

GOVT. POLYTECHNIC MAYURBHANJ, TIKARPADA

ACADEMIC SESSION-2026-27, LESSON PLAN

Discipline : MECHANICAL ENGG.		Semester: 3rd Sem	Name of the Teaching Faculty :KALEBAR SINGH
Subject : POWER PLANT ENGG.		No. of Days / per week class allotted : 03	Semester From date : 01/07 /26 To Date : 5/11/26
MONTH	Week	Day	Topics
JULY	1st	1st	Introduction to power plant — definition, energy conversion chain, why power plants are needed
		2nd	Indian Energy scenario in India — present installed capacity, conventional & non-conventional share, growth trends
		3rd	Location of power plant — factors governing site selection
	2nd	1st	Choice of power plant — factors influencing selection, comparative cost & suitability
		2nd	Classification of power plants — conventional, nuclear, non-conventional
		3rd	Layout of thermal power plant — coal-ash, air-gas, feed water-steam, cooling water circuits
	3rd	1st	Layout of thermal power plant — feed water-steam, cooling water circuits
		2nd	Terminology used in power plant: Peak load, Base load
		3rd	Load factor, Load curve
	4th	1st	Various factors affecting the operation of power plant
		2nd	Methods of meeting the fluctuating load in power plant
		3rd	Load sharing — cost of power generation
AUGUST	1st	1st	Tariff methods used in power plants
		2nd	Performance and operating characteristics of power plant
		3rd	Performance and operating characteristics of power plant
	2nd	1st	Introduction to Hydroelectric power plant
		2nd	Rainfall, Runoff and its measurement
		3rd	CLASS TEST-1
	3rd	1st	Hydrograph, flow duration curve
		2nd	Selection of sites for hydroelectric power plant
		3rd	General layout of Hydroelectric power plant and its working
	4th	1st	Classification of the plant — Run-off river plant, storage river plant, pumped storage plant
		2nd	Classification of the plant — Run-off river plant, storage river plant, pumped storage plant
		3rd	Advantages and disadvantages of hydroelectric power plant
SEPTEMBER	1st	1st	Layout of diesel power plant
		2nd	Components and working of diesel power plant
		3rd	Advantages and disadvantages of diesel power plant
	2nd	1st	Gas turbine power plant — schematic diagram and components
		2nd	Gas turbine power plant — working
		3rd	Combined cycle power generation — combined gas and steam turbine plant (flow diagram)
		1st	Nuclear power plant: Introduction; Nuclear power, Radioactivity, Radioactive charge, types of reactions

SEPTEMBER	3rd	2nd	Working of a nuclear power plant
		3rd	Thermal fission reactors — PWR (Pressurised Water Reactor)
	4th	1st	class/Quizz test
		2nd	Thermal fission reactors — BWR (Boiling Water Reactor) and gas cooled reactors
		3rd	Advantages and disadvantages of nuclear power plant
OCTOBER	1st	1st	Revision of Unit I-IV
		2nd	Social and economical issues of power plant
		3rd	Green house effect
	2nd	1st	Acid precipitation — Acid rain, Acid snow, Dry deposition, Acid fog
		2nd	Air, water, and thermal pollution from power plants
		3rd	Radiations from nuclear power plant effluents
	3rd	1st	Plant safety concept; Safety policy to be observed in power plants
		2nd	Safety practices to be observed in boiler operation
		3rd	Safety in oil handling system
	4th	1st	Safety in chemical handling system
		2nd	Statutory provisions related to boiler operation
		3rd	Revision of Unit V
NOVEMBER	1ST	1st	CLASS TEST/QUIZZ TEST
		2nd	Final Revision and semester paper discussion
		3rd	Final Revision and semester paper discussion


30/06/26
SUBJECT EXPERT
GP MAYURBHANJ


30/06/26
HOD MECHANICAL
GP MAYURBHANJ


30.06.26
ACADEMIC COORDINATOR
GP MAYURBHANJ