

LESSON PLAN

Name of Faculty: Sri Sushanta Kumar Malik, Senior lecturer

Subject: Introduction to Electrical Generation System (IEGS)(EEPC201) TH-1

Semester: 3rd

Branch : Electrical Engineering

No of period: 45 (3hr /week)

W.E.F :- 14.07.2025

Week	Period	Topic To Be Covered	Teaching aid to be used
1		UNIT-I: Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based	
	1	Layout and working of a typical thermal power plant with steam turbines and electric generators	Smart Class (Interactive Panel)
	2	Layout and working of a typical thermal power plant with steam turbines and electric generators	Smart Class (Interactive Panel)
	3	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants like Coal and Gas	White board, marker
2	4	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants like Diesel	White board, marker
	5	Nuclear fuels-fusion and fission action	White board, marker
	6	Functions of the following types of thermal power plants and their major auxiliaries: Coal fired boilers:	Smart Class (Interactive Panel)
3	7	fire tube and water tube	Smart Class (Interactive Panel)
	8	Gas/diesel based combustion engines	Smart Class (Interactive Panel)
	9	Types of nuclear reactors	Smart Class (Interactive Panel)
4	10	Disposal of nuclear waste	Smart Class (Interactive Panel)
	11	Nuclear shielding	Smart Class (Interactive Panel)
		UNIT-II: Large Hydropower Plants	
	12	Energy conversion process of hydro power plant	Smart Class (Interactive Panel)
5	13	Classification of hydropower plant: High, medium and low head	Smart Class (Interactive Panel)
	14	Description about High, medium and low head	Smart Class (Interactive Panel)
	15	Construction and working of hydro turbines used in different types of hydro power plant:	Smart Class (Interactive Panel)
6		1. High head-Pelton turbine	
	16	2. Medium head-Francis turbine	Smart Class (Interactive Panel)
	17	3. Low head-Kaplan turbine	Smart Class (Interactive Panel)
	18	Safe Practices for hydro power plants	Smart Class (Interactive Panel)
7	19	Locations of these different types of large hydropower plants in India	Smart Class (Interactive Panel)
		UNIT-III: Micro-Hydropower Plants	
	20	Introduction to Micro-Hydropower Plants	White board, marker
	21	Layout of micro hydro power plants	Smart Class (Interactive Panel)
8	22	Different types of micro-hydro turbines for different heads:	Smart Class (Interactive Panel)
		1. Pelton turbines	
	23	2. Francis turbines	Smart Class (Interactive Panel)
	24	3. Kaplan turbines	Smart Class (Interactive Panel)
9	25	Locations of these different types of micro-hydro power plants in India	White board, marker
		UNIT-IV: Economics of Power Generation and Inter connected Power System	
	26	Define and explain: connected load, firm power, cold reserve	White board, marker
	27	Define and explain: hot reserve, spinning reserve.	White board, marker
10	28	Define and explain: Base load Power Plant	White board, marker
	29	Define and explain: Peak load Power Plant	White board, marker

	30	Define and explain : Load curve, load duration curve	White board, marker
11	31	Define and explain : integrated duration curve	White board, marker
	32	Cost of generation Define and explain: Average demand, maximum demand	White board, marker
	33	Define and explain: demand factor, plant capacity factor	White board, marker
12	34	Define and explain: plant use factor, diversity factor	White board, marker
	35	Define and explain: load factor and plant load factor	White board, marker
	36	Choice of size and number of generator units	White board, marker
13	37	Combined operation of power station Causes, Impact and reasons of Grid system fault	White board, marker
	38	State grid	Smart Class (Interactive Panel)
	39	National grid	Smart Class (Interactive Panel)
14	40	brown out and backout	Smart Class (Interactive Panel)
	41	Sample black out sat national	Smart Class (Interactive Panel)
	42	International level	Smart Class (Interactive Panel)
15	43	Revision 1	White board, marker
	44	Revision 2	White board, marker
	45	Revision 3	White board, marker

S/hr
14/7/2025
HOD (ELECTRICAL)
GOVT. POLY.
GAJAPATI