Discipline: Mechanical Engg.	Semester:6th	Name of the Teaching Faculty: BANESWAR MUNDA Designation: Senior Lecturer
Subject: Subject: Power Station Engg. Th3	No. of days/week class allotted:04	Semester From date: 22.12.2025 To date: 18.04.2026 No. of weeks: 15
Week	**Class Day**	**Theory/Practical Topics**
	CHAPTER- 01	**INTRODUCTION**
1ST	1st	Introduction to power station. Different Sources of energy.
	2nd	Concept of Central and Captive power station.
	3rd	Classification of power plants, Importance of electrical power in day today life.
	4th	Overview of method of electrical power generation.
2ND	1st	Discuss on various thermal power stations across India.
	CHAPTER- 02	**THERMAL POWER STATIONS:**
	2nd	Layout of steam power stations.
	3rd	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
	4th	Explain Rankine cycle with P-V, T-S & H-s diagram.
3RD	1st	Determine thermal efficiency, Work done, work ratio, and specific steam Consumption.
	2nd	Simple numerical on above.
	3rd	List of thermal power stations in the state with their capacities.
	4th	Boiler Accessories: Operation of Air pre heater, Economiser, Electrostatic precipitator and super heate.r
4TH	1st	Need of boiler mountings and operation of boiler.
	2nd	Draught systems.
	3rd	Natural draught, Forced draught & balanced draught with their advantages & disadvantages.
	4th	Steam prime movers:
5TH	1st	Advantages & disadvantages of steam turbine,.
	2nd	Elements of steam turbine, governing of steam turbine
	3rd	Performance of steam turbine.
	4th	Explain Thermal efficiency, Stage efficiency and Gross efficiency.
6TH	1st	Steam condenser:
	2nd	Function of condenser, Classification of condenser.
	3rd	Function of condenser auxiliaries such as hot well, condenser extraction pump.
	4th	Function of air extraction pump, and circulating pump.
7th	1st	Cooling Tower: Function and types of cooling tower.
	CHAPTER- 03	**NUCLEAR POWER STATIONS:**
	2nd	Classification of nuclear fuel (Fissile & fertile material).
	3rd	Fusion reaction and fission reaction.
	4th	Working of nuclear power plants with block diagram.
8TH	1st	Working of nuclear power plants with block diagram.
	2nd	Working and construction of nuclear reactor.
	3rd	Working and construction of nuclear reactor.

9TH	4th	Compare the nuclear and thermal plants.
	1st	Explanation of the disposal of nuclear waste.
	2nd	Selection of site for nuclear power stations .
	3rd	List of nuclear power stations in India with their capacitiy
	CHAPTER- 04	**DIESEL ELECTRIC POWER STATIONS:**
	4th	Advantages and disadvantages of diesel electric power stations.
10th	1st	Explain briefly different systems of diesel electric power stations.
	2nd	Fuel storage and fuel supply system and Fuel injection system.
	3rd	Air supply system, Exhaust system, Cooling system, Lubrication system.
	4th	Cooling system in Lubrication system in diesel power stations.
11th	1st	Fuel injection system in diesel electric power stations.
	2nd	Governing system of diesel electric power stations.
	3rd	Selection of site for diesel electric power stations.
	4th	Performance of diesel electric power stations.
12th	1st	Thermal efficiency of diesel electric power stations.
	CHAPTER- 05	**HYDEL POWER STATIONS:**
	2nd	Advantages and Disadvantages of hydroelectric power plant.
	3rd	Classification and General arrangement of storage type hydroelectric project
	4th	General arrangement of storage type hydroelectric project
13th	1st	General arrangement of storage type hydroelectric project
	2nd	Explanation of general arrangement of storage type hydroelectric project.
	3rd	Operation of storage type hydroelectric operation.
	4th	Selection of site of Hydel power plant
14th	1st	Ttypes of turbines and generation used in Hydel power plant
	2nd	List of hydro power stations with their capacities in the state
	3rd	Advantage and Limitations of Hydel power plant.
	CHAPTER- 06	**GAS TURBINE POWER STATIONS:**
	4th	Selection of site for gas turbine power stations.
15th	1st	Fuels for gas turbine power stations.
	2nd	Elements of simple gas turbine power plants
	3rd	Merits, demerits and Application of gas turbine power plants.
	4th	Revision of subject.
		TOTAL CLASS =60

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