

Government Polytechnic Mayurbhanj, Tikarpada || Lesson Plan

Discipline : MECHANICAL ENGG.		Semester: 4th Sem	Name of the Teaching Faculty : SASMITA SAHA	
Subject : TE-II		No. of Days / per week class allotted : 04	Semester From date : 16.01.2024 To Date : 23.04.2024	
MONTH	Week	Day	Topics	
JANUARY	3rd	2ND	Performance of I.C engine: Define mechanical efficiency, Indicated thermal efficiency	
		3RD	Relative Efficiency, brake thermal efficiency overall efficiency	
		6TH	Mean effective pressure &specific fuel consumption.	
	4th	1st	Define air-fuel ratio & calorific value of fuel.	
		3rd	Work out problems to determine efficiencies & specific fuel consumption	
	5th	1st	Work out problems to determine efficiencies & specific fuel consumption	
		2nd	Explain functions of compressor & industrial use of compressor air	
		3rd	Solve Problems	
FEBRUARY	1st	6th	Classify air compressor & principle of operation	
	2nd	1st	Describe the parts and working principle of reciprocating Air compressor.	
		2nd	Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency	
		3rd	Derive the work done of single stage & two stage compressor with and without clearance.	
		6th	Derive the work done of single stage & two stage compressor with and without clearance.	
	3rd	1st	Solve simple problems (without clearance only)	
		2nd	Solve simple problems (without clearance only)	
		6th	Difference between gas & vapours.	
	4th	1st	Formation of steam.	
		2nd	Representation on P-V, T-S, H-S, & T-H diagram.	
		3rd	Definition & Properties of Steam	
		6th	Use of steam table & mollier chart for finding unknown properties	
	5th	1st	Non flow & flow process of vapour.	
		2nd	Solve related problems	
3rd		Determine the changes in properties & solve simple numerical.		
MARCH	1st	6th	Classification & types of Boiler.	
	2nd	1st	Important terms for Boiler.	
		3rd	Comparison between fire tube & Water tube boiler.	
	3rd	1st	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)	
		2nd	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)	
		3rd	Boiler Draught (Forced, induced & balanced)	
		6th	Boiler mountings & accessories	
	4th	1st	Carnot cycle with vapour	
		2nd	Derive work & efficiency of the cycle.	
		3rd	Rankine cycle.	
		6th	Representation in P-V, T-S & h-s diagram. Derive Work & Efficiency.	
5th	3rd	Effect of Various end conditions in Rankine cycle		
APRIL	1st	2nd	Reheat cycle & regenerative Cycle.	
		3rd	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.	
		6th	Modes of Heat Transfer (Conduction, Convection, Radiation).	
	2nd	1st	Modes of Heat Transfer (Conduction, Convection, Radiation).	
		2nd	Fourier law of heat conduction and thermal conductivity (k).	
		3rd	Newton's laws of cooling.	
	3rd	6th	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law)	
		1st	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law)	
		2nd	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.	
	4th	6th	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.	
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