

# Lesson Plan

<b>Name of the Institute:</b>		CV Raman Polytechnic
<b>Department:</b>		Mechanical Engineering
<b>Semester/Division/Branch:</b>		6 <sup>th</sup> Sem/ME
<b>Subject Name with code:</b>		Power Station Engineering (Th3)
<b>Total No. of Class (Required):</b>		60
<b>Faculty Name:</b>		Mr Radhamohan Kabisatapathy
Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	Describe sources of energy.	
2	Describe sources of energy.	
3	Explain concept of Central and Captive power station.	
4	Explain concept of Central and Captive power station.	
5	Classify power plants.	
6	Importance of electrical power in day today life.	
7	Overview of method of electrical power generation.	
8	Layout of steam power stations.	
9	Layout of steam power stations.	
10	Steam power cycle.	
11	Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.	
12	Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.	
13	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam Consumption.	
14	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam Consumption.	
15	Solve Simple Problems.	
16	Solve Simple Problems.	
17	List of thermal power stations in the state with their capacities.	
18	Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and operation of boiler	
19	Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and operation of boiler	
20	Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and operation of boiler	
21	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.	
22	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.	

23	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.	
24	Steam prime movers: Advantages & disadvantages of steam turbine, Elements of steam turbine, governing of steam turbine.	
25	Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.	
26	Steam condenser: Function of condenser, Classification of condenser.	
27	Steam condenser: Function of condenser, Classification of condenser.	
28	Function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.	
29	Function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.	
30	Cooling Tower: Function and types of cooling tower, and spray ponds	
31	Cooling Tower: Function and types of cooling tower, and spray ponds	
32	Selection of site for thermal power stations.	
33	Selection of site for thermal power stations.	
34	Classify nuclear fuel (Fissile & fertile material)	
35	Classify nuclear fuel (Fissile & fertile material)	
36	Explain fusion and fission reaction.	
37	Explain working of nuclear power plants with block diagram	
38	Explain working of nuclear power plants with block diagram	
39	Explain the working and construction of nuclear reactor .	
40	Explain the working and construction of nuclear reactor .	
41	Compare the nuclear and thermal plants.	
42	Explain the disposal of nuclear waste.	
43	Selection of site for nuclear power stations.	
44	List of nuclear power stations.	
45	State the advantages and disadvantages of diesel electric power stations.	
46	Explain briefly different systems of diesel electric power stations	
47	Fuel storage and fuel supply system,	
48	Fuel injection system, Air supply system	
49	Exhaust system, cooling system	
50	Lubrication system, starting system	
51	governing system	
52	Selection of site for diesel electric power stations	
53	Performance and thermal efficiency of diesel electric power stations.	
54	State advantages and disadvantages of hydroelectric power plant. Classify and explain the general arrangement of storage type hydroelectric project and explain its operation.	
55	Selection of site of hydel power plant. List of hydro power stations with their capacities and number of units in the state.	
56	Types of turbines and generation used.	
57	Solve Simple problems.	
58	Selection of site for gas turbine stations. Fuels for gas turbine	

59	Elements of simple gas turbine power plants	
60	Merits, demerits and application of gas turbine power plants.	



**Signature of the Faculty**



**Signature of the H.O.D**