GOVT. POLYTECHNIC MAYURBHANJ , TIKARPADA

ACADEMIC SESSION-2023-24 , LESSON PLAN

Discipline : MECHANICAL ENGG.		Semester: 6th Sem	Name of the Teaching Faculty :SASMITA SAHA
Subject : POWER STATION ENGINEERING.		No. of Days / per week class allotted : 04	Semester From date : 16/1/24 To Date : 26/4/24
MONTH	**Week**	**Day**	**Topics**
JANUARY	3rd	4th	**CHAPTER -1. INTRODUCTION** :Describe sources of energy
		5th	Explain concept of Central and Captive powerstation
	4th	1st	Classify power plants.
		4th	Importance of electrical power in day to day life.
	5th	1st	Overview of method of electrical power generation
		2nd	**CHAPTER-2 :THERMAL POWER STATIONS :**Layout of steam powerstation, Steam powercycle
FEBRUARY	1st	4th	Explain Carnot vapour power cycle with P-V,T-s diagram and determine thermal efficiency.
		5th	Layout of steam powerstations.
	2nd	1st	Explain Rankine cycle with P-V,T-S&H-s diagram
		2nd	solve simple problems.
		4th	list of the thermal power station in the state with their capacities, Operation of air pre heater
		5th	Operation of economiser,eletrostatic precipitator
	3rd	1st	Operation of super heater,need of boiler mountings
		2nd	operation of boiler ,Draught systems(Natural draught,Forced draught & balanced draught)
		4th	Advantages & disadvantges of Draught systems
		5th	CLASS TEST -I
		1st	Steam prime movers-Advantages & disadvantages of steam turbine,elements of steam turbine

	4th	2nd	Governing and Performance of steam turbine.
		4th	Explain Thermal efficiency,Stage efficiency and Gross efficiency.
		5th	Function of condenser and classification of condenser
	5th	1st	Function of condenser auxiliaries such as hot well,condenser extraction pump,air extraction pump and circulating pump.
		2nd	Function and type of cooling tower and sprayponds
		4TH	Selection of site for thermal powerstations , REVISION
MARCH	lst	5th	**CHAPTER- 3 :NUCLEAR POWER STATIONS :**Classify nuclear fuel(Fissile&fertilematerial)
	2nd	1st	Explain fusion and fission reaction.
		4th	Explain working of nuclear powerplants with blockdiagram
	3rd	1st	Explain the working and construction of nuclear reactor
		2nd	Compare the nuclear and thermalplants
		4th	Explain the disposal of nuclear waste
		5th	Selection of site for nuclear powerstations.List of nuclear powerstations.
	4th	1st	**CHAPTER-4: DIESEL ELECTRIC POWER STATIONS** : State the advantages and disadvantages of diesel electric power stations.
		2nd	Explain briefly different systems of diesel electric power stations.
		4th	Explain Fuel storage and fuel supply system, Fuel injection system
		5th	Air supply system in diesel electric power station
	5th	4th	Exhaust system,cooling system,Lubrication system
APRIL	1ST	2nd	Starting system,governing system of diesel electric power station
		4th	Selection of site for diesel electric powerstations.Performance and thermal efficiency of diesel electric powerstations.
		5th	**INTERNAL EXAMINATION**
	2nd	1st	**CHAPTER -5: HYDEL POWER STATIONS :** State advantages and disadvantages of hydro electric powerplant ,Classify
		2nd	Explain the general arrangement of storage type hydro electric project and explain its operation.
		5th	Selection of site of hydel powerplant.
	3rd	1st	List of hydro power stations with their capacities and number of units in the state.
		2nd	Types of turbines and generation used. Simple problems solved

		4th	**CHAPTER- 6: GAS TURBINE POWER STATIONS** :Selection of site for gas turbine stations.
		5th	Fuels for gas turbine.
	4th	1st	Elements of simple gas turbine power plants
		2nd	Merits,demerits and application of gas turbine power plants., Revision
		4th	CLASS TEST -II
		5th	Revision