NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060, BALASORE (ODISHA)
(Approved by AICTE& affiliated to SCTE&VT, Odisha)

LESSON PLAN

SUBJECT: EEPC-201 (INTRODUCTION TO ELECTRIC GENERATION SYSTEMS)

Name Of The Faculty :- Er.Biswajit Parida
Branch :- Electrical Engg**.** **Semester :-** 3rd
Session :- 2025-26 **Examination :-** 2025(W)

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based	16	19
2	Large Hydro power Plants	9	13
3	Micro-Hydro power Plants	8	12
4	Economics of Power Generation and Interconnected Power System	12	16
Total periods		45	60

Sign of Faculty

Sign of H.O.D.

Name of the programme: Diploma in Electrical Engg.	Semester : 3rd	**Name of the Teaching Faculty:** Er.Biswajit Parida	
		Academic Year : 2025-26 **Examination :** 2025 (W)	
Course Code: EEPC-201 (TH-1)	**Course Year:** Second Year	**No. of Classes Alloted Per Week :**	4
		Planned Classes Required to Complete the Course	60

Week	Class Day	Topics to be Covered
1st	1st	**Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based** 1.1 Layout and working of a typical thermal power plant with steam turbines
	2nd	Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based 1.1 Layout and working of a typical thermal power plant with steam turbines and electric generators
	3rd	Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based 1.1 Layout and working of a typical thermal power plant with steam turbines and electric generators
	4th	Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based 1.1 Layout and working of a typical thermal power plant with steam turbines and electric generators
2nd	1st	1.2 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	1.2 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	1.2 Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Diesel, Nuclear fuels-fusion and fission action
	4th	1.3 Safe Practices and working of various thermal power plants: coalbased, gas- based, diesel-based, and nuclear-based
3rd	1st	1.3 Safe Practices and working of various thermal power plants: coalbased, gas- based, diesel-based, and nuclear-based
	2nd	1.3 Safe Practices and working of various thermal power plants: coalbased, gas- based, diesel-based, and nuclear-based
	3rd	1.4 Functions of the following types of thermal power plants and their major auxiliaries
	4th	1.4.1 Coal fired boilers: fire tube and water tube
4th	1st	1.4.1 Coal fired boilers: fire tube and water tube
	2nd	1.4.2 Gas/diesel based combustion engines
	3rd	1.4.2 Gas/diesel based combustion engines
	4th	1.4.2 Gas/diesel based combustion engines

Week	Class Day	Topics to be Covered
5th	1st	1.4.3 Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	2nd	1.4.3 Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	3rd	1.4.3 Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	4th	**Large Hydro power Plants** 2.1 Energy conversion process of hydro power plant
6th	1st	2.2 Classification of hydro power plant: High ,medium and low head
	2nd	2.2 Classification of hydro power plant: High ,medium and low head
	3rd	2.3 Construction and working of hydro turbines used in different types of hydro power plant
	4th	2.3 Construction and working of hydro turbines used in different types of hydro power plant
7th	1st	2.3.1 High head-Pelton turbine
	2nd	2.3.2 Medium head-Francis turbine
	3rd	2.3.3 Low head-Kaplan turbine
	4th	2.3.3 Low head-Kaplan turbine
8th	1st	2.4 Safe Practices for hydro power plants
	2nd	2.5 Locations of these different types of large hydro power plants in India
	3rd	2.5 Locations of these different types of large hydro power plants in India
	4th	Revision on Layout and working of a typical thermal power plant with steam turbines and electric generators.
9th	1st	**Micro-Hydro power Plants** 3.1 Lay out of micro hydro power plants
	2nd	3.1 Lay out of micro hydro power plants
	3rd	3.2 Different types of micro-hydro turbines for different heads: 3.2.1 Pelton turbines
	4th	3.1 Lay out of micro hydro power plants
10th	1st	3.2.1 Pelton turbines
	2nd	3.2.1 Pelton turbines
	3rd	3.2.2 Francis turbines
	4th	3.2.2 Francis turbines
11th	1st	3.2.2 Francis turbines
	2nd	3.2.3 Kaplan turbines
	3rd	3.2.3 Kaplan turbines
	4th	3.2.3 Kaplan turbines

Week	Class Day	Topics to be Covered
12th	1st	**Economics of Power Generation and Interconnected Power System** 4.1 Related terms: connected load, firm power, cold reserve, hot reserve,
	2nd	4.1 Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration
	3rd	4.1 Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration
	4th	4.1 Related terms: connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration
13th	1st	4.2 Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and
	2nd	4.2 Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and
	3rd	4.2 Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and
	4th	4.2 Cost of generation: Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and
14th	1st	4.3 Choice of size and number of generator units
	2nd	4.3 Choice of size and number of generator units
	3rd	4.3 Choice of size and number of generator units
	4th	4.3 Choice of size and number of generator units
15th	1st	4.4 Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid,
	2nd	4.4 Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid,
	3rd	4.4 Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid,
	4th	Revision on Lay out of micro hydro power plants

SIGN. OF FACULTY

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