DEPARTMENT OF ELECTRICAL ENGINEERING

BIT.Polytechnic, Balasore

LESSON PLAN FOR ACADEMIC SESSION - 2025-26
RENEWABLE ENERGY POWER PLANTS

Course Code : EEPC209 (Th.5)	**Semester : 3rd**
Total Periods : 45 Hours	**Examination : 3 Hours**
Theory Periods : 3 P/Week	**Progressive Assessment: 30 Marks**
Maximum Marks : 100	**End Semester Examination : 70 Marks**
Semester From Date : 14/07/2025	**To Date : 15/11/2025 (approx.)**
Name of the Teaching Faculty:	**Er. Sarbanidhi Dey (Elect)**

WEEK	PERIOD	TOPIC
1st	1st	**Solar PV and Concentrated Solar Power Plants** Solar Map of India: Global solar power radiation
	2nd	Solar Map of India: Global solar power radiation
	3rd	Solar Map of India: Solar PV
2nd	1st	2 Concentrated Solar Power (CSP) plants, construction and working of: Power Tower
	2nd	Construction and working of: Parabolic Trough
	3rd	Construction and working of: Parabolic Dish
3rd	1st	Construction and working of: Fresnel Reflectors
	2nd	Solar Photovoltaic (PV) power plant: components layout, construction, working
	3rd	Solar Photovoltaic (PV) power plant: components layout, construction, working
4th	1st	Solar Photovoltaic (PV) power plant: components layout, construction, working
	2nd	Roof top solar PV power system
	3rd	Roof top solar PV power system
5th	1st	**Large Wind Power Plants** Wind map of india: wind power density in watts per square meter lift
	2nd	Wind Map of India: Wind power density in watts per square meter Lift
	3rd	Drag principle; long path theory
6th	1st	Geared type wind power plants: components, layout and working
	2nd	Geared type wind power plants: components, layout and working
	3rd	Direct drive type wind power plants: components, layout and working
7th	1st	Direct drive type wind power plants: components, layout and working
	2nd	Constant speed electric generators: squirrel cage induction generators(scig)

	3rd	Wound rotor induction generator (wrig)
8th	1st	Variable Speed Electric Generators: Doubly-fed induction generator (DFIG)
	2nd	Wound rotor synchronous generator (WRSG)
	3rd	Permanent magnet synchronous generator (PMSG)
9th	1st	**Small Wind Turbines** Horizon axis small wind turbine: direct drive type, components and working
	2nd	Horizon axis small wind turbine: direct drive type, components and working
	3rd	Horizontal axis small wind turbine: geared type, components and working
10th	1st	Horizontal axis small wind turbine: geared type, components and working
	2nd	Vertical axis small wind turbine: direct drive and geared
	3rd	Components and Working Types of towers and installation of small wind turbines on rooftops and open fields
11th	1st	Components and Working Types of towers and installation of small wind turbines on rooftops and open fields
	2nd	Electric generators used in small wind power plants
	3rd	Electric generators used in small wind power plants
12th	1st	**Biomass-Based Power Plants** Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste
	2nd	Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste
	3rd	Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste
13th	1st	Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, bio- diesel gobar gas
	2nd	Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, bio- diesel gobar gas
	3rd	Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, bio- diesel gobar gas
14th	1st	Layout of a Bio-chemical based (e.g. Biogas) power plant
	2nd	Layout of a Bio-chemical based (e.g. Biogas) power plant
	3rd	Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
15th	1st	Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
	2nd	Layout of a Agro-chemical based (e.g.bio-diesel) power plant
	3rd	Layout of a Agro-chemical based (e.g.bio-diesel) power plant