Discipline: Mechanical engineering	**Semester : 6th Semester 2020-21**	**Name of the Teaching faculty: Smt. C R Meher(Lect.)**
Subject :POWE STATION ENGINEERING	**No. of Days/Week Class Allotted: 60**	**Semester from date: / /2020 to date: / /2020 No of weeks :18**
Week	Class Day	Theory Topics
1st	1st	Introduction of power station engineering
	2nd	Describe sources of energy
	3rd	Explain concept of Central and Captive power station
	4th	Classify power plants
2nd	1st	Importance of electrical power in day today life
	2nd	Overview of method of electrical power generation
	3rd	THERMAL POWER STATIONS: Layout of steam power stations
	4th	Steam power cycle
3rd	1st	Explain Carnot vapour power cycle with P-V, T-s diagram
	2nd	Determine thermal efficiency.
	3rd	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency,
	4th	Work done, work ratio, and specific steam Consumption
4th	1st	Solve Simple Problems
	2nd	List of thermal power stations in the state with their capacities
	3rd	Boiler Accessories: Operation of Air pre heater,
	4th	Operation of Economiser, Operation Electrostatic precipitator
5th	1st	Operation of super heater
	2nd	Need of boiler mountings and operation of boiler
	3rd	Draught systems (Natural draught, Forced draught & balanced draught)
	4th	advantages & disadvantages Draught systems
6th	1st	Steam prime movers: Advantages & disadvantages of steam turbine,
	2nd	Elements of steam turbine, governing of steam turbine
	3rd	Performance of steam turbine:
	4th	Explain Thermal efficiency, Stage efficiency and Gross efficiency
7th	1st	Steam condenser: Function of condenser, Classification of condenser
	2nd	function of condenser auxiliaries such as hot well,
	3rd	condenser extraction pump, air extraction pump, and circulating pump.
	4th	Cooling Tower: Function and types of cooling tower, and spray ponds
8th	1st	Selection of site for thermal power stations
	2nd	Nuclear power stations

	3rd	Classify nuclear fuel (Fissile & fertile material)
	4th	Explain fusion and fission reaction.
9th	1st	Explain working of nuclear power plants with block diagram
	2nd	Explain the working and construction of nuclear reactor
	3rd	Compare the nuclear and thermal plants.
	4th	Explain the disposal of nuclear waste
10th	1st	Selection of site for nuclear power stations
	2nd	List of nuclear power stations.
	3rd	Diesel electric power stations:
	4th	State the advantages and disadvantages of diesel electric power stations
11th	1st	Explain briefly different systems of diesel electric power stations
	2nd	Fuel storage and fuel supply system, Fuel injection system,
	3rd	Air supply system, Exhaust system, cooling system, Lubrication system,
	4th	starting system, governing system
12th	1st	Selection of site for diesel electric power stations
	2nd	Performance and thermal efficiency of diesel electric power stations
	3rd	Numerical on diesel power plant
	4th	HYDEL POWER STATIONS: 5.1 State advantages and disadvantages of hydroelectric power plant
13th	1st	Classify and explain the general arrangement of storage type hydroelectric project and explain its operation
	2nd	Selection of site of hydro power plant.
	3rd	List of hydro power stations with their capacities and number of units in the state.
	4th	Types of turbines and generation used
14th	1st	Simple problems On hydro power plant
	2nd	GAS TURBINE POWER STATIONS
	3rd	Selection of site for gas turbine stations.
	4th	Fuels for gas turbine
15th	1st	Elements of simple gas turbine power plants
	2nd	Merits, demerits and application of gas turbine power plants
	3rd	Revision of chapter 1
	4th	Problem solving of chapter 1
16th	1st	Revision of chapter 2
	2nd	Revision of chapter 3
	3rd	Revision of chapter 4
	4th	Revision of chapter 5
17th	1st	Problem solving of chapter 5
	2nd	Discussion of Question and Answer of chapter 1
	3rd	Discussion of Question and Answer of chapter 2

	4th	Discussion of Question and Answer of chapter 2
18th	1st	Discussion of Question and Answer of chapter 2
	2nd	Discussion of Question and Answer of chapter 3
	3rd	Discussion of Question and Answer of chapter 4
	4th	Discussion of Question and Answer of chapter 5