



LESSON PLAN

Discipline:	Semester:-	Name of the Teaching Faculty:-
Electrical Engg.	3rd	AMIYA RANJAN DAS
Subject: Introduction To Electric Generation Systems (TH-1) EEPC201	No of Days/per Week Classs Allotted:- 03	Semester: From :01.07.2026 To:05.11.2026 No of Weeks:-15
Week	Class/Day	Theory Topics
1st	1st	I. Thermal power plants: Coal, Gas/Disel and Nuclear-based 1.1. Lay out and working of a typical thermal power plant with steam turbines and electric generators. (contd....)
	2nd	1.1. Lay out and working of a typical thermal power plant with steam turbines and electric generators. (contd....)
	3rd	1.1. Lay out and working of a typical thermal power plant with steam turbines and electric generators. (contd....)
2nd	1st	1.1. Lay out and working of a typical thermal power plant with steam turbines and electric generators.
	2nd	1.2. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Disel, Nuclear fuels-fusion and fission action. (contd....)
	3rd	1.2. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Disel, Nuclear fuels. (contd....)
3rd	1st	1.2. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Disel, Nuclear fuels. (contd....)
	2nd	1.2. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal, Gas, Disel, Nuclear fuel.
	3rd	1.3. Safe practices and working of various thermal power plants: Coal-based, Gas-based, Disel-based and Nuclear-based. (contd....)
4th	1st	1.3. Safe practices and working of various thermal power plants: Coal-based, Gas-based, Disel-based and Nuclear-based. (contd....)
	2nd	1.3. Safe practices and working of various thermal power plants: Coal-based, Gas-based, Disel-based and Nuclear-based. (contd....)
	3rd	1.3. Safe practices and working of various thermal power plants: Coal-based, Gas-based, Disel-based and Nuclear-based.
5th	1st	1.4. Functions of the following types of thermal power plants and their major auxiliaries. 1.4.1. Coal fired boilers; Fire tube and water tube.
	2nd	1.4.2. Gas/diesel based Combustion engines.
	3rd	1.4.3. Types of Nuclear reactors: Disposal of nuclear waste and nuclear shielding. (contd....)
6th	1st	1.4.3. Types of Nuclear reactors. Disposal of nuclear waste and nuclear shielding.
	2nd	II. Large Hydro power Plants 2.1. Energy conversion process of Hydro power plant.
	3rd	2.2. Classification of hydro power plant: High, Medium and Low head.
7th	1st	2.3. Construction and working of hydro turbines used in different types of hydro power plant. (contd....)
	2nd	2.3. Construction and working of hydro turbines used in different types of hydro power plant.
	3rd	2.3.1. High head-pelton turbine..

8th	1st	2.3.2. Medium head-Francis turbine.
	2nd	2.3.3. Low head-Kaplan turbine.
	3rd	2.4. Safe practices for hydro power plants.
9th	1st	2.5.. Location of these different types of large hydro power plants in india.
	2nd	III. Micro-Hydro power plants
	3rd	3.1. Lay out of micro hydro power plants .(contd....)
10th	1st	3.1. Lay out of micro hydro power plants.
	2nd	3.2 Different types of micro-hydro turbines for different heads.
	3rd	3.2.1. Pelton turbines.(contd....)
11th	1st	3.2.1. Pelton turbines.
	2nd	3.2.2. Francis turbines.
	3rd	3.2.3 Kaplan turbines.
12th	1st	3.3. Locations of these different types of micro hydropower plants in india.(contd....)
	2nd	3.3. Locations of these different types of micro hydropower plants in india.
	3rd	IV. Economics of Power Generation and Interconnected power System
13th	1st	4.1 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.(contd....)
	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 curve, Integrated duration curve.(contd....)
	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 curve, Integrated duration curve.(contd....)
14th	1st	4.1 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	4.2. Cost generation; Average demand, Maximum demand, Demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor.(contd....)
	3rd	4.2. Cost generation; Average demand, Maximum demand, Demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor.(contd....)
15th	1st	4.2. Cost generation; Average demand, Maximum demand, Demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor.(contd....)
	2nd	4.2. Cost generation; Average demand, Maximum demand, Demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor.
	3rd	4.3. Choice of Size and number of generator units.
16th	1st	4.4. Combined operation of power station; causes, Impact and reasons of Grid system fault, State grid, national grid, brown out and blackout, Sample black outs at national and international level. (contd....)
	2nd	4.4. Combined operation of power station; causes, Impact and reasons of Grid system fault, State grid, national grid, brown out and black out, Sample black outs at national and international level. (contd....)
	3rd	4.4. Combined operation of power station; causes, Impact and reasons of Grid system fault, State grid, national grid, brown out and black out, Sample black outs at national and international level.

Signature of faculty
24.06.26

Signature of sr. lecturer
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