Discipline: Mechanical engineering	Semester : 4th Semester 2020-21	Name of the Teaching faculty: Smt. C R Meher(Lect.)	
Subject : THERMAL2	No. of Days/Week Class Allotted: 60	Semester from date: / /2020 to date: / /2020 No of weeks :18	
Week	Class Day	Theory Topics	
1st	1st	Performance of I.C engine	
	2nd	Define mechanical efficiency,	
	3rd	Indicated thermal efficiency	
	4th	Relative Efficiency,	
2nd	1st	Brake thermal efficiency	
	2nd	Overall efficiency	
	3rd	Mean effective pressure	
	4th	Specific fuel consumption	
3rd	1st	Define air-fuel ratio	
	2nd	Calorific value of fuel	
	3rd	Specific fuel consumption	
	4th	Work out problems to determine efficiencies	
4th	1st	Problem of performance parameter of IC engine	
	2nd	Problem of performance parameter of IC engine	
	3rd	Air Compressor	
	4th	Explain functions of compressor	
5th	1st	Industrial use of compressor air	
	2nd	Classify air compressor	
	3rd	Principle of operation air compressor	
	4th	Describe the parts and working principle of reciprocating Air compressor.	
6th	1st	Explain the terminology of reciprocating compressor such as bore, stroke	
	2nd	pressure ratio free air delivered &Volumetric efficiency.	
	3rd	Derive the work done of single stage	
	4th	two stage compressor with and without clearance	
7th	1st	Solve simple problems (without clearance only)	
	2nd	Properties of Steam	
	3rd	Difference between gas & vapours.	
	4th	Formation of steam.	
8th	1st	Representation on P-V, T-S, H-S, & T-H diagram.	
	2nd	Definition & Properties of Steam	
	3rd	Use of steam table & mollier chart for finding unknown properties	
	4th	Non flow & flow process of vapour .	
9th	1st	P-V, T-S & H-S, diagram	

	2nd	Determine the changes in properties & solve simple numerical.
	3rd	Steam Generator
	4th	Classification & types of Boiler
10th	1st	Important terms for Boiler
	2nd	Comparison between fire tube & Water tube Boiler
	3rd	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)
	4th	Boiler Draught (Forced, induced & balanced)
11th	1st	Boiler mountings & accessories.
	2nd	Steam Power Cycles
	3rd	Carnot cycle with vapour
	4th	Derive work & efficiency of the cycle
12th	1st	Rankine cycle. 5.3.1 Representation in P-V, T-S & h-s diagram
	2nd	Derive Work & Efficiency.
	3rd	Effect of Various end conditions in Rankine cycle.
	4th	Reheat cycle & regenerative Cycle
13th	1st	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle
	2nd	Heat Transfer
	3rd	Modes of Heat Transfer
	4th	Conduction Heat Transfer
14th	1st	Convection Heat Transfer
	2nd	Radiation Heat Transfer
	3rd	Fourier law of heat conduction and thermal conductivity (k).
	4th	Newton's laws of cooling
15th	1st	Radiation heat transfer
	2nd	Stefan, Boltzmann & Kirchhoff's law
	3rd	Statement Radiation heat transfer
	4th	Black body Radiation, Definition of Emissivity
16th	1st	Absorptive & transmissibility.
	2nd	Revision of chapter 1
	3rd	Revision of chapter 2
	4th	Revision of chapter 3
17th	1st	Revision of chapter 4
	2nd	Revision of chapter 5
	3rd	Revision of chapter 6
	4th	Discussion of probable Question and Answer of chapter 1and 2
18th	1st	Discussion of probable Question and Answer of chapter 3
	2nd	Discussion of probable Question and Answer of chapter 4
	3rd	Discussion of probable Question and Answer of chapter 5
	4th	Discussion of probable Question and Answer of chapter 6