



PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF  
ENGINEERING & TECHNOLOGY, BARGARH

LESSON PLAN

Discipline: Electrical Engg. Semester: Third

Name of the Teaching Faculty : Subesh Chandra Nayak

Subject: Elect. Engg. Material No. Of Days/per week class allotted 4

Semester From Date : 01-09-2020 To Date : 15-02-2021 No. Of Weeks : 16

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 material.
4	13	Properties and application of high resistivity material.
	14	Superconductivity
	15	Superconducting Material.

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	16	Application of Si. Semiconductor materials
5	17	Introduction of Semiconducting materials Semiconductor
	18	Electron Energy and Energy Band Theory
	19	Excitation of Atoms, Insulators, Semiconductor and Conductor
6	20	Semiconductor Material, Covalent Band.
	21	Intrinsic Semiconductor Extrinsic Semiconductor
	22	N-type Semiconductor P-type Semiconductor Materials
	23	Minority and Majority Carrier
7	24	Application of Semiconductor materials Rectifiers, Thermistors
	25	Photoconductive Cells, Photovoltaic Cells Varistors
	26	Transistors, Hall effect generators Solar power.
	27	Introduction of insulating materials
8	28	General properties of insulating materials
	29	Electrical Properties of insulating materials
9	30	Visual and Mechanical Properties of insulating materials

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Week	Class Day	Theory /Practical Topics
	31	Thermal Properties of insulating materials
	32	Chemical properties of insulating materials
	33	Ageing, Classification of insulating materials
10	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.
11	37	Introduction of Dielectric Materials
	38	Dielectric Material, Dielectric constant of Permittivity
	39	Polarisation
	40	Dielectric loss
12	41	Electric Conductivity of Dielectrics and their break down
	42	Properties of Dielectrics
	43	Application of Dielectrics
	44	Introduction of Magnetic Material.
13	45	Classification of Magnetic Materials

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Week	Class Day	Theory /Practical Topics
	46	Diamagnetism, Paramagnetism
	47	Ferromagnetism, Magnetisation Curve
	48	Hysteresis, Eddy Currents, Curie point
14	49	Magnetostriction, Soft and hard magnetic materials.
	50	Soft Magnetic Materials
	51	Hard Magnetic Materials
15	52	Introduction of Special Purposes Materials
	53	Structural Materials
	54	Protective Materials, Lead
	55	Steel tapes, wires and strips
16	56	Other Materials Thermocouple Materials
	57	Bimetals
	58	Soldering Materials
	59	Fuse and fuse Materials
	60	Dehydrating Materials

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