

<b>Discipline:</b> <b>Mechanical</b> <b>Engg.</b>	<b>Semester:6<sup>TH</sup></b>	<b>Name of the Teaching Faculty: BANESWAR MUNDA</b> <b>Designation: Workshop Superintendent</b>
Subject: Power Station Engg.	No. of days/week class allotted:04	Semester From date: 14.02.2022 To date: 23.05.2023 No. of weeks: 13
Week	Class Day	Theory/Practical Topics
		<b>CHAPTER 01: INTRODUCTION</b>
1 <sup>ST</sup>	14.02.2023	Introduction to power station.
	15.02.2023	Different Sources of energy.
	16.02.2023	Concept of Central and Captive power station.
	17.02.2023	Classification of power plants, Importance of electrical power in day today life.
2 <sup>ND</sup>	21.02.2023	Overview of method of electrical power generation.
		<b>CHAPTER 02: THERMAL POWER STATION</b>
	22.02.2023	Layout of steam power stations.
	23.02.2023	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
3 <sup>RD</sup>	24.02.2023	Explain Rankine cycle with P-V, T-S & H-s diagram.
	01.03.2023	Determine thermal efficiency, Work done, work ratio, and specific steam Consumption.
	02.03.2023	Simple numerical on above.
	03.03.2023	List of thermal power stations in the state with their capacities.
4 <sup>TH</sup>	09.03.2023	Boiler Accessories: Operation of Air pre heater, Economiser, Electrostatic precipitator and super heater.
	10.03.2023	Need of boiler mountings and operation of boiler.
	14.03.2023	Draught systems.
	15.03.2023	Natural draught, Forced draught & balanced draught with their advantages & disadvantages.
5 <sup>TH</sup>	16.03.2023	Steam prime movers: Advantages & disadvantages of steam turbine,.
	17.03.2023	Elements of steam turbine, governing of steam turbine
	21.03.2023	Performance of steam turbine.
	22.03.2023	Explain Thermal efficiency, Stage efficiency and Gross efficiency.
6 <sup>TH</sup>	23.03.2023	Steam condenser: Function of condenser, Classification of condenser.
	24.03.2023	Function of condenser auxiliaries such as hot well, condenser extraction pump.
	28.03.2023	Function of air extraction pump, and circulating pump.
	29.03.2023	Cooling Tower: Function and types of cooling tower.
7 <sup>TH</sup>	31.03.2023	Spray ponds, Selection of site for thermal power stations.
		<b>CHAPTER 03:NUCLEAR POWER STATIONS</b>
	04.04.2023	Classification of nuclear fuel (Fissile & fertile material).
	05.04.2023	Fusion reaction and fission reaction.
	06.04.2023	Working of nuclear power plants with block diagram.
	11.04.2023	Working of nuclear power plants with block diagram.

8 <sup>TH</sup>	12.04.2023	Working and construction of nuclear reactor.
	13.04.2023	Compare the nuclear and thermal plants.
	18.04.2023	Explanation of the disposal of nuclear waste.
	19.04.2023	Selection of site for nuclear power stations and List of nuclear power stations.
9 <sup>TH</sup>		<b>CHAPTER 04:DIESEL ELECTRIC POWER STATIONS</b>
	20.04.2023	Advantages and disadvantages of diesel electric power stations.
	21.04.2023	Explain briefly different systems of diesel electric power stations.
	25.04.2023	Fuel storage and fuel supply system and Fuel injection system.
10 <sup>TH</sup>	26.04.2023	Air supply system, Exhaust system, Cooling system, Lubrication system. Fuel injection system.
	27.04.2023	Governing system ,Selection of site for diesel electric power stations.
	28.04.2023	Performance of diesel electric power stations.
	02.05.2023	Thermal efficiency of diesel electric power stations.
11 <sup>TH</sup>		<b>CHAPTER 05:HYDEL POWER STATION</b>
	03.05.2023	Advantages and Disadvantages of hydroelectric power plant.
	04.05.2023	Classification and General arrangement of storage type hydroelectric project
	09.05.2023	General arrangement of storage type hydroelectric project
12 <sup>TH</sup>	10.05.2023	Explanation of general arrangement of storage type hydroelectric project and its operation.
	11.05.2023	Selection of site of Hydel power plant and types of turbines and generation used.
	12.05.2023	List of hydro power stations with their capacities and number of units in the state.
		<b>CHAPTER 05:GAS TURBINE POWER STATIONS</b>
13 <sup>TH</sup>	16.05.2023	Selection of site for gas turbine stations and Fuels for gas turbine.
	17.05.2023	Elements of simple gas turbine power plants
	18.05.2023	Merits, demerits and Application of gas turbine power plants.
	23.05.2023	Quick Revision of entire Subject.

Prepared by

Banswar Munde  
W/S Sapt  
G.P, Sonapur.