

THERMAL ENGS - II (17-4)

NAME OF FACULTY: LIJANJ KUMAR SAHOO

LESSON PLAN AS PER SYLLABUS WEF 17/03/22
(SUMMER), 4th SEMESTER

SUBJECT: Thermal-2 NO. OF DAYS/ WEEK - 03
SEMESTER FROM 17-03-22 TO 16-04-22

WEEKS/P	CLASS. DAY	TOPICS
1 st week (2P)	17/03/22	Introduction of the subject and discussion of thermal.
	17/03/22	Ch-1: Performance of I.C Engine. Def ⁿ : Engine, their types, and def ⁿ of I.C Engine.
2 nd week (1P)	21/03/22	Performance Parameters, Power & efficiencies: Indicated, Brake & Mechanical.
	21/03/22	Numericals on above discussion Power.
	25/03/22	Efficiency (ies), Mechanical efficiency, Overall eff.
3 rd week (3P)	26/03/22	Brake thermal eff., Indicated thermal eff., Specific fuel consumption as per Brake power.
	28/03/22	Derivation of Air Standard Efficiency and Volumetric eff.
	31/03/22	mean effective - pressure, Specific fuel Consumption, calorific Value of fuel, and some Numerical on above.
	02/03/22	Numericals practise.
4 th week (4P)	04/04/22	Ch-2: Air Compressor. Def ⁿ , Intro ⁿ .
	07/04/22	Appl ⁿ in industrial field. Classification.
	08/04/22	Technical Terms of Air Compressor.
	09/04/22	Working and operation of Air Compressor. Work done of single stage air compressor (Reciprocating) without clearance.

5 th (9p)	11/01/22 14/01/22 15/01/22 16/01/22	Working of compressor in Polytropic process. Working in Isentropic Process Working of Reciprocating Air Compressor with clearance. Working in Polytropic process.
6 th (9p)	18/01/22 21/01/22 22/01/22 23/01/22	Working of two stage Air Compressor without clearance Vol. Working of two stage Air Compressor with clearance Vol. Numericals and on above. Numericals practice on Reciprocating Air Compressor.
7 th (4p)	25/01/22 28/01/22 29/01/22 30/01/22	Ch-3: Properties of Steam: Introduction Definition and types of steam. Diff. bet ⁿ gas and vapour. formation of Steam, properties of steam. Representn on P-V, T-S and H-S diagram. Dryness fraction and quality of wet steam.
8 th (4p)	21/01/22 02/05/22 05/05/22 06/05/22 07/05/22	Sensible heat of water, Latent heat of vapourisation. Enthalpy of steam, Sp. Vol. of Steam (with steam, Dry steam, Saturated steam table and their wet analysis, properties diagram (P-V) T-S and H-S diagram.
9 th (4p)	09/05/22 12/05/22 13/05/22 14/05/22	Use of mollier chart for finding unknown properties flow and non. flow process. Determining the changes in p properties. and Numerical Solving Numericals on above.

10th
(4p)

16/05/22 Ch-4: steam Generator: Defⁿ,
Introdⁿ, Classification,
Boiler types, Important terms
of Boiler. Diff. betⁿ of fire
tube and Water tube Boiler.
Working of Cochran Boiler
20/05/22 Working of Cochran Boiler
21/05/22 We Notes on Cochran Boiler
23/05/22 Working of Babcock & Wilcox
Boiler.

11th
(4p)

26/05/22 Boiler Mountings: Water Level
indicator, Pressure gauge, safety
valves, stop valve
27/05/22 Boiler Accessories: Blow off
cock, feed check valve, fusible
plug
28/05/22 Boiler Accessories: Feed pump,
Super heater, Economiser, Air
preheater

12th
(4p)

30/05/22 Ch-5 steam power cycle: Defⁿ,
definition, Carnot cycle with
P-V, T-S & h-s diagram analysis
02/06/22 Work & eff. of Rankine cycle.
P-V, T-S & h-s diagram.

03/06/22 Reheat cycle working
and efficiency.

04/06/22 Regenerative cycle working
and efficiency & Numericals
on above.

06/06/22 Ch-6: Heat Transfer: Defⁿ, Defⁿ
Modes of heat transfer.

13th
(4p)

09/06/22 Fourier Law of heat condⁿ,
thermal conductivity, Newton's
law of cooling
10/06/22 Stefan Boltzman Law & Black
body Radⁿ.

APPENDIX (A) (13)

Extension of closing of attendance upto 30.06.2022 (2)

12th	11/06/2022	Revision
	13/06/2022	Revision
	16/06/2022	Revision
	17/06/2022	Revision
	18/06/2022	Revision
15th	20/06/2022	Revision
	23/06/2022	Revision
	24/06/2022	Revision
	25/06/2022	Revision
18th	27/06/2022	Revision
	30/06/2022	Revision