



DEPARTMENT OF ELECTRICAL ENGINEERING

Govt. Polytechnic, Balasore

LESSON PLAN FOR ACADEMIC SESSION - 2026-27

INTRODUCTION TO ELECTRIC GENERATION SYSTEMS

Course Code : EEPC201 (Th-1)	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 : 01/07/2026	To Date : 05/11/2026 (approx.)
Name of the Teaching Faculty: Er. NILAKANTHA NIAK ,LECT.STAGE-II(ELECTRTICAL)	

WEEK	PERIOD	TOPIC
1st	1 st	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	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal
2nd	1 st	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Gas
	2 nd	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Diesel
	3 rd	Nuclear fuels-fusion
3 rd	1 st	Nuclear fuels-fission action
	2 nd	Safe Practices and working of various thermal power plants: coal based
	3 rd	Safe Practices and working of various thermal power plants: gas- based
4 th	1 st	Safe Practices and working of various thermal power plants: diesel-based
	2 nd	Safe Practices and working of various thermal power plants: nuclear-based
	3 rd	Functions of the following types of thermal power plants and their major auxiliaries- Coal fired boilers: fire tube and water tube
5 th	1 st	Coal fired boilers: fire tube and water tube
	2 nd	Gas/diesel based combustion engines
	3 rd	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
6 th	1 st	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	2 nd	Large Hydropower Plants Energy conversion process of hydro power plant
	3 rd	Energy conversion process of hydro power plant

7 th	1 st	Classification of hydro power plant: High ,medium and low head
	2 nd	Classification of hydro power plant: High ,medium and low head
	3 rd	Construction and working of hydro turbines used in different types of hydro power plant: High head-Pelton turbine
8 th	1 st	Medium head-Francis turbine
	2 nd	Low head-Kaplan turbine
	3 rd	Safe Practices for hydro power plants
9 th	1 st	Locations of these different types of large hydro power plants in India
	2 nd	Micro-Hydropower Plants
	3 rd	Lay out of micro hydro power plants
10 th	1 st	Lay out of micro hydro power plants
	2 nd	Different types of micro-hydro turbines for different heads: Pelton turbines
	3 rd	Pelton turbines
11 th	1 st	Francis turbines
	2 nd	Kaplan turbines
	3 rd	Kaplan turbines
12 th	1 st	Locations of these different types of micro-hydro power plants in India
	2 nd	Economics of Power Generation and Interconnected Power System
	3 rd	Related terms: connected load, firm power
13 th	1 st	Cold reserve, hot reserve, spinning reserve
	2 nd	Base load and peak load plants; Load curve, load duration curve
	3 rd	Integrated duration curve
14 th	1 st	Cost of generation: Average demand, maximum demand
	2 nd	Demand factor, plant capacity factor, plant use factor
	3 rd	Diversity factor, load factor and plant load factor
15 th	1 st	Choice of size and number of generator units
	2 nd	Combined operation of power station Causes
	3 rd	Impact and reasons of Grid system fault: State grid, national grid
		Brownout and blackout
		Sample blackouts at national and international level

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01/07/26
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