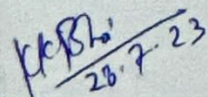


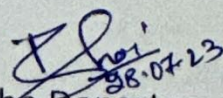
ACADEMIC SESSION : 2023-24(Winter)

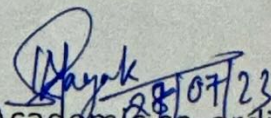
Discipline : ELECTRICAL ENGINEERING	Semester : 3RD	Name of the Teaching Faculty : KIRAN KUMAR BHOI
Subject : ELECTRICAL ENGINEERING MATERIAL	No. of days / week class allotted	Semester From date: 01/08/2023 to 30/11/2023 Nos. of Weeks per semester : 15
Week	Class Day	Theory/ Practical Topics
1ST	1st	Conducting 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
	4 th	N-Type Materials
6 TH	1 st	P-Type Materials
	2 nd	Minority and Majority Carriers
	3 rd	Semi-Conductor Materials
	4 th	Applications of Semiconductor materials, Rectifiers, Temperature-sensitive resistors or thermistors
7 TH	1 st	Varistors, Transistors, Hall effect generators, Solar power
	2 nd	Insulating Materials- Introduction
	3 rd	General properties of Insulating Materials, Electrical properties, Visual properties
	4 th	Mechanical properties, Thermal properties Chemical properties, Ageing
8 TH	1 st	Classification of insulating materials on the basis physical and chemical structure
	2 nd	Insulating Gases, Introduction, Commonly used insulating gases
	3 rd	Dielectric Materials- Introduction
	4 th	Dielectric Constant of Permittivity
9 TH	1 st	Polarization
	2 nd	Dielectric Loss
	3 rd	Electric Conductivity of Dielectrics and their Break Down
	4 th	Properties of Dielectrics.
10 TH	1 st	Applications of Dielectrics.
	2 nd	Magnetic Materials-Introduction
	3 rd	Classification Magnetic Materials
	4 th	Diamagnetism
11 TH	1 st	Para magnetism 5.2.3 Ferromagnetism
	2 nd	Magnetization Curve
	3 rd	Hysteresis
	4 th	Eddy Currents

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


 Prepared by
 Kiran Kumar Bhoi
 Lect(Electrical Engg)
 GP Sonapur


 Head of the Department
 (Electrical Engg)
 GP Sonapur


 Academic co-ordinator
 GP Sonapur