SYNERGY POLYTECHNIC, BBSR

The Lesson Plan

Descipline:Electrical Engg.	Semester: 3rd	Name of the Teaching Faculty: Rosalin Samal
Subject:Electrical Engg.materials	No of Days/per week class allotted:04	Semester from Date: 01/08/2023 to Date: No of Weeks:
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,Bundled conductors
	2nd	Low resistivity copper alloys
	3rd	Carbon, Platinum, Mercury)
	4th	Superconductivity : Superconducting materials
3rd	1st	Superconducting materials
	2nd	**Semiconducting Materials:**
	3rd	Introduction :Semiconductors
	4th	Electron Energy and Energy Band Theory
4th	1st	Excitation of Atoms
	2nd	Insulators, Semiconductors and Conductors
	3rd	Semiconductor Materials,Covalent Bonds
	4th	Intrinsic Semiconductors ,Extrinsic Semiconductors
5th	1st	N-Type Materials , P-Type Materials
	2nd	Minority and Majority Carriers
	3rd	**Applications of Semiconductor materials**
	4th	Rectifiers
6th	1st	Temperature-sensitive resisters or thermistors
	2nd	Photoconductive cells,Photovoltaic cells
	3rd	Varisters,Transistors
	4th	Hall effect generators,Solar power
7th	1st	**Insulating Materials:**
	2nd	Introduction
	3rd	General properties of Insulating Materials
	4th	Electrical properties ,Visual properties
8th	1st	Mechanical properties ,Thermal properties
	2nd	Chemical properties ,Ageing
	3rd	Insulating Materials – Classification, properties, applications
	4th	Introduction
9th	1st	Classification of insulating materials on the basis physical and
	2nd	chemical structure ,Insulating Gases
	3rd	Introduction ,Commonly used insulating gases
	4th	**Dielectric Materials:**
10th	1st	Dielectric Constant of Permittivity
	2nd	Polarization , Dielectric Loss
	3rd	Electric Conductivity of Dielectrics and their Break Down
	4th	Properties of Dielectrics ,Applications of Dielectrics.

11th	1st	Magnetic Materials:Introduction
	2nd	Classification Diamagnetism , Para magnetism
	3rd	Ferromagnetism , Magnetization Curve
	4th	Hysteresis ,Eddy Currents ,Curie Point
12th	1st	Magneto-striction
	2nd	Soft and Hard magnetic Materials
	3rd	Soft magnetic materials ,Hard magnetic materials
	4th	Materials for Special Purposes
13th	1st	Introduction: Structural Materials
	2nd	Protective Materials
	3rd	Lead,Steel tapes, wires and strips
	4th	Other Materials ,Thermocouple materials
14th	1st	Bimetals ,Soldering Materials
	2nd	Fuse and Fuse materials , Dehydrating material.
	3rd	Syllabus coverage up to Internal assessment
	4th	revision

Faculty

26/7/23
HOD

26/7/23
Principal