

Badriprasad Institute of Technology, Sambalpur**Lesson plan for Theory -4, Renewable Energy****Semester & Branch : 6th Sem , Electrical Engineering****Total Periods-75****Name of the faculty : Rohit Meher****No of periods /week-5**

WEEK	CLASS DAY	THEORY
1ST	1ST	introduction to renewable energy
	2ND	environmental consequence of fossil fuel use
	3RD	importance of renewable sources of energy
	4TH	sustainable design and development
	5TH	types of RE sources
2ND	1ST	limitation of RE sources
	2ND	present indian and international energy scenerio of RE sources
	3RD	solar energy
	4TH	solar photo voltaic system and operating principle
	5TH	photo voltaic cell concept
3RD	1ST	cell module
	2ND	cell array
	3RD	series and parallel connection
	4TH	maximum powerpoint tracking
	5TH	classification of energy sources
4TH	1ST	extra terestial and terestial radiation.
	2ND	azimuth angle and zenith angle.
	3RD	hour angle and irradians
	4TH	solar constant
	5TH	solar collector
5TH	1ST	types and performance of solar collector
	2ND	applications of solar energy
	3RD	photo voltaic battery charger
	4TH	domestic lightening
	5TH	street lightening
6TH	1ST	water pumping
	2ND	solar cooker
	3RD	solar pond
	4TH	introduction to wind energy
	5TH	types of wind turbine
7TH	1ST	aerodynamic of wind rotor
	2ND	wind turbine control system
	3RD	induction and synchronous generator
	4TH	grid connected and self excited induction principle
	5TH	constant voltage and constant frequency generation with power electronic control
8TH	1ST	single and double output system
	2ND	characteristic of wind power plant
	3RD	energy from biomass
	4TH	biomass as renewable energy
	5TH	types of biomass fuel
9TH	1ST	solid fuel
	2ND	liquid fuel
	3RD	gas fuel
	4TH	combustion
	5TH	fermentation

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10TH	1ST	anaerobic digestion
	2ND	types of biogas digester
	3RD	wood gasifier
	4TH	pyrolysis
	5TH	application of biogas
11TH	1ST	application of biodiesel
	2ND	tidal energy
	3RD	ocean thermal conversion
	4TH	geothermal energy
	5TH	classification of geothermal energy
12TH	1ST	hybrid energy system
	2ND	need for hybrid system
	3RD	electric vehicle
	4TH	hybrid electric vehicle
	5TH	deisel PV, wind PV
13TH	1ST	hybrid electric vehicles
	2ND	electric vehicles
	3RD	revision of wind energy
	4TH	revision of solar energy
	5TH	revision of solar energy
14TH	1ST	doubt solving classes
	2ND	objective type question discussions
	3RD	revision of geothermal energy and its classification
	4TH	revision of wind turbine control system.
	5TH	revision of photo voltaic cell concept
15TH	1ST	revision of solar collectors
	2ND	objective type question discussions
	3RD	class test of wind energy
	4TH	doubt solving classes
	5TH	semester pattern mock test(80 marks)

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