



UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: Electrical Engineering	SEMESTER: 3 rd Sem	NAME OF THE TEACHING FACULTY: Er.Chittaranjan Parida		
SUBJECT: ELECTRICAL ENGINEERING MATERIAL	No of Days/Per week class allotted: 4 Class P/W(60)	Semester From Date:15/09/2022 To Date:22/12/2022 No. Of Weeks: 15		
WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
1 st	1 st	Introduction	Date	Dean/Principal
	2 nd			
	3 rd	Resistivity, factors affecting resistivity Classification of conducting materials into low-resistivity and high resistivity materials		
	4 th	Revision of last Class		
2 nd	1 st	Doubt clear class		
	2 nd	Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel)		
	3 rd	Stranded conductors Bundled conductors		
	4 th	Assignment		
3 rd	1 st	Assignment question Discussion		
	2 nd	Low resistivity copper alloys		
	3 rd	High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)		
	4 th	Superconductivity		
4 th	1 st	Revision of last few class		
	2 nd	Superconducting materials		
	3 rd	Application of superconductor materials		
	4 th	Semiconducting Materials:Introduction		
	1 st	Semiconductors		
	2 nd			

5 th	2 nd	Electron Energy and Energy Band Theory		
	3 rd	Excitation of Atoms		
	4 th	Insulators, Semiconductors and Conductors		
	1 st	Revision of Last Class		
6 th	2 nd	Assignment		
	3 rd	Revision of Last Class About Terzaghi's Model of Compression.		
	4 th	Semiconductor Materials		
	1 st	Covalent Bonds		
7 th	2 nd	Revision of Last class		
	3 rd	Intrinsic Semiconductors . Extrinsic Semiconductors		
	4 th	Revision of Last Classes About Compaction, Consolidation & Shear Strength.		
	1 st	N-Type Materials. P-Type Materials		
8 th	2 nd	Minority and Majority Carriers		
	3 rd	Class Test		
	4 th	Doubt Clearing Class and Assignment Questions Discussion.		
	1 st	Semi-Conductor materials		
9 th	2 nd	Applications of Semiconductor materials		
	3 rd	Revision Class		
	4 th	Rectifiers		
	1 st	Temperature-sensitive resistors or thermistors . Photoconductive cells		
10 th	2 nd	Photovoltaic cells		
	3 rd	Varistors, Transistors , Hall effect generators		
	4 th	Solar power		
	1 st	Insulating Materials:Introduction ,General properties of Insulating Materials		
11 th	2 nd	Electrical properties		
	3 rd	Visual properties . Mechanical properties		

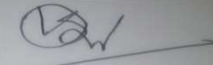
	4 th	Thermal properties , Chemical properties , Ageing		
12 th	1 st	Insulating Materials- Classification,properties,applications		
	2 nd	Introduction , Classification of insulating materials on the basis physical and		
	3 rd	chemical structure ,Insulating Gases		
	4 th	Introduction. Commonly used insulating gases		
13 th	1 st	Dielectric Materials: Introduction , Dielectric Constant of Permittivity		
	2 nd	Polarization ,Dielectric Loss		
	3 rd	Electric Conductivity of Dielectrics and their Break Down. Properties of Dielectrics.		
	4 th	Applications of Dielectrics. Magnetic Materials: Introduction		
14 th	1 st	Classification.Diamagnetism . Para magnetism . Ferromagnetism		
	2 nd	Magnetization Curve , Hysteresis , Eddy Currents		
	3 rd	Curie Point , Magneto-striction , Soft and Hard magnetic Materials, Soft magnetic materials , Hard magnetic materials		
	4 th	Materials for Special Purposes:Introduction , Structural Materials		
15 th	1 st	Protective Materials , Lead		
	2 nd	Steel tapes, wires and strips		
	3 rd	Thermocouple materials , Bimetals , Soldering Materials		
	4 th	Fuse and Fuse materials.,Dehydrating material.		

Chittaranjan Panda

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Chittaranjan Panda

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PRINCIPAL