



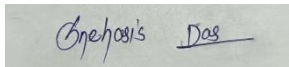
UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE:	SEMESTER:	NAME OF THE TEACHING FACULTY: Er. SUBRAT MOHANTY		
MECHANICAL	6TH Sem	Semester From Date: 16/01/2024		
SUBJECT:	No of Days/Per week class allotted: 4 Class P/W(60)	To Date: 26/04/2024		
POWER STATION ENGINEERING		No. Of Weeks: 15		
WEEK		CLASS DAY	THEORY TOPICS	REMARKS
1 st	1 st	Describe sources of energy	Date	Dean/Principal
	2 nd	Explain concept of Central and Captive power station.		
	3 rd	Classify power plants.		
	4 th	Importance of electrical power in day to day life.		
2 nd	1 st	Overview of method of electrical power generation.		
	2 nd	Layout of steam power stations.		
	3 rd	Layout of steam power stations.		
	4 th	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.		
3 rd	1 st	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.		
	2 nd	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam consumption.		
	3 rd	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work done, work ratio, and specific steam consumption.		
	4 th	Solve simple problems.		
	5 th	Solve simple problems.		
4 th	1 st	List of thermal power stations in the state with their capacities.		
	2 nd	List of thermal power stations in the state with their capacities.		
	3 rd	Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation of Electrostatic precipitator and Operation of superheater. Need of boiler mountings and operation of boiler.		

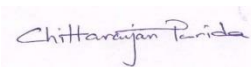
	4 th	Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation of Electrostatic precipitator and Operation of superheater. Need of boiler mountings and operation of boiler		
5 th	1 st	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.		
	2 nd	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.		
	3 rd	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		
	4 th	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		
6 th	1 st	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.		
	2 nd	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 rd	Cooling Tower: Function and types of cooling tower, and spray ponds		
	4 th	Selection of site for thermal power stations.		
	5 th	Classify nuclear fuel (Fissile & fertile material)		
7 th	1 st	Explain fusion and fission reaction.		
	2 nd	Explain working of nuclear power plants with block diagram.		
	3 rd	Explain the working and construction of nuclear reactor		
	4 th	Draw diagram & stress diagram		
	1 st	Compare the nuclear and thermal plants.		

8 th	2 nd	Explain the disposal of nuclear waste		
	3 rd	Selection of site for nuclear power stations		
	4 th	List of nuclear power stations.		
9 th	1 st	List of nuclear power stations.		
	2 nd	Doubt Clear Class		
	3 rd	State the advantages and disadvantages of diesel electric power stations		
10 th	4 th	State the advantages and disadvantages of diesel electric power stations		
	1 st	Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system, cooling system, Lubrication system, starting system, governing system.		
	2 nd	Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system, cooling system, Lubrication system, starting system, governing system.		
	3 rd	Selection of site for diesel electric power stations.		
11 th	4 th	Selection of site for diesel electric power stations.		
	1 st	Doubt Clear Class		
	2 nd	Performance and thermal efficiency of diesel electric power stations.		
	3 rd	Performance and thermal efficiency of diesel electric power stations.		
12 th	4 th	State advantages and disadvantages of hydroelectric power plant		
	1 st	Classify and explain the general arrangement of storage type hydroelectric project and explain its operation		
	2 nd	Selection of site of hydroelectric power plant		
	3 rd	List of hydroelectric power stations with their capacities and number of units in the state.		
13 th	4 th	Doubt Clear Class		
	1 st	Doubt Clear Class		
	2 nd	Types of turbines and generation used.		
	3 rd	Simple problems.		
	4 th	GAS TURBINE POWER STATIONS		
	1 st	Doubt Clear Class		
	2 nd	Doubt Clear Class		

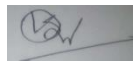
14 th	3 rd	Selection of site for gas turbine stations.		
	4 th	Selection of site for gas turbine stations.		
15 th	1 st	Fuels for gas turbine		
	2 nd	Elements of simple gas turbine power plants		
	3 rd	Merits, demerits and application of gas turbine power plants.		
	4 th	Merits, demerits and application of gas turbine power plants.		



HOD



DEAN



PRINCIPAL