

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2023-2024

Discipline: Electrical Engg. Semester: Third

Subject: Electrical Engineering Material

Name of the Teaching Faculty: Subesh Chandra Nayak

Subject: Electrical Engg. Material No. of Days/per week class allotted 4

Semester From Date : 01.08.2023 To Date : 30.11.2023 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
1	1	Introduction of Conducting Materials.
	2	Resistivity, Conductivity
	3	Factors affecting resistivity. Discussion about various Conducting Materials.
	4	Classification of Conducting Materials.
2	5	low resistivity materials
	6	high resistivity materials.
	7	Properties and application of low resistivity materials.
	8	Properties and application of low resistivity materials.
3	9	Stranded Conductors.
	10	Bundle Conductors.
	11	low resistivity Copper Alloys.
	12	Properties and application of high resistivity materials.

Subesh Chandan Nayak
Signature of the Faculty

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Semester From Date : 01.08.2023 To Date : 30.11.2023 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
4	13	Properties and application of high resistivity materials.
	14	Super conductivity
	15	Superconducting Materials
	16	Applications of Superconductor Materials.
5	17	Introduction of Semiconducting Materials Semiconductor.
	18	Electron Energy and Energy band Theory
	19	Excitation of atoms, Insulators, Semiconductor and Conductor
	20	Semiconductor Materials. Covalent band.
6	21	Intrinsic Semiconductor Extrinsic Semiconductor.
	22	N-type Semiconductor Materials P-type Semiconductor Materials.
	23	Minority and Majority Carrier.
	24	Application of Semiconductor materials. Rectifiers, Thermistors.

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Theory / Practical Topics		
Week	Class Day	
7	25	Photoconductive Cells, Photovoltaic Cells Varistors.
	26	Transistors, Hall effect generators. Solar Power
	27	Introduction of insulating Materials
	28	General Properties of insulating materials
8	29	Electrical Properties of Insulating Materials
	30	Visual and Mechanical properties of insulating materials.
	31	Thermal properties of insulating materials.
	32	Chemical properties of insulating materials.
9	33	Ageing. Classification of insulating Materials,
	34	Properties and application of insulating materials.
	35	Classification of insulating material on the basis of physical and Chemical Structure.
	36	Insulating Gases Commonly used insulating Gases.

Rudesh Choudhary Nayak
 Signature of the Faculty

Subject: Electrical Engg. Material No. of Days/per week class allotted 4

Semester From Date : 01.08.2023 To Date : 30.11.2023 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
10	37	Introduction of Dielectric Materials.
	38	Dielectric Material Dielectric Constant of permittivity.
	39	Polarisation
	40	Dielectric loss.
11	41	Electric Conductivity of Dielectrics and their breakdown.
	42	Properties of Dielectrics
	43	Application of Dielectrics.
	44	Introduction of Magnetic Material.
12	45	Classification of Magnetic Materials.
	46	Diamagnetism Paramagnetism.
	47	Ferromagnetism, Magnetisation Curve.
	48	Hysteresis, Eddy Current Curie point.

Subesh Chandra Mehta
Signature of the Faculty

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 Semester From Date : 01.08.2023 To Date : 30.11.2023 No. of Weeks : 15

Week	Class Day	Theory / Practical Topics
13	49	Magnetostrektion Soft and Hard Magnetic Materials.
	50	Soft magnetic Materials.
	51	Hard Magnetic Materials.
	52	Introduction of Special purposes Materials.
14	53	Structural Materials
	54	Protective Materials, Lead
	55	Steel tapes, Wires and Strips.
	56	Others materials Thermocouple Materials.
15	57	Bimetals
	58	Soldering Materials
	59	Fuse and fuse materials
	60	Dehydrating Materials.

Subash Chandra Nayak
 Signature of the Faculty