GOVT. POLYTECHNIC BOLANGIR		LESSON PLAN
Discipline : Mechanical	Semester: 4th	Name of the Teaching Faculty : Marabhanjan Bhoi
Subject : THERMAL ENGINEERING-II	No. of Days / per week class allotted : 4	Semester From date : 05.02.2025 To Date : 17.05.2025 No. of Weeks: 15
Week	Class Day	Topics
05 Feb to 08 Feb	1st	Performance of I.C engine
	2nd	Define mechanical efficiency, Indicated thermal efficiency,
	3rd	Relative Efficiency, brake thermal efficiency overall efficiency
	4th	Mean effective pressure &specific fuel consumption.
10 Feb to 15 Feb	1st	Define air-fuel ratio & calorific value of fuel.
	2nd	Work out problems to determine efficiencies & specific fuel consumption.
	3rd	Explain functions of compressor & industrial use of compressor air
	4th	Classify air compressor & principle of operation.
17 Feb to 22 Feb	1st	Describe the parts and working principle of reciprocating Air compressor.
	2nd	2.4 Explain the terminology of reciprocating compressor such as bore, stroke,
	3rd	pressure ratio free air delivered &Volumetric efficiency.
	4th	Derive the work done of single stage & two stage compressor with and without
24 Feb to 01 Mar	1st	Difference between gas & vapours.
	2nd	Formation of steam.
	3rd	Representation on P-V, T-S, H-S, & T-H diagram.
	4th	Definition & Properties of Steam.
03 Mar to 08 Mar	1st	Use of steam table & mollier chart for finding unknown properties.
	2nd	3.6 Non flow & flow process of vapour.
	3rd	3.7 P-V, T-S & H-S, diagram.
	4th	3.8 Determine the changes in properties & solve simple numerical.
10 Mar to 15 Mar	1st	Steam Generator
	2nd	Classification & types of Boiler.
	3rd	4.2 Important terms for Boiler.
	4th	4.3 Comparison between fire tube & Water tube Boiler.
17 Mar to 22 Mar	1st	Description & working of common boilers (Cochran, Lancashire, Babcock &
	2nd	Wilcox Boiler)
	3rd	Boiler Draught (Forced, induced & balanced)
	4th	4.6 Boiler mountings & accessories.
24 Mar to 29 Mar	1st	Steam Power Cycles
	2nd	Carnot cycle with vapour.
	3rd	5.2 Derive work & efficiency of the cycle.
	4th	5.3 Rankine cycle.
31 Mar to 05 Apr	1st	Representation in P-V, T-S & h-s diagram.
	2nd	5.3.2 Derive Work & Efficiency.
	3rd	5.3.3 Effect of Various end conditions in Rankine cycle.
	4th	5.3.4 Reheat cycle & regenerative Cycle.
07 Apr to 12 Apr	1st	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.
	2nd	Heat Transfer
	3rd	Modes of Heat Transfer (Conduction, Convection, Radiation).
	4th	6.2 Fourier law of heat conduction and thermal conductivity (k).
14 Apr to 19 Apr	1st	6.3 Newton's laws of cooling.
	2nd	6.4 Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement,
	3rd	
	4th	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.

21 Apr to 26 Apr	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
28 Apr to 03 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
05 May to 10 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
12 May to 17 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion

03/02/25