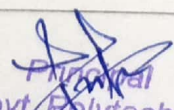


Discipline: <b>MECHANICALENGG</b>	Semester: <b>6<sup>TH</sup></b>	Name of the Teaching Faculty: <b>BALLA PAWANI</b>
Subject: <b>POWER STATION ENGINEERING</b>	No. of days/perweek classallotted:4	Semester From date:14.02.2023 To Date: No.of Weeks:15
<b>Week</b>	<b>Class Day</b>	<b>Theory/Practical Topics</b>
1 <sup>ST</sup>	1 <sup>ST</sup>	Describe sources of energy
	2 <sup>ND</sup>	Explain concept of Central and Captive power station
	3 <sup>RD</sup>	Classify power plants.
	4 <sup>TH</sup>	Importance of electrical power in day today life
2 <sup>ND</sup>	1 <sup>ST</sup>	Overview of method of electrical power generation.
	2 <sup>ND</sup>	Layout of steam power stations.
	3 <sup>RD</sup>	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
	4 <sup>TH</sup>	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
3 <sup>RD</sup>	1 <sup>ST</sup>	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam Consumption.
	2 <sup>ND</sup>	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam Consumption.
	3 <sup>RD</sup>	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam Consumption.
	4 <sup>TH</sup>	Solve Simple Problems.
4 <sup>TH</sup>	1 <sup>ST</sup>	Solve Simple Problems.
	2 <sup>ND</sup>	List of thermal power stations in the state with their capacities.
	3 <sup>RD</sup>	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
	4 <sup>TH</sup>	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
5 <sup>TH</sup>	1 <sup>ST</sup>	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
	2 <sup>ND</sup>	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	3 <sup>RD</sup>	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	4 <sup>TH</sup>	Steam prime movers
6 <sup>TH</sup>	1 <sup>ST</sup>	Steam prime movers: Advantages & disadvantages of steam turbine, Elements of steam turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.
	2 <sup>ND</sup>	Steam condenser: Function of condenser, Classification of condenser. function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.
	3 <sup>RD</sup>	Steam condenser
	4 <sup>TH</sup>	Cooling Tower: Function and types of cooling tower, and spray ponds

  
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7 <sup>TH</sup>	1 <sup>ST</sup>	Cooling Tower: Function and types of cooling tower, and spray ponds . Selection of site for thermal power stations.
	2 <sup>ND</sup>	Classify nuclear fuel (Fissile & fertile material)
	3 <sup>RD</sup>	Classify nuclear fuel (Fissile & fertile material)
	4 <sup>TH</sup>	Explain fusion and fission reaction
8 <sup>TH</sup>	1 <sup>ST</sup>	Explain working of nuclear power plants with block diagram
	2 <sup>ND</sup>	Explain the working and construction of nuclear reactor .
	3 <sup>RD</sup>	Compare the nuclear and thermal plants
	4 <sup>TH</sup>	Explain the disposal of nuclear waste
9 <sup>TH</sup>	1 <sup>ST</sup>	Explain the disposal of nuclear waste
	2 <sup>ND</sup>	Selection of site for nuclear power stations.
	3 <sup>RD</sup>	List of nuclear power stations.
	4 <sup>TH</sup>	State the advantages and disadvantages of diesel electric power stations.
10 <sup>TH</sup>	1 <sup>ST</sup>	Explain briefly different systems of diesel electric power stations
	2 <sup>ND</sup>	Fuel storage and fuel supply system,
	3 <sup>RD</sup>	Fuel injection system,Air supply system
	4 <sup>TH</sup>	Exhaust system
11 <sup>TH</sup>	1 <sup>ST</sup>	Cooling system
	2 <sup>ND</sup>	Lubrication system
	3 <sup>RD</sup>	Starting system, governing system
	4 <sup>TH</sup>	Selection of site for diesel electric power stations.
12 <sup>TH</sup>	1 <sup>ST</sup>	Performance and thermal efficiency of diesel electric power stations.
	2 <sup>ND</sup>	State advantages and disadvantages of hydroelectric power plant.
	3 <sup>RD</sup>	Classify and explain the general arrangement of storage type hydroelectric project and explain its operation
	4 <sup>TH</sup>	Selection of site of hydel power plant
13 <sup>TH</sup>	1 <sup>ST</sup>	List of hydro power stations with their capacities and number of units in the state.
	2 <sup>ND</sup>	Types of turbines and generation used
	3 <sup>RD</sup>	Simple problems
	4 <sup>TH</sup>	Simple problems
14 <sup>TH</sup>	1 <sup>ST</sup>	Simple problems
	2 <sup>ND</sup>	Simple problems
	3 <sup>RD</sup>	Simple problems
	4 <sup>TH</sup>	Selection of site for gas turbine stations
15 <sup>TH</sup>	1 <sup>ST</sup>	Fuels for gas turbine
	2 <sup>ND</sup>	Elements of simple gas turbine power plants
	3 <sup>RD</sup>	Elements of simple gas turbine power plants
	4 <sup>TH</sup>	Merits, demerits and application of gas turbine power plants.

Balra Pawani

Signature of The Faculty

B. S. Singh  
09/02/2023

Signature of The HOD

18/01/23  
13/2/23

Signature of The Academic Coordinator

Signature of The Principal  
Principal  
Govt. Polytechnic  
Malkangiri. (Odisha)