



**LESSON PLAN-(SUMMER-2023)**  
**SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR**

Discipline- MECHANICAL	Semester-6TH	Name of teaching faculty- MR. Arun Parida
Subject- POWER STATION ENGG.	No of days/ per week class allotted-4	SEM From date- 13.02.2023 to 23.05.2023 No of weeks- 15
WEEK	Class day	Theory Topics
<b>Week-1</b>	13.02.2023	CH1-Describe sources of energy
	14.02.2023	Explain concept of Central and Captive power station.
	15.02.2023	Classify power plants.
	17.02.2023	Importance of electrical power in day today life.
<b>Week-2</b>	20.02.2023	Overview of method of electrical power generation.
	21.02.2023	REVISION OF TOPIC PREVIOUSLY TAUGHT
	22.02.2023	CH-2Layout of steam power stations.
	24.02.2023	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
<b>Week-3</b>	27.02.2023	Explain Rankine cycle with P-V, T-S & H-s diagram
	28.02.2023	determine thermal efficiency, Work done, work ratio, and specific steam Consumption
	2.03.2023	Solve Simple Problems.
	3.03.2023	List of thermal power stations in the state with their capacities.
<b>Week-4</b>	6.03.2023	Boiler Accessories: Operation of Air pre heater, Operation of Economiser
	9.03.2023	Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and operation of boiler
	10.03.2023	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	20.03.2023	Steam prime movers: Advantages & disadvantages of steam turbine
<b>Week-5</b>	21.03.2023	Elements of steam turbine, governing of steam turbine. Performance of steam turbine:
	23.03.2023	Explain Thermal efficiency, Stage efficiency and Gross efficiency.
	27.03.2023	Steam condenser: Function of condenser, Classification of condenser
	28.03.2023	function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.
<b>Week-6</b>	29.03.2023	Cooling Tower: Function and types of cooling tower, and spray ponds
	31.03.2023	Selection of site for thermal power station
	3.04.2023	REVISION OF TOPIC PREVIOUSLY TAUGHT
	5.04.2023	CH1 & CH-2 CLASS TEST
<b>Week-7</b>	6.04.2023	CH-3 Classify nuclear fuel (Fissile & fertile material)
	11.04.2023	Explain fusion and fission reaction.
	12.04.2023	Explain working of nuclear power plants with block diagram
	13.04.2023	Explain the working and construction of nuclear reactor
	17.04.2023	Compare the nuclear and thermal plants.

<b>Week-8</b>	19.04.2023	Explain the disposal of nuclear waste
	20.04.2023	Selection of site for nuclear power stations. List of nuclear power stations.
<b>Week-9</b>	24.04.2023	REVISION OF TOPIC PREVIOUSLY TAUGHT
	25.04.2023	CH-4 State the advantages and disadvantages of diesel electric power stations.
	26.04.2023	Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system
	27.04.2023	Fuel injection system, Air supply system,
	28.04.2023	Exhaust system, cooling system
<b>Week-10</b>	1.05.2023	Lubrication system, starting system, governing system
	2.05.2023	Selection of site for diesel electric power stations
	3.05.2023	Performance and thermal efficiency of diesel electric power stations.
	4.05.2023	REVISION OF TOPIC PREVIOUSLY TAUGHT
<b>Week-11</b>	8.05.2023	CH-5 State advantages and disadvantages of hydroelectric power plant
	10.05.2023	Classify and explain the general arrangement of storage type hydroelectric project and explain its operation
	11.05.2023	Selection of site of hydel power plant.
	12.05.2023	List of hydro power stations with their capacities and number of units in the state.
<b>Week-12</b>	15.05.2023	Types of turbines and generation used
	16.05.2023	Simple problems.
	17.05.2023	REVISION OF TOPIC PREVIOUSLY TAUGHT
	18.05.2023	CH-6 Selection of site for gas turbine stations.
<b>Week-13</b>	19.05.2023	Fuels for gas turbine
	22.05.2023	Elements of simple gas turbine power plants
	23.05.2023	Merits, demerits and application of gas turbine power plants
<p>HOD SIGN. <span style="margin-left: 200px;">DEAN (Academic) SIGN.</span> <span style="margin-left: 200px;">PRINCIPAL SIGN.</span></p>		