ACADEMIC SESSION : 2024-25

Discipline : ELECTRICAL ENGINEERING	Semester : 3RD	Name of the Teaching Faculty : KIRAN KUMAR BHOI
Subject : ELECTRICAL ENGINEERING MATERIAL	No. of days / week class allotted	Semester From date: 01/07/2024 to 08/11/2024 Nos. of Weeks per semester : 15
Week	**Class Day**	**Theory/ Practical Topics**
1ST	1st	Conducting Materials-Introduction
	2nd	Resistivity, factors affecting resistivity
	3rd	Classification of conducting materials into low-resistivity and high resistivity materials
	4th	Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel)
2ND	1st	Stranded conductors
	2nd	Bundled conductors
	3rd	Low resistivity copper alloys
	4th	High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)
3RD	1st	Superconductivity
	2nd	Superconducting materials
	3rd	Application of superconductor materials
	4th	Semiconducting Materials- Introduction
4TH	1st	Semiconductors
	2nd	Electron Energy and Energy Band Theory
	3rd	Excitation of Atoms
	4th	Insulators, Semiconductors and Conductors
5TH	1st	Semiconductor Materials
	2nd	Covalent Bonds

	3rd	Intrinsic Semiconductors
		Extrinsic Semiconductors
	4th	N-Type Materials
6TH	1st	P-Type Materials
	2nd	Minority and Majority Carriers
	3rd	Semi-Conductor Materials
	4th	Applications of Semiconductor materials, Rectifiers,Temperature-sensitive resisters or thermistors
7TH	1st	Varisters, Transistors,Hall effect generators ,Solar power
	2nd	Insulating Materials- Introduction
	3rd	General properties of Insulating Materials, Electrical properties, Visual properties
	4th	Mechanical properties, Thermal properties Chemical properties, Ageing
8TH	1st	Classification of insulating materials on the basis physical and chemical structure
	2nd	Insulating Gases, Introduction, Commonly used insulating gases
	3rd	Dielectric Materials- Introduction
	4th	Dielectric Constant of Permittivity
9TH	1st	Polarization
	2nd	Dielectric Loss
	3rd	Electric Conductivity of Dielectrics and their Break Down
	4th	Properties of Dielectrics.
10TH	1st	Applications of Dielectrics.
	2nd	Magnetic Materials-Introduction
	3rd	Classification Magnetic Materials
	4th	Diamagnetism
11TH	1st	Para magnetism 5.2.3 Ferromagnetism
	2nd	Magnetization Curve
	3rd	Hysteresis

12th	1st	Curie Point
	2nd	Magneto-striction
	3rd	Soft magnetic materials
	4th	Hard magnetic materials
13th	1st	Materials for Special Purposes- Introduction
	2nd	Structural Materials
	3rd	Protective Materials
	4th	Protective Materials- Lead
14th	1st	Steel tapes, wires and strips
	2nd	Other Materials
	3rd	Thermocouple materials
	4th	Bimetals
15th	1st	Soldering Materials
	2nd	Fuse and Fuse materials.
	3rd	Dehydrating material.
	4th	Question discussion

29.6.24

Prepared by
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