DEPARTMENT OF MECHANICAL ENGINEERING

LESSION PLAN

Discipline:- **Mechanical**	**Class:** 5th Sem Mech Engg **Session: 2026-27**		Name Of Faculty:- **Biswajit Mishra**
Subject:- **Power Plant Engg (Sub code- ME PE(303), Th-4(a)**	Allotted Classes/ week **-3**	No Of Weeks:-**15**	Date of start of class **01/07/2026** Date of end of class **05/11/2026**

No. of week	**No. of classes**	**Topic to be taught**
1st	1st	**UNIT-I** (**Introduction to Power Plant**) Introduction to power plant
	2nd	Indian Energy scenario in India
	3rd	Location of power plant
2nd	1st	Choice of Power plant
	2nd	Classification of power plants
	3rd	Layout of thermal power plant
3rd	1st	**UNIT-II (Economics of Power Plant)** Terminology: Peak load, Base load, Load factor
	2nd	Load curve: Representation of different factors
	3rd	Various factor affecting the operation of power plant
4th	1st	Methods of meeting the fluctuating load in power plant
	2nd	Load sharing- cost of power-tariff methods
	3rd	Performance and operating characteristics of power plant
5th	1st	Incremental heat rate, Effect of Load factor
	2nd	Numericals
	3rd	**UNIT-III- Hydro power plant,** Introduction to Hydro electric power plant
6th	1st	Rainfall, Runoff and its measurement
	2nd	Hydrograph, flow duration curve
	3rd	Selection of sites for hydro electric power plant
7th	1st	General layout of Hydro electric power plant: Essential elements
	2nd	Essential elements
	3rd	Classification of hydroelectric power plants
8th	1st	Advantages and disadvantages of hydro electric power plant.
	2nd	**UNIT-IV - Diesel and Gas turbine plant,** The layout of diesel power plant: Components
	3rd	Intake, Exhaust & Fuel system of diesel power plant
9th	1st	Cooling system, Lubrication system, Starting system
	2nd	Advantages and disadvantages of diesel power plant
	3rd	Gas turbine power Plant-Schematic diagram
10th	1st	Components of GT power plant
	2nd	Closed and open cycle GT plant: Advantages & disadvantages
	3rd	Combined gas and steam turbine power plant
11th	1st	Series & parallel operation of combined cycle: Advantages of CC
	2nd	**Nuclear power plant:** Nuclear Power-Radio activity-Radioactive charge- types of reactions, Advantages & Disadvantages

12th	3rd	Pressurized Water Reactor (PWR)
	1st	Boiling Water Reactor (BWR)
	2nd	**Unit-V: Environmental impact of Power plant:** Social and Economical issues of power plant; Green house effect
	3rd	Acid precipitation-Acid rain, Acid snow, Dry deposition
13th	1st	Acid fog; Air, water, Thermal pollution from power plants
	2nd	Radiations from nuclear power plant effluents
	3rd	**Power plant safety:** Plant safety concept; Safety policy to be observed in power plants
14th	1st	Safety practices to be observed in boiler operation
	2nd	Safety in oil handling system; Safety in Chemical handling system
	3rd	Statutory provision related to boiler operation
15th	1st	Safety measures in nuclear & hydroelectric plants
	2nd	Previous year QA
	3rd	Quiz test

01/06/2026

Sign of Faculty

7/6/26

Sign of H.O. D

01/06/26

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