

## LESSON PLAN

<b>DISCIPLINE:</b> ELECTRICAL ENGINEERING	<b>SEMESTER:</b> 3 <sup>rd</sup> (2021-22)	<b>NAME OF THE FACULTY:</b> GOBIND CHANDRA BARIK
<b>SUBJECT:</b> ELEMENTS OF MECHANICAL ENGINEERING (TH-3)	<b>NO. OF DAYS/WEEK CLASS ALLOTTED:</b> 4P/WEEK	<b>SEMESTER FROM DATE:</b> <b>TO DATE:</b> <b>NO. OF WEEKS: 15</b>

SI No.	week	Class day	Topics to be covered
1	1st	1st day	State Unit of Heat and work
		2nd day	1st law of thermodynamics.
		3rd day	State Laws of perfect gases ie: boyle's law, charle's law
		4th day	Gay lussac's law, general gas law.
2	2nd	1st day	Determine relationship of specific heat of gases at constant volume and constant pressure.
		2nd day	Relation between Cp, Cv, R.
		3rd day	Introduction and formation of steam.
		4th day	Various properties of steam(pressure, temp., volume)
3	3rd	1st day	Explanation of wet, dry and superheated steam.
		2nd day	Total heat of the steam in wet, dry and superheated condition.
		3rd day	Use of steam table and solve simple problems.
		4th day	Introduction to boiler and it's working.
4	4th	1st day	State types of Boilers.
		2nd day	Describe Cochran boiler
		3rd day	Describe Babcock Wilcox boiler.
		4th day	Difference between Cochran and babcock & Wilcox boiler.
5	5th	1st day	Difference between firetube and water tube boiler.
		2nd day	Describe various boiler mountings.(pressure gauge, water level indicator)

		3rd day	Stop valve, fusible plug, feed check valve
		4th day	Describe various boiler accessories(super heater,economiser)
6	6th	1st day	Air preheater, boiler feed pump
		2nd day	Explain the principle of Simple steam engine
		3rd day	Classification of steam engine.
		4th day	Working process of simple acting and double acting steam engine.
7	7th	1st day	Draw Indicator diagram(thoeritical and actual).
		2nd day	Calculate Mean effective pressure(theoretical and actual)
		3rd day	IHP and BHP
		4th day	mechanical efficiency.
8	8th	1st day	Advantages and applications of steam engine.
		2nd day	Simple problem solving.
		3rd day	Simple problem solving.
		4th day	Steam turbine and their classifications.
9	9th	1st day	Steam turbine and their classifications.
		2nd day	Construction and working of impulse turbine
		3rd day	Construction and working of reaction turbine
		4th day	Difference between impulse and reaction turbine.
10	10th	1st day	Difference between impulse and reaction turbine.
		2nd day	Explain the function of condenser.
		3rd day	State their types(jet and surface condenser)
		4th day	Various types of jet condensers & surface condensers.
11	11th	1st day	Difference between jet and surface condenser.
		2nd day	Explain working of two stroke petrol engine.
		3rd day	Explain working of two stroke disel engine.
		4th day	Explain working of 4 stroke petrol and Diesel engine.

12	12th	1st day	Differentiate between them.
		2nd day	Describe properties of fluid(density,specific weight)
		3rd day	Specific gravity, specific volume, viscosity.
		4th day	Determine pressure at a point.
13	13th	1st day	Pressure measuring Instruments.
		2nd day	Manometer, venturimeter.
		3rd day	Deduce equation of continuity of flow.
		4th day	Explain energy of flowing liquid
14	14th	1st day	Energies available in flowing fluid.
		2nd day	State and explain Bernoulli's theorem
		3rd day	State and explain Bernoulli's theorem.
		4th day	Construction and working principle of Intensifier.
15	15th	1st day	Hydraulic lift.
		2nd day	Accumulator.
		3rd day	Accumulator.
		4th day	Hydraulic ram.