

BHADRAK ENGINEERING SCHOOL AND TECHNOLOGY, ASURALI, BHADRAK

POWER STATION ENGG. (Th.-03)

CHAPTER-WISE DISTRIBUTION OF PERIODS & EXPECTED MARKS

Sl. No.	Name of the Chapter	Periods as per Syllabus	Periods actually needed	Expected Marks
01	INTRODUCTION	05	05	08
02	THERMAL POWER STATIONS	20	22	30
03	NUCLEAR POWER STATIONS	10	09	16
04	DIESEL ENGINE POWER STATIONS	10	08	8
05	HYDEL POWER STATIONS	10	08	14
06	GAS TURBINE POWER STATIONS	05	06	8
Total		60	58	100

Sign of Lect.

Sign of HOD.

Sign of AIC

Sign of Vice Principal

LESSON PLAN

Discipline: Mech. Engg.	Semester: Sixth (6 th)	Name of the Faculty: Er Labendu Mohapatra
Subject: Power Station Engineering	No. of days/week class allotted: Six (6)	Semester from Date: 14.02.23 to Date: 23.05.23 No. of Weeks: 15
WEEK	CLASS DAY	THEORY TOPICS
1 st	1 st	Chapter No.- 01(Introduction) Introduction to Power station engineering.
	2 nd	Describe sources of energy.
	3 rd	Cont...
	4 th	Explain concept of Central and Captive power station. Classify power plants.
	5 th	Importance of electrical power in day today life. Overview of method of electrical power generation.
	6 th	Possible question answer discussion
2 nd	1 st	Chapter No.- 02(Thermal Power Stations) Layout of steam power stations.
	2 nd	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
	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	Cont...
	5 th	Solve Simple Problems.
	6 th	Solve Simple Problems.
3 rd	1 st	List of thermal power stations in the state with their capacities.
	2 nd	Boiler Accessories: Operation of Air pre heater, Operation of Economiser.
	3 rd	Operation Electrostatic precipitator and Operation of super heater.
	4 th	Need of boiler mountings and operation of boiler.
	5 th	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	6 th	Cont...
	1 st	Steam prime movers: Advantages & disadvantages of steam turbine.
	2 nd	Monthly test-01

4 th	3 rd	Elements of steam turbine.
	4 th	Governing of steam turbine.
	5 th	Cont...
	6 th	Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.
5 th	1 st	Steam condenser: Function of condenser, Classification of condenser.
	2 nd	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	Review Class.
	6 th	Possible question answer discussion.
6 th	1 st	Chapter No.- 03(Nuclear Power Stations) Classify nuclear fuel (Fissile & fertile material).
	2 nd	Explain fusion and fission reaction.
	3 rd	Explain working of nuclear power plants with block diagram.
	4 th	Cont...
	5 th	Explain the working and construction of nuclear reactor
	6 th	Cont...
7 th	1 st	Compare the nuclear and thermal plants.
	2 nd	Monthly test-02
	3 rd	Explain the disposal of nuclear waste.
	4 th	Selection of site for nuclear power stations.
	5 th	List of nuclear power stations.
	6 th	Possible question answer discussion.
8 th	1 st	Chapter No.- 04(Diesel Engine Power Stations) State the advantages and disadvantages of diesel electric power stations.
	2 nd	Explain briefly different systems of diesel electric power stations.
	3 rd	Fuel storage and fuel supply system, Fuel injection system.
	4 th	Air supply system, Exhaust system.
	5 th	Cooling system, Lubrication system.
	6 th	Starting system, governing system.
	1 st	Selection of site for diesel electric power stations.

9 th	2 nd	Performance and thermal efficiency of diesel electric power stations.
	3 rd	Review Class.
	4 th	Possible question answer discussion.
	5 th	Chapter No.- 05(Hydel Power Stations) State advantages and disadvantages of hydroelectric power plant.
	6 th	Classify and explain the general arrangement of storage type hydroelectric project.
10 th	1 st	Explain the operation of storage type hydroelectric project.
	2 nd	Monthly test-03
	3 rd	Selection of site of hydel power plant.
	4 th	Cont...
	5 th	List of hydro power stations with their capacities and number of units in the state.
	6 th	Types of turbines and generation used.
11 th	1 st	Simple problems.
	2 nd	Simple problems.
	3 rd	Review Class.
	4 th	Possible question answer discussion.
	5 th	Chapter No.- 06(Gas Turbine Power Stations) Selection of site for gas turbine stations.
	6 th	Fuels for gas turbine.
12 th	1 st	Elements of simple gas turbine power plants.
	2 nd	Cont...
	3 rd	Merits, demerits of gas turbine power plants.
	4 th	Application of gas turbine power plants.
	5 th	Review Class.
	6 th	Possible question answer discussion..
13 th	1 st	Monthly test-04
	2 nd	Review class chapter no -01
	3 rd	Review class chapter no -01
	4 th	Review class chapter no -02
	5 th	Review class chapter no -02
	6 th	Review class chapter no -02

14 th	1 st	Review class chapter no -02
	2 nd	Review class chapter no -03
	3 rd	Review class chapter no -03
	4 th	Review class chapter no -04
	5 th	Review class chapter no -04
	6 th	Review class chapter no -05
15 th	1 st	Review class chapter no -05
	2 nd	Review class chapter no -06
	3 rd	Review class chapter no -06
	4 th	Previous year question answer discussion
	5 th	Previous year question answer discussion
	6 th	Previous year question answer discussion