

# LESSON PLAN

LESSON PLAN						
SESSION		SUMMER 2023				
SEMESTER		6TH				
BRANCH		MECHANICAL ENGINEERING				
SECTION		A&B				
THEORY NO.		3				
SUBJECT		POWER STATION ENGINEERING				
LECTURER		Er. NARAYAN KAR & Er CHANDRAKANATA PATHI				
SL NO.	MONTH	CHAPTER NO.	DATE	TOPICS TO BE COVERED	NO. OF ACADEMIC DAYS AVAILABLE FOR THE SUBJECT	% COVERED
1	Feb-23	1	23.2.23	1.1 Describe sources of energy	5	9%
			24.2.23	1.1 Describe sources of energy		
			25.2.23	1.1 Describe sources of energy		
			27.2.23	1.2 Explain concept of Central and Captive power station		
			28.2.23	1.3 Classify power plants		
2	Mar-23	1	1.3.23	1.3 Classify power plants	24	43%
			2.3.23	1.3 Classify power plants		
		2	3.3.23	2.1 Layout of steam power stations		
			4.3.23	2.1 Layout of steam power stations		
			6.3.23	2.2 Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.		
			9.3.23	2.3 Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency,		
			10.3.23	2.3 Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency,		
			11.3.23	Work done, work ratio, and specific steam Consumption		
			13.3.23	2.4 Solve Simple Problems		
			14.3.23	2.4 Solve Simple Problems		
			15.3.23	2.5. List of thermal power stations in the state with their capacities		
			16.3.23	2.6 Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and		
			17.3.23	SUPER HEATER,FEED PUMP		
			18.3.23	ECONOMISER		
			20.3.23	2.7 Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.		
21.3.23	MECHANICAL DRAUGHT					
22.3.23	2.8 Steam prime movers: Advantages & disadvantages of steam turbine					

2	Mar-23	2	23.3.23	Elements of steam turbine, governing of steam turbine. Performance of steam turbine		
			24.3.23	Explain Thermal efficiency		
			25.3.23	Stage efficiency and Gross efficiency		
			27.3.23	SOLVED NUMERICAL		
			28.3.23	SOLVED NUMERICAL		
			29.3.23	2.9 Steam condenser: Function of condenser, Classification of condenser.		
			31.3.23	function of condenser auxiliaries		
3	Apr-23	2	3.4.23	hot well, condenser extraction pump	15	27%
			4.4.23	air extraction pump, and circulating pump.		
			5.4.23	2.10 Cooling Tower: Function and types of cooling tower		
			6.4.23	spray ponds, 2.11 Selection of site for thermal power stations.		
		3	8.4.23	3.1 Classify nuclear fuel (Fissile & fertile material), 3.2 Explain fusion and fission reaction.		
			10.4.23	3.3 Explain working of nuclear power plants with block diagram		
			11.4.23	3.4 Explain the working and construction of nuclear reactor		
			12.4.23	3.5 Compare the nuclear and thermal plants.		
			13.4.23	3.6 Explain the disposal of nuclear waste.		
			24.4.23	3.7 Selection of site for nuclear power stations.		
		4	25.4.23	3.8 List of nuclear power stations.		
			26.4.23	4.1 State the advantages and disadvantages of diesel electric power stations		
			27.4.23	4.2 Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system		
			28.4.23	Fuel injection system, Air supply system, Exhaust system, cooling system, Lubrication system		
			29.4.23	starting system, governing system.		
4	May-23	4	1.5.23	4.3 Selection of site for diesel electric power stations, 4.4 Performance and thermal efficiency of diesel electric power stations	11	21%
			2.5.23	4.4 Performance and thermal efficiency of diesel electric power stations		
		5	3.5.23	5.1 State advantages and disadvantages of hydroelectric power plant.		
			4.5.23	5.2 Classify and explain the general arrangement of storage type hydroelectric project and explain its operation.		
			6.5.23	5.3 Selection of site of hydel power plant.		
			8.5.23	5.4 List of hydro power stations with their capacities and number of units in the state.		

4	May-23	5	9.5.23	5.5 Types of turbines and generation used.5.6 Simple problems	11	21%
		6	10.5.23	6.1 Selection of site for gas turbine stations,6.2 Fuels for gas turbine		
			11.5.23	6.3 Elements of simple gas turbine power plants		
			12.5.23	6.4 Merits, demerits and application of gas turbine power plants.		
			13.5.23	REVISION		

BRIEF SUMMARY OF THE PLAN			
SL. NO.	MONTH	UNIT/CHAPTER TO BE COVERED	% COVERAGE
1	Feb-23	CH-1	9%
2	Mar-23	CH-1 & CH-2	43%
3	Apr-23	CH-2, CH-3 & CH-4	27%
4	May-23	CH-4, CH-5 & CH-6	21%

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