

LESSON PLAN

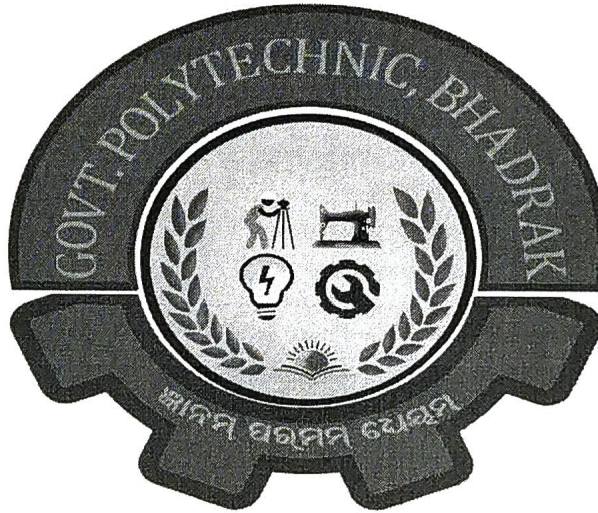
SUB: ELECTRICAL ENGINEERING MATERIAL

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 3rd

SESSION:2022-2023

NAME OF FACULTY: NIBEDITA HO



GOVERNMENT POLYTECHNIC, BHADRAK

Hod Electrical
[Signature]
HOD (ELECT.)
G.P. BHADRAK


[Signature]
Academic Co-ordinator

[Signature]
Principal
Govt. Polytechnic, Bhadrak

Discipline: Electrical Engg.	Semester: 3 rd	Name of the Teaching Faculty : Nibedita Ho
Subject: Electrical Engineering Material	No. of Days/per week class allotted:4	Semester from date: 15.09.2022 To Date: 21.01.2023 No. of Weeks:15
Week	Class Day	Theory
1 st	1 st	Introduction Conducting Materials
	2 nd	Atomic structure, Inter atomic bonds
	3 rd	Resistivity, factors affecting resistivity
	4 th	Classification of conducting materials into low-resistivity and high resistivity materials
2 nd	1 st	Low Resistivity Materials and their Applications.(Copper, Silver, Gold, Aluminum, Steel)
	2 nd	Stranded conductors
	3 rd	Bundled conductors
	4 th	Low resistivity copper alloys
3 rd	1 st	High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)
	2 nd	Superconductivity
	3 rd	Superconducting materials
	4 th	Application of superconductor materials
4 th	1 st	Introduction of Semiconducting Materials
	2 nd	Electron Energy and Energy Band Theory
	3 rd	Excitation of Atoms
	4 th	Insulators, Semiconductors and Conductors
5 th	1 st	Semiconductor Materials
	2 nd	Covalent Bonds
	3 rd	Intrinsic Semiconductors
	4 th	Extrinsic Semiconductors
6 th	1 st	N-Type Materials, P-Type Materials
	2 nd	Minority and Majority Carriers
	4 th	Applications of Semiconductor materials Rectifiers, Temperature-sensitive resistors or thermistors
	1 st	Photoconductive cells, Photovoltaic cells, Varistors, Transistors, Hall effect generators, Solar power

7 th	2 nd	Introduction Insulating Materials
	3 rd	General properties of Insulating Materials Electrical properties
	4 th	Visual properties ,Mechanical properties
8 th	1 st	Thermal properties
	2 nd	Chemical properties, Ageing
	3 rd	Insulating Materials – Classification, properties,application of fibrous materials
	4 th	Impregnated fibrous materials,Non-resinousmaterials
9 th	1 st	Insulating liquids,Ceramics,mica & Mica Products
	2 nd	Asbestos & asbestos products,glass,Natural &synthetic rubbers.
	3 rd	Glass,Natural &synthetic rubbers.
	4 th	Insulating resins & their products,laminates
10 th	1 st	Adhesives,enamels &varnishes
	2 nd	Insulating gases -Introduction,commonly usedinsulating gases.
	3 rd	Introduction of Dielectric Materials,DielectricConstant of Permittivity
	4 th	Polarization
11 th	1 st	Dielectric Loss
	2 nd	Electric Conductivity of Dielectrics and theirBreak Down (Solid)
	3 rd	Liquid & Gaseous dielectric Break Down
	4 th	Properties of Dielectrics.
	1 st	Applications of Dielectrics.

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


 Signature of the Concerned faculty