

Discipline : ELECTRICAL ENGINEERING	Semester : 3rd	Name of the Teaching Faculty:
Subject: ELEMENT OF ELECTRICAL ENGINEERING	No. of days/per week class allotted: 04	Semester From date :
Week	Class Day	Theory Topics
1 ST	1 ST	Conducting Materials: 1 . 1 Introduction 1 . 2 Resistivity,
	2 ND	factors affecting resistivity 1 . 3 Classification of conducting materials into low-resistivity and high resistivity materials
	3 RD	1 . 4 Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel)
	4 TH	13 1 . 5 Stranded conductors 1 . 6 Bundled conductors
2 ND	1 ST	1 . 7 Low resistivity copper alloys 1 . 8 High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)
	2 ND	1 . 9 Superconductivity 1 . 10 Superconducting materials
	3 RD	1 . 11 Application of superconductor materials
	4 TH	Semiconducting Materials: 2 . 1 Introduction 2 . 2 Semiconductors
3 RD	1 ST	2 . 3 Electron Energy and Energy Band Theory
	2 ND	2 . 4 Excitation of Atoms 2 . 5 Insulators, Semiconductors and Conductors
	3 RD	2 . 6 Semiconductor Materials
	4 TH	2 . 7 Covalent Bonds 2 . 8 Intrinsic Semiconductors
4 TH	1 ST	2 . 9 Extrinsic Semiconductors
	2 ND	2 . 10 N-Type Materials 2 . 11 P-Type Materials
	3 RD	2 . 12 Minority and Majority Carriers
	4 TH	2 . 13 Semi-Conductor Materials 2 . 14 Applications of Semiconductor materials
5 TH	1 ST	2.14.1 Rectifiers 2.14.2 Temperature-sensitive resistors or thermistors 2.14.3 Photoconductive cells
	2 ND	2.14.4 Photovoltaic cells
	3 RD	2.14.5 Varistors 2.14.6 Transistors
	4 TH	2.14.7 Hall effect generators 2.14.8 Solar power
6 TH	1 ST	Insulating Materials: 3 . 1 Introduction 3 . 2 General properties

		of Insulating Materials
	2 ND	3.2.1 Electrical properties
	3 RD	3.2.2 Visual properties 3.2.3 Mechanical properties
	4 TH	3.2.4 Thermal properties 3.2.5 Chemical properties 3.2.6 Ageing
7 TH	1 ST	3.2.4 Thermal properties 3.2.5 Chemical properties 3.2.6 Ageing
	2 ND	3.3.1 Introduction 3.3.2 Classification of insulating materials on the basis physical and chemical structure
	3 RD	3.4 Insulating Gases 3.4.1 Introduction. 3.4.2 Commonly used insulating gases chemical structure
	4 TH	Dielectric Materials: 4.1 Introduction 4.2 Dielectric Constant of Permittivity
8 TH	1 ST	4.3 Polarization
	2 ND	4.4 Dielectric Loss
	3 RD	4.5 Electric Conductivity of Dielectrics and their Break Down
	4 TH	4.6 Properties of Dielectrics.
9 TH	1 ST	4.7 Applications of Dielectrics.
	2 ND	Magnetic Materials: 5.1 Introduction 5.2 Classification
	3 RD	5.2.1 Diamagnetism
	4 TH	5.2.2 Para magnetism
10 TH	1 ST	5.2.3 Ferromagnetism
	2 ND	5.3 Magnetization Curve
	3 RD	5.4 Hysteresis
	4 TH	5.5 Eddy Currents
11 TH	1 ST	5.6 Curie Point
	2 ND	5.7 Magneto-striction
	3 RD	5.8 Soft and Hard magnetic Materials
	4 TH	5.8.1 Soft magnetic materials
12 TH	1 ST	5.8.2 Hard magnetic materials
	2 ND	Materials for Special Purposes 6.1 Introduction
	3 RD	6.2 Structural Materials
	4 TH	6.3 Protective Materials
13 TH	1 ST	6.3.1 Lead
	2 ND	6.3.2 Steel tapes, wires and strips
	3 RD	6.4 Other Materials
	4 TH	6.4.1 Thermocouple materials
14 TH	1 ST	6.4.2 Bimetals
	2 ND	6.4.3 Soldering Materials
	3 RD	6.4.4 Fuse and Fuse materials.
	4 TH	6.4.5 Dehydrating material.
15 TH	1 ST	TEST
	2 ND	TEST
	3 RD	TEST
	4 TH	TEST

Teaching Faculty

HOD, EE

Academic Co-ordinator