UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE:	SEMESTER:		
MECHANICAL	**4TH Sem**	**NAME OF THE TEACHING FACULTY:** Er.AUROBINDA NAYAK	
SUBJECT:		Semester From Date:16/01/2024	
THERMAL ENGINEERING-II	No of Days/Per week class allotted: 4 Class P/W**(60)**	To Date:26/04/2024	
		No. Of Weeks: **15**	

WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
			Date	Dean/Principal
1st	1st	1.1 Define mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency Mean effective pressure &specific fuel consumption.		
	2nd	1.1 Define mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency Mean effective pressure &specific fuel consumption.		
	3rd	1.1 Define mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency Mean effective pressure &specific fuel consumption.		
	4th	Define air-fuel ratio & calorific value of fuel		
2nd	1st	Define air-fuel ratio & calorific value of fuel		
	2nd	Define air-fuel ratio & calorific value of fuel		
	3rd	Work out problems to determine efficiencies & specific fuel consumption.		
	4th	Work out problems to determine efficiencies & specific fuel consumption.		
3rd	1st	Explain functions of compressor & industrial use of compressor air		
	2nd	Explain functions of compressor & industrial use of compressor air		
	3rd	Classify air compressor & principle of operation		
	4th	Classify air compressor & principle of operation		
	1st	principle of reciprocating Air compressor.		
	2nd	3 Describe the parts and working principle of reciprocating Air compressor.		

4th	3rd	Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency.		
	4th	Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency.		
5th	1st	Derive the work done of single stage & two stage compressor with and without clearance.		
	2nd	Derive the work done of single stage & two stage compressor with and without clearance.		
	3rd	Solve simple problems (without clearance only)		
	4th	Solve simple problems (without clearance only)		
6th	1st	Difference between gas & vapours.		
	2nd	Difference between gas & vapours.		
	3rd	Formation of steam.		
	4th	Representation on P-V, T-S, H-S, & T-H diagram.		
7th	1st	Definition & Properties of Steam.		
	2nd	Use of steam table & mollier chart for finding unknown properties		
	3rd	Use of steam table & mollier chart for finding unknown properties		
	4th	Non flow & flow process of vapour.		
8th	1st	Non flow & flow process of vapour.		
	2nd	P-V, T-S & H-S, diagram.		
	3rd	Assignment		
	4th	Determine the changes in properties & solve simple numerical.		
9th	1st	Classification & types of Boiler		
	2nd	Classification & types of Boiler		
	3rd	Important terms for Boiler.		
	4th	Important terms for Boiler.		
10th	1st	Comparison between fire tube & Water tube Boiler.		
	2nd	Comparison between fire tube & Water tube Boiler.		
	3rd	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)		
	4th	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)		
	1st	Boiler Draught (Forced, induced & balanced)		

11th	2nd	Boiler Draught (Forced, induced & balanced)		
	3rd	Boiler mountings & accessories.		
	4th	Boiler mountings & accessories.		
12th	1st	Carnot cycle with vapour		
	2nd	Derive work & efficiency of the cycle.		
	3rd	Derive work & efficiency of the cycle.		
	4th	DOUBT CLEAR CLASS		
13th	1st	DOUBT CLEAR CLASS		
	2nd	Rankine cycle.		
	3rd	Representation in P-V, T-S & h-s diagram		
	4th	Drive work & efficiency		
14th	1st	Derive Work & Efficiency.		
	2nd	Effect of Various end conditions in Rankine cycle.		
	3rd	Reheat cycle & regenerative Cycle.		
	4th	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.		
15th	1st	Modes of Heat Transfer (Conduction, Convection, Radiation).		
	2nd	Fourier law of heat conduction and thermal conductivity (k).		
	3rd	Newton's laws of cooling. 6.4 Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation & no numerical problem.		
	4th	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.		

Snehasis Das	Chittaranjan Parida	DW		
HOD	**DEAN**	**PRINCIPAL**		