

Summer - 23

Discipline : MECHANICAL ENGG	Semester : 4TH	Name of the Teaching Faculty: MISS REETA PARIDA
Subject: THERMAL ENGG-II	No. of days/per week class allotted: 04	Semester From date: 13.02.23 To Date: 23.05.23 No. of Weeks: 15
Week	Class Day	Theory / Practical Topics
1ST	1ST	Introduction to thermodynamics
	2ND	Introduction to Vapor Power cycles
	3RD	Explain Steam Power Plant with its Layout
	4TH	Explain Steam Power Plant with its Layout Contd.
2ND	1ST	Explain working of steam power plant cycle
	2ND	Explain Carnot vapor cycle with property diagram
	3RD	Explain Rankine vapor cycle with property diagram
3RD	4TH	Explain Rankine vapor cycle with property diagram Contd.
	1ST	Explain modifications to Rankine vapor cycle
	2ND	Problem solving
	3RD	Explain the qualities of ideal working fluid of power cycle
4TH	4TH	Explain Binary vapor cycles
	1ST	Previous year question discussion, Assignment
	2ND	Introduction to Gas Power cycles
	3RD	Explain the concept of I C engine
5TH	4TH	Explain the concept of I C engine contd.
	1ST	Explain Otto cycle with property diagram
	2ND	Explain Diesel cycle with property diagram
	3RD	Explain Dual cycle with property diagram
6TH	4TH	Problem solving
	1ST	Problem solving
	2ND	Problem solving
	3RD	Compare Otto, Diesel and Dual cycles
7TH	4TH	Differentiate between 2S and 4S engine
	1ST	Previous year question discussion, Assignment
	2ND	Introduction to Fuels and Combustion
	3RD	Explain Hydrocarbon fuels
8TH	4TH	Explain the different combustion reactions
	1ST	Explain the different combustion reactions contd.
	2ND	Explain enthalpy of formation and enthalpy of reaction
	3RD	Explain heating values for fuels
9TH	4TH	Explain Octane number
	1ST	Explain Cetane number
	2ND	Previous year question discussion, Assignment
	3RD	Introduction to Heat transfer
10TH	4TH	Explain the different modes of heat transfer
	1ST	State Fourier law of heat conduction, define thermal conductivity
	2ND	Explain steady state heat conduction in solids
	3RD	Problem solving

	4 TH	Explain convective heat transfer, State Newton's law of cooling
11 TH	1 ST	Problem solving
	2 ND	Explain radiation heat transfer, State Stefan Boltzman law
	3 RD	Problem solving
	4 TH	Explain the different theories of radiation
12 TH	1 ST	Explain surface absorption, reflection and transmission
	2 ND	State Kirchoff's law
	3 RD	Define heat exchanger and classify it
	4 TH	Explain the different types of heat exchangers with its application
13 TH	1 ST	Explain the different types of heat exchangers with its application
	2 ND	Previous year question discussion, Assignment
	3 RD	Introduction to refrigeration cycles
	4 TH	Explain the concept of refrigerators and heat pumps
14 TH	1 ST	Problem solving
	2 ND	Explain reversed Carnot cycle with its limitations
	3 RD	Explain ideal vapor compression refrigeration cycle
	4 TH	Explain actual vapor compression refrigeration cycle
15 TH	1 ST	Explain actual vapor compression refrigeration cycle contd.
	2 ND	Introduction to Gas refrigeration cycle
	3 RD	Previous year question discussion, Assignment
	4 TH	Important question discussion

Learning Resources:

01. Thermal Engineering by M M Rathore, Mc Graw Hill Education
02. A textbook of Thermal Engg by R S Khurmi and J K Gupta, S Chand Publisher
03. Steam Tables by K K Ramalingam, Scitech Publication


Signature of Faculty


Signature of HOD