Discipline – Electrical Engg	SEMESTER 3RD	NAME OF THE TEACHING FACULTY- SIBANI PANDA, LECT(ELECT.)	
SUB-EEM	No Of Days Per Week Class Alloted- 4 P	SEMESTER FROM 15.09.2022 to 22.12.2022 NO OF WEEK – 13 WEEKS	
WEEK	CLASS DAY	THEORY	STATUS
1st week	1ST day 2nd day 3rd day 4th day	1 . **Conducting Materials:** 1 . 1 Introduction 1 . 2 Resistivity, factors affecting resistivity 1.3 Classification of conducting materials into low resistivity and high resistivity materials	
2nd week	1ST day 2nd day 3rd day 4th day	1 . 4 Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel) 1 . 5 Stranded conductors 1 . 6 Bundled conductors	
3rd week	1ST day 2nd day 3rd day 4th day	1 . 7 Low resistivity copper alloys 1 . 8 High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury) 1 . 9 Superconductivity	
4th week	1ST day 2nd day 3rd day 4th day	1 . 10 Superconducting materials 1 . 11 Application of superconductor materials	
5th week	1ST day 2nd day 3rd day 4th day	**Semiconducting Materials:** 2 . 1 Introduction 2 . 2 Semiconductors 2 . 3 Electron Energy and Energy Band Theory 2 . 4 Excitation of Atoms 2 . 5 Insulators, Semiconductors and Conductors	
6TH WEEK	1ST day 2nd day 3rd day 4th day	2 . 6 Semiconductor Materials 2 . 7 Covalent Bonds 2 . 8 Intrinsic Semiconductors 2 . 9 Extrinsic Semiconductors 2 . 10 N-Type Materials 2 . 11 P-Type Materials 2 . 12 Minority and Majority Carriers 2 . 13 Semi-Conductor Materials	
7TH WEEK	1ST day	2 . 14 Applications of Semiconductor materials	

	2nd day 3rd day 4th day I	2.14.1 Rectifiers 2.14.2 Temperature-sensitive resisters or thermistors 2.14.3 Photoconductive cells 2.14.4 Photovoltaic cells 2.14.5 Varisters 2.14.6 Transistors 2.14.7 Hall effect generators **2.14.8** Solar power **Insulating Materials:** 3.1 Introduction	
8TH WEEK	1ST day 2nd day 3rd day 4th day	3 . 2 General properties of Insulating Materials 3.2.1 Electrical properties 3.2.2 Visual properties 3.2.3 Mechanical properties 3.2.4 Thermal properties 3.2.5 Chemical properties 3.2.6 Ageing 3.3.1	
9TH WEEK	1ST day 2nd day 3rd day 4th day	3.3 Insulating Materials – Classification, properties, applications 3.3.1 Introduction Classification of insulating materials on the basis physical and chemical structure 3.4 Insulating Gases 3.4.1 Introduction. 3.4.2 Commonly used insulating gases	
10TH WEEK	1ST day 2nd day 3rd day 4th day	**Dielectric Materials:** 4.1 Introduction 4.2 Dielectric Constant of Permittivity 4.3 Polarization 4.4 Dielectric Loss	
11TH WEEK	1ST day 2nd day 3rd day 4th day	4.5 Electric Conductivity of Dielectrics and their Break Down 4.6 Properties of Dielectrics. **4.7** Applications of Dielectrics.	
12TH WEEK	1ST day 2nd day 3rd day 4th day	**Magnetic Materials:** 5.1 Introduction 5.2 5.3 Classification 5.3.1 Diamagnetism 5.3.2 Para magnetism	

		5.3.3 Ferromagnetism 5.4 Magnetization Curve	
13TH WEEK	1ST day 2nd day 3rd day 4th day	5.5 Hysteresis 5.6 Eddy Currents 5.7 Curie Point 5.8 Magneto-striction 5.9 Soft and Hard magnetic Materials 5.9.1 Soft magnetic materials **5.9.2** Hard magnetic materials	
14TH WEEK	1ST day 2nd day 3rd day 4th day	**Materials for Special Purposes** 6.1 Introduction 6.2 Structural Materials 6.3 Protective Materials 6.3.1 Lead 6.3.2 Steel tapes, wires and strips	Extra classes to be done for course completion.
15TH WEEK	1ST day 2nd day 3rd day 4th day	6.4 Other Materials 6.3.3 Thermocouple materials 6.3.4 Bimetals 6.3.5 Soldering Materials 6.3.6 Fuse and Fuse materials. **6.3.7** Dehydrating material.	