C. V. RAMAN POLYTECHNIC, BHUBANESWAR

LESSON PLAN
Session (2025-2026)

Discipline: ELECTRICAL ENGINEERING	**Semester:** 3RD Semester, Winter/2025	**Name of the Faculty:** PALLAVI MISHRA ASST.PROF **Email ID:** **Pallavi.mishra@cvrp.edu.in**
Subject Name with code: INTRODUCTION TO ELECTRIC GENERATION SYSTEMS (EEPC201)	**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. Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based** Layout and working of a typical thermal power plant with steam turbines and electric generators
	2nd	Layout and working of a typical thermal power plant with steam turbines and electric generators
	3rd	Layout and working of a typical thermal power plant with steam turbines and electric generators
2nd	1st	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Diesel, Nuclear fuels-fusion and fission action
	2nd	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Diesel, Nuclear fuels-fusion and fission action
	3rd	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Diesel, Nuclear fuels-fusion and fission action
3rd	1st	Safe Practices and working of various thermal power plants: coal- based, gas-based, diesel-based, and nuclear-based
	2nd	Safe Practices and working of various thermal power plants: coal- based, gas-based, diesel-based, and nuclear-based
	3rd	Functions of the following types of thermal power plants and their major auxiliaries
4th	1st	Coal fired boilers: fire tube and water tube
	2nd	Revision
	3rd	Quiz

5th	1st	Gas/diesel based combustion engines
	2nd	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	3rd	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
6th	1st	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	2nd	2. **Large Hydropower Plants** Energy conversion process of hydro power plant
	3rd	Energy conversion process of hydro power plant
7th	1st	Classification of hydro power plant: High ,medium and low head
	2nd	Construction and working of hydro turbines used in different types of hydro power plant
	3rd	High head-Pelton turbine
8th	1st	Medium head-Francis turbine
	2nd	Low head-Kaplan turbine
	3rd	Safe Practices for hydro power plants
9th	1st	Locations of these different types of large hydro power plants in India
	2nd	3. **Micro-Hydropower Plants** Lay out of micro hydro power plants
	3rd	Lay out of micro hydro power plants
10th	1st	Different types of micro-hydro turbines for different heads Pelton turbines
	2nd	Revision
	3rd	Francis turbines
11th	1st	Quiz
	2nd	Kaplan turbines
	3rd	Locations of these different types of micro-hydro power plants in India
12th	1st	4. **Economics of Power Generation and Interconnected Power System** Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration curve, integrated duration curve
	2nd	Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration curve, integrated duration curve
	3rd	Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration curve, integrated duration curve
	1st	Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor

13th	2nd	Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor
	3rd	Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor
14th	1st	Choice of size and number of generator units
	2nd	Choice of size and number of generator units
	3rd	Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid, brownout and blackout; sample blackouts at national and international level.
15th	1st	Causes, Impact and reasons of Grid system fault: State grid, national grid, brownout and blackout; sample blackouts at national and international level.
	2nd	Question Discussion
	3rd	Question Discussion

Signature of the Faculty

Signature of the H.O.D