

Discipline-
Mechanical

Semester-1-4th Name of Faculty

Dr. - Raimita Mahapatra

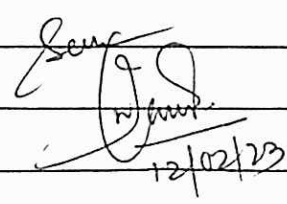
Subject-
T.F-II

No of days/
class allocated-01

Semester from- 1/19/23
to 5/25/23

week	class Day	Theory TOPICS
14 th Feb to 18 th Feb	1 st 2 nd 3 rd 4 th	Mechanical efficiency. Define air fuel ratio, calorific value. Problems
20 th Feb to 25 th Feb	1 st 2 nd 3 rd 4 th	Indicated thermal η , Relative η , brake thermal η , overall η . problems. sp. fuel consumption. mean effective pr. Problems.
27 th Feb to 4 th March	1 st 2 nd 3 rd 4 th	Functions of compressor & industrial use of compressor. classify air compressor. Principle of operation. parts of reciprocating air compressor.
6 th March to 11 th March	1 st 2 nd 3 rd 4 th	clearing of reciprocating comp. Terminology, such as bore, stroke. pr. ratio free air delivery & volumetric η .
13 th March to 18 th March	1 st 2 nd 3 rd 4 th	work done of single stage ^{air} comp. w/D of two stage comp. w/D of single stage comp with & without clearance air without clearance problems.

week	Class Day	Theory topics
20 th March to 25 th March	1 st 2 nd 3 rd 4 th	Difference b/w gas & vapours. Formation of steam. Representation on p-v diagram. Representation on T-s, H-s, Dia. Representation on T-H diagram.
27 th March to 1 st April	1 st 2 nd 3 rd 4 th	Definition & properties of steam. Use of steam table & molier chart. — Rama Navami — Flow Flow & Flow process & vapor.
3 rd April to 8 th April	1 st 2 nd 3 rd 4 th	p-v, T-s, & H-s, diagram. Determine the changes in properties. Solve problems. — Good Friday —
10 th April to 15 th April	1 st 2 nd 3 rd 4 th	Solve problems. Classification & types of Boilers. Important terms for Boiler. — Maha visubha sankranti —
17 th April to 22 nd April	1 st 2 nd 3 rd 4 th	Comparison b/w fire & water heaters. working of common boilers. working of Common boilers. Boiler Draught. (Forced, induced & balanced)
24 th April to 29 th April	1 st 2 nd 3 rd	Boiler mountings & accessories. Carnot cycle with vapor. Net work & η of cycle.

week	class Day	Theory Topics
	4th	Rankine cycle. Representation in p-v, T-s, H-s dia.
1 st may to 6 th may	1 st 2 nd 3 rd 4 th	Derive work & h. effect of various cond ⁿ . Reheat cycle. — Boudha puraniam —
8 th may to 13 th may	1 st 2 nd 3 rd 4 th	Regenerative cycle. Solve simple problems. solve simple problems. Modes of heat transfer. (Conduction, convection, radiation).
15 th may to 20 th may	1 st 2 nd 3 rd 4 th	Fourier law of heat conduction and thermal conductivity (k). Newton's law of cooling. Radiation heat transfer numerical — Sabitri Amabasya —
22 nd may to 26 th may	1 st	numericals, Black body diagram, Definition of emissivity, absorptivity & transmissibility.
		 12/02/23