

Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -4,Electrical Engineering Material

Semester & Branch : 3rd Sem, Electrical Engineering

Total Periods-60

Name of the faculty : Umesh Ch. Prusty

No of periods /week-4

WEEK	CLASS DAY	THEORY
1ST	1ST	resistivity,factors affecting resistivity
	2ND	classification of conducting materials
	3RD	low resistivity materials and their applications
	4TH	stranded and bundled conductors, low resistivity copper alloys.
2ND	1ST	high resistivity materials and their applications
	2ND	superconductivity and super conducting materials(applications)
	3RD	semiconductors,energy band theory
	4TH	excitation of atoms,insulators,semiconductors and conductors.
3RD	1ST	semiconductor materials,covalent bonds.
	2ND	intrinsic semiconductors.
	3RD	extrinsic semiconductors.(N-type&P-type materials)
	4TH	majority and minority carriers in a semiconductors.
4TH	1ST	applications of semiconductors materials
	2ND	rectifiers
	3RD	temperature sensitive resistors or thermistors
	4TH	photoconductive cells
5TH	1ST	varistors
	2ND	transistors
	3RD	hall effect generators
	4TH	solar power
6TH	1ST	general properties of insulating materials.
	2ND	electrical properties
	3RD	visual properties
	4TH	mechanical properties
7TH	1ST	thermal properties
	2ND	chemical properties
	3RD	aging
	4TH	class test regarding semiconductor material
8TH	1ST	objective type question discussion
	2ND	revision of super conducting material
	3RD	classification,properties and applications of insulating materials
	4TH	insulating gases(use and application)
9TH	1ST	dielectric constant of permittivity.
	2ND	polarisation,dielectric loss.
	3RD	electric conductivity of dielectrics and their breakdown.
	4TH	properties and applications of dielectrics.
10TH	1ST	classification of magnetic materials
	2ND	diamagnetism concept
	3RD	paramagnetism concept
	4TH	ferromagnetism concept
11TH	1ST	magnetisation curves.
	2ND	magnetic hysteresis
	3RD	eddy currents,curie point
	4TH	magnetostriction
12TH	1ST	soft and hard magnetic material
	2ND	class test of magnetic materials
	3RD	objective type question discussion(magnetic materials)

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	4TH	structural materials
13TH	1ST	protective materials
	2ND	lead steel tapes,wires and strips
	3RD	thermocouple maerials
	4TH	bimetals
14TH	1ST	soldering materials
	2ND	fuse and fuse materials
	3RD	dehydrating materials
	4TH	class test of semiconductor materials
15TH	1ST	objective type question discussion
	2ND	doubt solving classes of insulating materials.
	3RD	revision of conducting materials
	4TH	semester pattern test(80 marks)

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