MECHANICAL ENGINEERING DEPARTMENT

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA	
Name of the Faculty: RAKESH KUMAR MAHANTA	Academic Year: 2021-22
Course No.: Th.4	Course Name: Thermal- II
Program: Diploma	Branch: MECHANICAL
Year / Sem : II/ IV	Section: M_2

Sl. No.	Period /Class	Time (min)	Unit	Topic to be covered	Teaching method
1.	1	55	1	Recapitulation of Thermal engineering-I & Introduction about Thermal Engineering-II	Black board
2.	3	55x5	1	Defining mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency	Black board
3.	2	55x2	1	Idea about Mean effective pressure & specific fuel consumption.	Black board
4.	2	55x2	1	Work out problems to determine efficiencies & specific fuel consumption	Black board
5.	2	55x2	2	Brief idea about Compressor & Explanation of functions of compressor & industrial use of compressor air	Black board & smart class
6.	1	55		Classification air compressor & principle of operation.	Black board
7.	1	55	2	Description of the parts and working principle of reciprocating Air compressor.	Black board
8.	3	55x3	2	Explanation of terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency.	Black board
9.	3	55x3	2	Derivation of the work done of single stage & two stage compressor with and without clearance .	Black board
10.	2	55x2	2	Solving simple problems (without clearance only)	Black board
11.	1	55	3	Difference between gas & vapours.	Black board
12.	1	55	3	Formation of steam.	Black board
13.	1	55	3	Representation on P-V, T-S, H-S, & T-H diagram.	Black board
14.	1	55	3	Definition & Properties of Steam.	
15.	4	55x4	3	Use of steam table & mollier chart for finding unknown properties.	Black board
16.	2	55x2	3	Non flow & flow process of vapour.	Black board
17.	2	55x2	3	Determine the changes in properties & solve simple numerical.	Black board

18.	1	55	4	Classification & types of Boiler.	
19.	1	55	4	Important terms for Boiler.	Black board
20.	1	55	4	Comparison between fire tube & Water tube Boiler.	Black board & smart class
21.	4	55x4	4	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)	Black board & smart class
22.	2	55x3	4	Boiler Draught (Forced, induced & balanced)	Black board
23.	3	55x3	4	Boiler mountings & accessories.	Black board
24.	1	55	5	Carnot cycle with vapour.	Black board
25.	1	55x1	5	Derivation of work & efficiency of the Carnot cycle.	Black board
26.	2	55x2	5	Rankine cycle. Representation in P-V, T-S & h-s diagram, Derive Work & Efficiency. Effect of Various end conditions in Rankine cycle.	Black board & smart class
27.	2	55x2	5	Reheat cycle & regenerative Cycle.	Black board
28.	2	55x2	5	Solving simple numerical on Carnot vapour Cycle & Rankine Cycle.	Black board
29.	1	55	6	Modes of Heat Transfer (Conduction, Convection, Radiation).	Black board
30.	2	55	6	Fourier law of heat conduction and thermal conductivity (k).	Black board
31.	1		6	Newton's laws of cooling.	Black board
32.	2	55	6	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation & no numerical problem.	Blackboard
33.	2	55	6	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.	Black board
Total Period	60				