C. V. RAMAN POLYTECHNIC, BHUBANESWAR

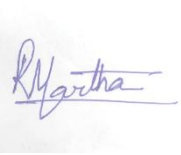
LESSON PLAN
Session (2025-2026)

Discipline: ELECTRICAL ENGINEERING	**Semester:** 3RD Semester, Winter/2025	**Name of the Faculty:** RASHMI RANJAN MARTHA ASST.PROF **Email ID:** **Rashmi.martha@cvrp.edu.in**
Subject Name with code: RENEWABLE ENERGY POWER PLANTS (EEPC209)	**No. of Days/week:** 03 **Total No. of Class (Required):** 45	**Start Date:14.07.2025** **End Date:15.11.2025**

Week	Class Day	Brief description of the Topic/Chapter to be taught
1st	1st	1. **Solar PV and Concentrated Solar Power Plants** Solar Map of India
	2nd	Global solar power radiation
	3rd	Solar PV
2nd	1st	Concentrated Solar Power (CSP) plants
	2nd	construction and working of: Power Tower
	3rd	Parabolic Trough
3rd	1st	Parabolic Dish
	2nd	Fresnel Reflectors
	3rd	Solar Photovoltaic (PV) power plant: components layout
4th	1st	construction, working
	2nd	Roof top solar PV power system
	3rd	Revision
5th	1st	2. **Large Wind Power Plants** Wind Map of India
	2nd	Wind power density in watts per square meter Lift and drag principle

	3rd	long path theory
6th	1st	Geared type wind power plants: components, layout and working
	2nd	Direct drive type wind power plants: components, layout and working
	3rd	Direct drive type wind power plants: components, layout and working
7th	1st	Constant Speed Electric Generators: Squirrel Cage Induction Generators(SCIG)
	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	3. **Small Wind Turbines** Horizon axis small wind turbine: direct drive type
	2nd	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, components and Working
	3rd	Types of towers and installation of small wind turbines on rooftops and open fields.
11th	1st	Electric generators used in small wind power plants
	2nd	Revision
	3rd	Quiz
12th	1st	4. **Biomass-based Power Plants** Properties of solid fuel for biomass power plants
	2nd	bagasse, wood chips, rice husk
	3rd	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	Layout of a Bio-chemical based (e.g. biogas) power plant
14th	1st	Layout of a Bio-chemical based (e.g. biogas) power plant
	2nd	Layout of a Thermo-chemical based (e.g. Municipal waste) power plant

	3rd	Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
15th	1st	Layout of a Agro-chemical based (e.g.bio-diesel) power plant
	2nd	Question Discussion
	3rd	Question Discussion



Signature of the Faculty

Signature of the H.O.D