

Discipline – Electrical Engg	SEMESTER 3 <sup>RD</sup>	NAME OF THE TEACHING FACULTY- SIBANI PANDA, LECT(ELECT.)	
SUB-EEM	No Of Days Per Week Class Alloted- 4 P	SEMESTER FROM 01.08.2023 to 30.11.2023  NO OF WEEK – 15 WEEKS	
WEEK	CLASS  DAY	THEORY	STATUS
1 <sup>st</sup> week	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day	<b>ConductingMaterials:</b> 1.1 Introduction 1.2 Resistivity, factors affecting resistivity 1.3 Classification of conducting materials into low resistivity and high resistivity materials	
2 <sup>nd</sup> week	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day	1.4 Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel) 1.5 Stranded conductors 1.6 Bundled conductors	
3 <sup>rd</sup> week	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day	1.7 Low resistivity copper alloys 1.8 High Resistivity Materials and their Applications (Tungsten, Carbon, Platinum, Mercury) 1.9 Superconductivity	
4 <sup>th</sup> week	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day	1.10 Superconducting materials 1.11 Application of superconducting materials	

5 <sup>th</sup> week	1 <sup>ST</sup> day  2 <sup>nd</sup> day  3 <sup>rd</sup> day  4 <sup>th</sup> day	<b>Semiconducting Materials:</b> 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	
6 <sup>TH</sup> WEEK	1 <sup>ST</sup> day  2 <sup>nd</sup> day  3 <sup>rd</sup> day  4 <sup>th</sup> 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	
7 <sup>TH</sup> WEEK	1 <sup>ST</sup> day  2 <sup>nd</sup> day  3 <sup>rd</sup> day  4 <sup>th</sup> day	2.14 Applications of Semiconductor materials 2.14.1 Rectifiers 2.14.2 Temperature-sensitive resistors or thermistors 2.14.3 Photoconductive cells 2.14.4 Photovoltaic cells 2.14.5 Varistors 2.14.6 Transistors 2.14.7 Hall effect generators 2.14.8 Solar power  <b>Insulating Materials:</b> 3.1 Introduction	
8 <sup>TH</sup> WEEK	1 <sup>ST</sup> day  2 <sup>nd</sup> day  3 <sup>rd</sup> day  4 <sup>th</sup> 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	
9 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	3.3 Insulating Materials – Classification, properties, applications 3.3.1 Introduction Classification of insulating materials on the basis of physical and chemical structure 3.4 Insulating Gases 3.4.1 Introduction. 3.4.2 Commonly used insulating gases	
10 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	<b>Dielectric Materials:</b> 4.1 Introduction 4.2 Dielectric Constant of Permittivity 4.3 Polarization 4.4 Dielectric Loss	
11 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	4.5 Electric Conductivity of Dielectrics and their Break Down 4.6 Properties of Dielectrics. 4.7 Applications of Dielectrics.	
12 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	<b>Magnetic Materials:</b> 5.1 Introduction 5.2 5.3 Classification 5.3.1 Diamagnetism 5.3.2 Paramagnetism 5.3.3 Ferromagnetism 5.4 Magnetization Curve	
13 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	5.5 Hysteresis 5.6 Eddy Currents 5.7 Curie Point 5.8 Magnetostriction 5.9 Soft and Hard magnetic Materials 5.9.1 Soft magnetic materials 5.9.2 Hard magnetic materials	

14 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	<b>Materials for Special Purposes</b> 6.1 Introduction 6.2 StructuralMaterials 6.3 ProtectiveMaterials 6.3.1 Lead 6.3.2 Steel tapes, wires andstrips	
15 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day	6.4 Other Materials 6.3.3 Thermocouplematerials 6.3.4 Bimetals 6.3.5 SolderingMaterials 6.3.6 Fuse and Fusematerials. 6.3.7 Dehydratingmaterial.	

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31.7.23