

ASIAN SCHOOL OF TECHNOLOGY, KHORDHA
LESSON PLAN

Semester- 6th

Subject- Power station engineering

Branch- Mechanical Engineering

Name of the Faculty- Priyaranjan Pattanaik

Academic Session – 2024

Period	Date	Unit	Topics to be covered
1	17.01.24	Module-01	INTRODUCTION :Energy and its units,Relationship between the units,Power and its units,Relationship between the units
2	18.01.24		Sources of energy,Conventional source and non-conventional source of energy,Types of fuel
3	19.01.24		Classification of power plants as captive and central power Plants
4	22.01.24		Classification of power plants as captive and central power Plants
5	24.01.24		Discussion of important questions and revision
6	25.01.24	Module-02	THERMAL POWER PLANT : Steam power plant, components of steam power plant ,Layout of steam power plant
7	29.01.24		Thermodynamic Cycle, Types of cycle, Carnot cycle in P-V,T-S Determination of Thermal efficiency
8	31.01.24		Limitations of Carnot cycle, Rankine cycle, P-V,T-S diagram,Determination of thermal efficiency , Net work done,Meaning of work ratio, specific steam consumption of Rankine Cycle
9	01.02.24		Numericals on Carnot cycle
10	02.02.24		Numericals on Rankine cycle using Mollier chart and steam Tables
11	05.02.24		List of Thermal power Stations in Odisha with capacity, Boiler and its Accessories, Air-Preheater, Economiser
12	05.02.24		Superheater, Working of Sugden's Superheater
13	07.02.24		Electrostatic precipitator, components and working
14	08.02.24		Performance test
15	09.02.24		Boiler mountings and Its need ,operation of boiler
16	12.02.24		Boiler draught and its types, advantages and disadvantages
17	12.02.24		Balanced draught and derivation of minimum height of Chimney
18	15.02.24		Comparison Between Forced draught and Induced draught,Steam Turbines and Its Classification
19	16.02.24		Elements of steam turbine and Governing of Steam turbine
20	19.02.24		Performance of Steam Turbine
21	19.02.24		Steam Condensers and its Classification
22	21.02.24		Working of steam condenser and function of its components
23	22.02.24		Cooling tower and its types
24	23.02.24		Working of cooling Tower and site selection of thermal power Stations
25	26.02.24	Module-3	NUCLEAR POWER PLANT : Pre-requisites of nuclear power Plant
26	26.02.24		Nuclear Reaction and its types
27	28.02.24		Working of Nuclear Power plant

28	29.02.24		Construction and Working of Nuclear Reactor
29	01.03.24		Comparison of Nuclear power plant and Thermal power plant
30	04.03.24		1 st class test
31	04.03.24		Nuclear Waste and its Classification
32	06.03.24		Nuclear waste disposal methods
33	07.03.24		Site selection of Nuclear Power plant, Nuclear Power plants in India
34	11.03.24		Revision
35	13.03.24	Module-4	DIESEL ELECTRIC POWER PLANT: Diesel electric power station: its advantages and disadvantages
36	14.03.24		Fuel storage system and fuel supply system of Diesel electric power station
37	15.03.24		Fuel Injection system of diesel electric power station
38	18.03.24		Air supply system and exhaust system of diesel electric power Station
39	18.03.24		Cooling and Lubrication system of diesel electric power station
40	20.03.24		Starting system of diesel electric power station
41	21.03.24		Governing system of Diesel Electric power station
42	22.03.24		Selection of site for diesel electric power stations
43	27.03.24		Performance parameters and thermal efficiency of diesel electric power station
44	28.03.24		Discussion of important question
45	03.04.24	Module-5	Hydel Power station: Its advantages and disadvantages
46	04.04.24		Classification of Hydel power stations
47	05.04.24		General arrangement of storage type hydroelectric project
48	08.04.24		Operation of hydroelectric project
49	08.04.24		Selection of site of hydel power plant
50	10.04.24		Hydro power stations with their capacities and number of units in Odisha
51	12.04.24		Types of turbines and generation used in power stations
52	15.04.24		Numericals on Hydel power stations
53	15.04.24		Numericals on Hydel power stations
54	18.04.24		Quiz test and discussion on questions
55	19.04.24	Module-6	Gas turbine power station: Selection of site for gas turbine power stations
56	22.04.24		Fuels for gas turbine plants
57	22.04.24		2 nd class test
58	24.01.24		Elements of Simple gas turbine power plant
59	25.01.24		Merits and demerits of Gas turbine power stations, Application of gas turbine power stations
60	26.01.24		Previous year semester question discussion

Signature of Faculty Member:

Counter Signature of H.O.D