LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA	
Name of the Faculty: M SOREN/ B KISHAN	Academic Year: 2022–23
Course No.: TH-3	Course Name: POWER STATION ENGINEERING
Program: Diploma	Branch: MECHANICAL
Year / Sem : 3rd yr/ 6th Sem	Section: M_1 & M_2

Sl. No.	Period /Class	Time (min)	Unit	Topic to be covered	Teaching method
1.	1.	55	1	Introduction of PSE ,Describe sources of energy	Black board
2.	2.	55	1	Explain concept of Central and Captive power station, Classify power plants	Black board
3.	3.	55	1	Importance of electrical power in day today life Overview of method of electrical power generation.	Black board
4.	4	55	1	Over view on Chapter 1	
5.	4.	55	2	Steam Power Plant: Layout of steam power plant	Black board
6.	5.	55	2	Steam power cycle, Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency	Black board & smart class
7.	6.	55	2	Solve related Simple Problems on carnot cycle	Black board
8.	8.	55	2	Explain Rankine cycle with P-V, T-S & H-s diagram	Black board
9.	9.	55	2	Determine thermal efficiency, Work done , work ratio, and specific steam Consumption	Black board & smart class
10.	10.	55	2	Solve related Simple Problems on Rankine cycle	Black board & smart class
11.	11.	55	2	Solve related Simple Problems on Rankine cycle , List of thermal power stations in the state with their capacities	Black board
12.	12.	55	2	Boiler Accessories: Air pre heater, Economiser	Black board & smart class
13.	13.	55	2	Electrostatic precipitator and superheater, Need of boiler mountings	Black board & smart class
14.	14.	55	2	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages	Black board & smart class
15.	15.	55	2	Steam prime movers: Advantages & disadvantages of steam turbine	Black board
16.	16.	55	2	Elements of steam turbine, Compounding and governing of steam turbine	Black board & smart class
17.	17.	55	2	Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency	Black board
18.	18.	55	2	Solve related Simple problems	Black board
19.	19.	55	2	Steam condenser: Function of condenser, Classification of condenser (explain jet and Surface condensers)	smart class
20.	20.	55	2	function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, cooling water and circulating pump	Black board & smart class
21.	22.	55	2	Cooling Tower: Function and types of cooling tower	Black board
22.	23.	55	2	Natural and Mechanical draft cooling Tower, Spray ponds	Black board
23.	24	55	2	Selection of site for thermal power stations.	Black board

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24.	25.	55	2	Revision of Unit / Class -2	
25.	26.	55	3	Nuclear Power Plant: Classify nuclear fuel (Fissile & fertile material),	Black board
26.	27.	55	3	Explain fusion and fission reaction	Blackboard
27.	28	55	3	Explain working of nuclear power plants with block diagram	Blackboard
28.	28.	55	3	Explain the working and construction of nuclear reactor	Black board
29.	29.	55		Explain construction and working of moderator, reflector, coolant, control rod	Black board & smart class
30.	30.	55	3	Explain the working and construction of nuclear reactor	Black board
31.	31.	55	3	Compare the nuclear and thermal plant	Black board
32.	32.	55	3	Explain the disposal of nuclear waste	Black board
33.	33.	55	3	Selection of site for nuclear power stations	Black board
34.	34.	55	3	List of nuclear power stations	Black board
35.	35			Revision of Unit / Class -3	
36.	36.	55	4	Diesel engine power plant: State the advantages and disadvantages of diesel power station	Black board
37.	37.	55	4	Explain briefly different systems of diesel power station	Black board
38.	38.	55	4	Fuel storage, fuel supply system & Fuel injection system	Smart class
39.	39.	55	4	Air supply system & Exhaust system	Black board
40.	40.	55	4	Cooling system & Lubrication system	Black board
41.	41.	55	4	Starting system	Black board
42.	42.	55	4	Governing system	Black board
43.	43.	55	4	Selection of site for diesel electric power stations	Black board
44.	44	55	4	Performance and thermal efficiency of diesel electric power stations.	
45.	45.			Revision of Unit / Class -4	
46.	46.	55	5	Hydel Power Station: State advantages anddisadvantages of hydroelectric power plant	Black board
47.	47.	55	5	Classify and Explain the general arrangement of storage type hydroelectric project	Black board & Smart class
48.	48.	55	5	Explain operation of hydroelectric project	Black board
49.	49.	55	5	Selection of site of hydel power plant.	Black board
50.	50.	55	5	List of hydro power stations with their capacities and number of units in the state	Black board
51.	51.	55	5	Types of turbines and generation used.	Black board
52.	52.	55	5	Simple problems on Hydel Power Station	Black board
53.	53.	55	5	Simple problems on Hydel Power Station	Black board
54.	54		5	Revision of Unit / Class -5	
55.	55.	55	6	GAS TURBINE POWER STATIONS- Selection of site for gas turbine stations.	Black board
56.	56.	55	6	Fuels for gas turbine, Elements of simple gas turbine power plants	Black board
57.	57.	55	6	Elements of simple gas turbine power plants	Black board
58.	58.	55	6	Merits, demerits and application of gas turbine power plants	Black board
59.	59.	55	6	Revision of Unit / Class -6	
60.	60.	55	6	Revision on Semester Questions	