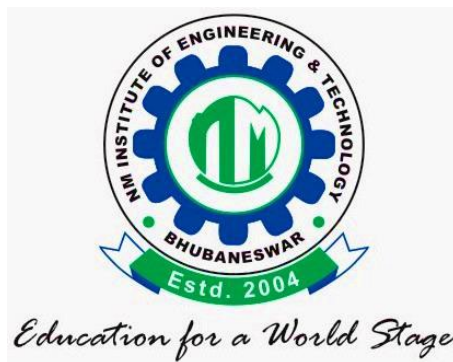


NM INSTITUTE OF ENGINEERING & TECHNOLOGY BHUBANESWAR

Mechanical Engineering Department



LESSON PLAN

Session 2023-2024

Semester: 6th

Subject : POWER STATION ENGINEERING

Faculty Name: AJAYA BEURA

Subject: PSE No of Days/per week class allotted: _____

Semester from date : _____ to date: _____ No. of Weeks: _____

Week	Class Day	Theory topics
1	1	Describe sources of energy.
	2	Explain concept of Central and Captive power station.
	3	Classify power plants.
	4	Importance of electrical power in day today life.
2	1	Overview of method of electrical power generation.
	2	Layout of steam power stations.
	3	Layout of Steam power cycle
	4	Explain Carnot vapour power cycle with P-V, T-s diagram
3	1	determine thermal efficiency.
	2	Explain Rankine cycle with P-V, T-S & H-s diagram
	3	determine thermal efficiency, Work done
	4	work ratio, and specific steam Consumption.
4	1	Solve Simple Problems.
	2	List of thermal power stations in the state with their capacities.
	3	Boiler Accessories: Operation of Air pre heater
	4	Operation of Economiser
5	1	Operation Electrostatic precipitator
	2	Operation of super heater.
	3	Need of boiler mountings
	4	operation of boiler
6	1	Natural draught with their advantages & disadvantages.
	2	Forced draught with their advantages & disadvantages.
	3	balanced draught with their advantages & disadvantages.
	4	Advantages & disadvantages of steam turbine
7	1	Elements of steam turbine,
	2	governing of steam turbine.
	3	Explain Thermal efficiency, Stage efficiency and Gross efficiency.
	4	Function of condenser

Signature of Faculty

Subject: _____ No of Days/per week class allotted: _____

Semester from date : _____ to date: _____ No. of Weeks: _____

Week	Class Day	Theory topics
8	1	Classification of condenser
	2	function of condenser auxiliaries such as hot well,
	3	condenser extraction pump
	4	air extraction pump
9	1	circulating pump
	2	Function and types of cooling tower, and spray ponds
	3	Selection of site for thermal power stations.
	4	Classify nuclear fuel (Fissile & fertile material)
10	1	Explain fusion and fission reaction.
	2	Explain working of nuclear power plants with block diagram .
	3	Explain the working and construction of nuclear reactor
	4	Compare the nuclear and thermal plants
11	1	Explain the disposal of nuclear waste.
	2	Selection of site for nuclear power stations & List of nuclear power stations.
	3	State the advantages and disadvantages of diesel electric power stations.
	4	Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system
12	1	cooling system, Lubrication system, starting system, governing system
	2	Selection of site for diesel electric power stations.
	3	Performance and thermal efficiency of diesel electric power stations.
	4	State advantages and disadvantages of hydroelectric power plant.
13	1	Classify the general arrangement of storage type hydroelectric project
	2	Explain the general arrangement of storage type hydroelectric project and its operation
	3	Selection of site of hydel power plant.
	4	List of hydro power stations with their capacities and number of units in the state.
14	1	Types of turbines
	2	generation used.
	3	Simple problems.
	4	Selection of site for gas turbine stations.
15	1	Fuels for gas turbine
	2	Elements of simple gas turbine power plants
	3	Merits, demerits of gas turbine power plants
	4	Application of gas turbine power plants.

Signature of Faculty