

C. V. RAMAN POLYTECHNIC, BHUBANESWAR

LESSON PLAN Session (2026-2027)

Discipline: ELECTRICAL ENGINEERING	Semester: 3 RD Semester, Winter/2026	Name of the Faculty: SUBHANKAR DASH ASST.PROF Email ID: subhankar.dash@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: 01.07.2026 End Date: 05.11.2026

Week	Class Day	Brief description of the Topic/Chapter to be taught
1st	1 st	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
	2 nd	Layout and working of a typical thermal power plant with steam turbines and electric generators
	3 rd	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
	2 nd	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Diesel, Nuclear fuels-fusion and fission action
	3 rd	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
	2 nd	Safe Practices and working of various thermal power plants: coal- based, gas-based, diesel-based, and nuclear-based
	3 rd	Functions of the following types of thermal power plants and their major auxiliaries
4th	1st	Coal fired boilers: fire tube and water tube
	2 nd	Revision
	3 rd	Quiz

5th	1st	Gas/diesel based combustion engines
	2 nd	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	3 rd	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
6th	1st	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	2 nd	2. Large Hydropower Plants Energy conversion process of hydro power plant
	3 rd	Energy conversion process of hydro power plant
7th	1st	Classification of hydro power plant: High ,medium and low head
	2 nd	Construction and working of hydro turbines used in different types of hydro power plant
	3 rd	High head-Pelton turbine
8th	1st	Medium head-Francis turbine
	2 nd	Low head-Kaplan turbine
	3 rd	Safe Practices for hydro power plants
9th	1st	Locations of these different types of large hydro power plants in India
	2 nd	3. Micro-Hydropower Plants Lay out of micro hydro power plants
	3 rd	Lay out of micro hydro power plants
10th	1st	Different types of micro-hydro turbines for different heads Pelton turbines
	2 nd	Revision
	3 rd	Francis turbines
11th	1st	Quiz
	2 nd	Kaplan turbines
	3 rd	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
	2 nd	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
	3 rd	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	2 nd	Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor
	3 rd	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
	2 nd	Choice of size and number of generator units
	3 rd	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.
	2 nd	Question Discussion
	3 rd	Question Discussion



Signature of the Faculty



Signature of the H.O.D