

Electrical Engineering Department
Lesson plan

Name of Faculty	Rajni Mehra
Discipline	Electrical Engineering
Semester	Third Sem (3rd sem)
Subject	ELECTRICAL ENGINEERING MATERIALS
Lesson Plan Duration	From Sep 2023
Work load [Theory + Practical] Per Week	[03+00]

Week	Day	Theory Topic/ Assignment/ Test	No.	Practical
1st	1	Unit1: Introduction to Materials	1	
	2	Classification of materials		
	3	Atomic theory, Energy band theory		
2nd	1	Classifications of materials on the basis of atomic structure and energy bands. Characteristics of materials	2	
	2	Unit2: Conducting and Semi-Conducting Materials		
	3	Types of conducting material such as low resistivity and high resistivity materials		
3rd	1	Properties and applications of different low resistivity materials	3	
	2	Semi-conductors Materials and their Applications		
	3	Commonly used semiconducting material Germanium and silicon and their properties		
4th	1	Types of Semiconductor	4	
	2	Revision/Problem solution		
	3	Unit3 : Insulating Materials		
5th	1	Characteristics of good Insulating material	5	
	2	Types of Insulating materials		
	3	Classification of insulating material		
6th	1	Gaseous Insulating Materials	6	
	2	Properties and applications of air, nitrogen and sulphur hexafluoride (SF-6) gases		
	3	Liquid Insulating Materials		
7th	1	Properties and applications of Mineral and Insulating oil for transformers	7	
	2	Solid Insulating Materials		
	3	Properties, types and applications of Plastics		
8th	1	Polyethylene, epoxy resin,	8	
	2	polyvinyl chloride (PVC),		

	3	polystyrene		
9th	1	Bakelite, Melamin	9	
	2	Revision/Problem solution		
	3	Revision/Problem solution		
10th	1	Assignment Checking	10	
	2	Assignment Checking		
	3	Unit4 :Magnetic Materials		
11th	1	Characteristics and types of magnetic material	11	
	2	Properties of soft magnet material		
	3	Properties of hard magnet material		
12th	1	Unit5: Special Purpose Materials	12	
	2	Thermocouples		
	3	Bimetals		
13th	1	Material used in fabrications of electrical machines such as motors, generators, transformers	13	
	2	Revision/Problem solution		
	3	Revision/Problem solution		
14th	1	Revision of Old Question Papers	14	
	2	Revision of Old Question Papers		
	3	Revision of Old Question Papers		
15th	1	Revision of Old Question Papers	15	
	2	Revision of Old Question Papers		
	3	Revision of Old Question Papers		

