



LESSON PLAN

SUBJECT: Th-4 (ELECTRICAL ENGINEERING MATERIAL)

Name Of The Faculty :- Er.Biswajit Parida

Branch :- Electrical Engg.


Session :- 2024-25


Semester :- 3rd

Examination :- 2024 (w)

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	CONDUCTING MATERIAL	16	16
2	SEMICONDUCTING MATERIAL	10	12
3	INSULATING MATERIAL	9	10
4	DIELECTRIC MATERIAL	8	9
5	MAGNETIC MATERIAL	8	10
6	MATERIAL FOR SPECIAL PURPOSES	9	10
TOTAL		60	67


Sign of Faculty


Sign of H.O.D.

Discipline: EE	Semester: 3rd	Name of the Teaching Faculty: Er.Biswajit Parida	
		SESSION : 2024-25	EXAMINATION : 2024 (W)
Week	Class Day	Theory / Practical Topics	
1st	1st	1. Conducting Materials: 1 .1 Introduction	
	2nd	1 .2 Resistivity, factors affecting resistivity	
	3rd	1 .3 Classification of conducting materials into low-resistivity and high resistivity materials	
	4th	1 .4 Low Resistivity Materials and their Applications 1 .4.1 Copper	
2nd	1st	1 .4.2 Silver 1 .4.3 Gold	
	2nd	1 .4.4 Aluminium 1 .4.5 Steel	
	3rd	1 .5 Stranded conductors	
	4th	1 .6 Bundled conductors	
3rd	1st	1.8.1. Tungsten	
	2nd	1.8.2 Carbon	
	3rd	1.8.3 Platinum	
	4th	1.8.4 Mercury	
4th	1st	1 .9 Superconductivity	
	3rd	1 .10 Superconducting materials	
	2nd	1 .10 Superconducting materials	
	4th	1 .11 Application of superconductor materials	
5th	1st	2.Semiconducting material 2. 1 Introduction 2.2 Semiconductor 2.3 Electron energy and energy band theory 2.4 Excitation of atoms	
	3rd	2 .5 Insulators, Semiconductors and Conductors	
	2nd	2 .6 Semiconductor Materials 2 .7 Covalent Bonds	
	4th	2 .8 Intrinsic Semiconductors 2 .9 Extrinsic Semiconductors	

Week	Class Day	Theory / Practical Topics
6th	1 st	2.10 N-Type Materials
	2 nd	2.13 Semi-Conductor Materials
	3 rd	2.14 Applications of Semiconductor materials 2.14.1 Rectifiers
	4 th	2.14.2 Temperature-sensitive resistors or thermistors
7th	1 st	2.14.3 Photoconductive cells 2.14.4 Photovoltaic cells
	2 nd	2.14.5 Varistors
	3 rd	2.14.7 Hall effect generators
	4 th	2.14.8 Solar power
8th	1 st	3. Insulating material 3.1 Introduction
	2 nd	3.2 General properties of Insulating Materials 3.2.1 Electrical properties
	3 rd	3.2.2 Visual properties
	4 th	3.2.4 Thermal properties
9th	1 st	3.2.5 Chemical properties
	2 nd	3.2.6 Ageing
	3 rd	3.3 Insulating Materials – Classification, properties, applications 3.3.1 Introduction
	4 th	3.3.2 Classification of insulating materials on the basis physical and chemical structure
10th	1 st	3.4 Insulating Gases
	2 nd	3.4.2 Commonly used insulating gases
	3 rd	4. Dielectric material
	4 th	4.2 Dielectric Constant of Permittivity
11th	1 st	4.3 Polarisation
	2 nd	4.4 Dielectric Loss
	3 rd	4.5 Electric Conductivity of Dielectrics and their Break Down
	4 th	4.5 Electric Conductivity of Dielectrics and their Break Down
12th	1 st	4.5 Electric Conductivity of Dielectrics and their Break Down
	2 nd	4.6 Properties of Dielectrics
	3 rd	4.7 Applications of Dielectrics
	4 th	5. Magnetic material 5.1 Introduction

Week	Class Day	Theory / Practical Topics
13th	1 st	5.2 classification 5.2.1 Diamagnetism
	2 nd	5.2.2 Para magnetism
	3 rd	5.3 Magnetization Curve
	4 th	5.4 Hysteresis
14th	1 st	5.5 Eddy Currents
	2 nd	5.6 Curie Point
	3 rd	5.7 Magneto-striction
	4 th	5.8 Soft and Hard magnetic Materials
15th	1 st	5.8.2 Hard magnetic materials
	2 nd	6. Materials for special purpose 6.1 Introduction
	3 rd	6.2 Structural Materials
	4 th	6.4 Lead
16th	1 st	6.3.2 Steel tapes, wires and strips
	2 nd	6.4 Other Materials
	3 rd	6.4.1 Thermocouple materials
	4 th	6.4.2 Bimetals
17th	1 st	6.4.3 Soldering Materials
	2 nd	6.4.4 Fuse and Fuse materials
	3 rd	6.4.5 Dehydrating material


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