


GOVT. POLYTECHNIC MAYURBHANJ , TIKARPADA


ACADEMIC SESSION: 2025-26 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 : 22/12/2025 To Date : 18/04/2026
MONTH	Week	Day	Topics
DECEMBER	4TH	1st	INTRODUCTION: Describe sources of energy
		2nd	Explain concept of Central and Captive powerstation
		5th	Classify power plants.
	5TH	1st	Importance of electrical power in day to day life.
		2nd	Overview of method of electrical power generation
JANUARY	1st	4th	THERMAL POWER STATIONS: Layout of steam powerstations.
		5th	Steam powercycle
	2nd	1st	Explain Carnot vapour power cycle with P-V,T-s diagram and determine thermal efficiency.
		2nd	Revision
		4th	Explain Rankine cycle with P-V,T-S&H-s diagram
		5th	Determine thermal efficiency,Workdone,workratio, and specific steam Consumption.
	3rd	1st	solve simple problems.
		2nd	solve simple problems.
		4th	list of the thermal power station in the state with their capacities
		5th	Operation of air pre heater
	4th	1st	Operation of economiser
		2nd	Operation of eletrostatic precipitator
		4th	Operation of super heater,need of boiler mountings
		5th	operation of boiler
		2nd	Draught systems(Naturaldraught,Forceddraught & balanceddraught)

FEBRUARY	5th	4th	Advantages & disadvantages of Draught systems
		5th	Advantages & disadvantages of steam turbine
	1st	1st	Discuss about the elements of steam turbine
		2nd	Governing and Performance of steam turbine.
		4th	Explain Thermal efficiency, Stage efficiency and Gross efficiency.
		5th	Function of condenser and classification of condenser
		1st	Function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump and circulating pump.
	2nd	2nd	Function and type of cooling tower and sprayponds
		4th	Selection of site for thermal powerstations
		5th	NUCLEAR POWER STATIONS: Classify nuclear fuel (Fissile & fertile material)
		1st	Explain fusion and fission reaction.
	3rd	2nd	Explain working of nuclear powerplants with block diagram
		4th	Revision
		5th	INTERNAL ASSESSMENT
		1st	Explain the working and construction of nuclear reactor.
	4th	2nd	Explain the working and construction of nuclear reactor.
		4th	Compare the nuclear and thermal plants
		5th	Explain the disposal of nuclear waste.
		1st	Selection of site for nuclear powerstations. List of nuclear powerstations.
	MARCH	1st	4th
5th			Explain briefly different systems of diesel electric power stations.
1st			Explain Fuel storage and fuel supply system, Fuel injection system,
2nd		2nd	Air supply system in diesel electric power station
		4th	Exhaust system, cooling system,
		5th	Lubrication system,
		1st	starting system, governing system of diesel electric power station
3rd		2nd	Selection of site for diesel electric powerstations.
		4th	Performance and thermal efficiency of diesel electric powerstations.
		5th	Revision
	1st	HYDEL POWER STATIONS: Introduction	

	4th	2nd	State advantages and disadvantages of hydro electric powerplant.
		4th	Classify and explain the general arrangement of storage type hydro electric project and explain its operation.
		5th	Classify and explain the general arrangement of storage type hydro electric project and explain its operation.
		1st	Selection of site of hydel powerplant.
		2nd	List of hydro power stations with their capacities and number of units in the state.
	5th	4th	Types of turbines and generation used.
		5th	Simple problems
		1st	Previous question discussion, assignment given
	1st	2nd	GAS TURBINE POWER STATIONS :Selection of site for gas turbine stations.
		4th	Fuels for gas turbine.
5th		Elements of simple gas turbine power plants	
1st		Merits,demerits and application of gas turbine power plants.	
4th		Revision	
2nd	5th	Question Discussion	
	1st		
	4th		
3rd	5th		
	1st		
	4th		


 Subject Expert
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 20/12/2025


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