensitive resister or thermistors.	Lecture (Explanation)	Study material
	16	Photo-conductive cell & photo-voltaic cell	Video content	
	17	Varister & transistor	Lecture (Explanation)	Study material
	18	Hall- effect generator	Video content	https://www.youtube.com/watch?v=Tt8zwiniSPc
	19	Solar power.	Students Presentation	https://www.youtube.com/watch?v=eSe3SFr6LXE&list=PLwdnzlV3ogoUtaGiq-IVJc4CC6x_czs9D&index=3
	20	Quiz Test		
	21	Question & Answer discussion		Previous year question paper
	22	Introduction to general properties of insulating materials.	Prompt & clue	Study material
	23	General properties of Insulating Materials, Electrical properties, Visual properties, Mechanical properties.	Lecture (Explanation)	Study material
	24	Insulating materials classification, properties and applications	Lecture (Explanation)	Study material
	25	Insulating Gases, Introduction, Commonly used insulating gases	Lecture (Explanation)	Study material
	26	Sf6 Insulating gases & its application	Lecture (Explanation)	Study material
	27	Di-electric constant of permittivity	Lecture	Study material

			(Explanation)	
28	Introduction to dielectric materials Polarization.		Lecture (Explanation)	Study material
29	Properties of dielectric material.		Lecture (Explanation)	Study material
30	Electric conductivity of dielectric and their break down.		Lecture (Explanation)	Study material
31	Polarization Dielectric loss		Lecture (Explanation)	Study material
32	Application of dielectrics material.		Prompt & clue	Study material
33	Introduction to magnetic materials		Prompt & clue	Study material
34	Classification of magnetic materials.		Lecture (Explanation)	Study material
35	Question & Answer discussion			Previous year question paper
36	Practice Test			
37	Diamagnetism, Para magnetism, Ferromagnetism.		Lecture (Explanation)	Study material
38	Explain Magnetization curve		Video content	https://www.youtube.com/watch?v=d8q6DzQ7CpU
39	Hysteresis curve.		Video content	https://www.youtube.com/watch?v=d8q6DzQ7CpU
40	Hysteresis losses.		Lecture (Explanation)	Study material
41	Curie point, Eddy current.		Lecture (Explanation)	Study material
42	Magnetostriction, Soft magnetic materials, Hard magnetic material		Lecture (Explanation)	Study material
43	Introduction to structural materials, Protective materials lead, steel tape, wires & strips.		Lecture (Explanation)	Study material
44	Quiz Test			
45	Thermocouple materials, Fuse & fuse		Lecture (Explanation)	Study material

		materials, Dehydrating materials.		
	46	Bimetals materials.	Lecture (Explanation)	Study material
	47	soldering materials	Lecture (Explanation)	Study material
	48	Review class		Class note
	49	Doubts clearing		Class note
	50	Question & Answer discussion		Previous year question paper

Signature of Concern Teacher

REFERENCE:

1. Electrical Engg. Material & Electronic Components. By K.B. Raina, S.K. Bhattacharya, T. Joneja (S.K Kataria & Sons)