Lesson Plan

Name of the Institute:	**C. V. Raman Polytechnic**
Department:	**Mechanical Engineering**
Semester/Division/Branch:	**4thSem**
Subject Name with code:	**Thermal Engineering-II**
Total No. of Class (Required):	**60**
Faculty Name:	**Mr. Prakash Kumar Parida**

Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	Define mechanical efficiency, Indicated thermal efficiency,	
2	Relative Efficiency, brake thermal efficiency overall efficiency	
3	Mean effective pressure & specific fuel consumption.	
4	Define air-fuel ratio & calorific value of fuel.	
5	Work out problems to determine efficiencies & specific fuel consumption.	
6	Work out problems to determine efficiencies & specific fuel consumption.	
7	Explain functions of compressor & industrial use of compressor air	
8	Classify air compressor & principle of operation.	
9	Describe parts and working principle of reciprocating Air compressor.	
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11	Explain the terminology of reciprocating compressor such as bore, stroke	
12	Pressure ratio free air delivered &Volumetric efficiency	
13	Explain the terminology of reciprocating compressor such as bore, stroke	
14	Pressure ratio free air delivered &Volumetric efficiency	
15	Derive the work done of single stage & two stage compressor with and without clearance	
16	Derive the work done of single stage & two stage compressor with and without clearance	
17	Derive the work done of single stage & two stage compressor with and without clearance	
18	Derive the work done of single stage & two stage compressor with and without clearance	
19	Solve simple problems (without clearance only)	

20	Difference between gas & vapors.	
21	Formation of steam.	
22	Representation on P-V, T-S, H-S, & T-H diagram.	
23	Definition & Properties of Steam.	
24	Use of steam table & mollier chart for finding unknown properties.	
25	Non flow & flow process of vapor.	
26	P-V, T-S & H-S, diagram.	
27	P-V, T-S & H-S, diagram.	
28	Determine the changes in properties & solve simple numerical.	
29	Classification & types of Boilers.	
30	Important terms for Boiler.	
31	Comparison between fire tube & Water tube Boiler.	
32	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)	
33	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)	
34	Boiler Draught (Forced, induced & balanced)	
35	Boiler mountings & accessories.	
36	Carnot cycle with vapor.	
37	Derive work & efficiency of the cycle.	
38	Rankine cycle.	
39	Rankine cycle.	
40	Representation in P-V, T-S & h-s diagram.	
41	Representation in P-V, T-S & h-s diagram.	
42	Derive Work & Efficiency.	
43	Derive Work & Efficiency.	
44	Effect of Various end conditions in Rankine cycle.	
45	Reheat cycle & regenerative Cycle.	
46	Reheat cycle & regenerative Cycle.	
47	Solve simple numerical on Carnot vapor Cycle & Rankine Cycle.	
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49	Solve simple numerical on Carnot vapor Cycle & Rankine Cycle.	
50	Modes of Heat Transfer (Conduction, Convection, Radiation).	
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52	Fourier law of heat conduction and thermal conductivity (k).	
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54	Newton's laws of cooling.	
55	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation & no numerical problem.	
56	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation & no numerical problem.	
57	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.	
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59	Revision and Doubt Clearing	
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Signature of the Faculty

Signature of the H.O.D