GOVT. POLYTECHNIC MAYURBHANJ , TIKARPADA

ACADEMIC SESSION-2022-23 , LESSON PLAN

Discipline : MECHANICAL ENGG.		Semester: 4th Sem	Name of the Teaching Faculty :SASMITA SAHA
Subject : Thermal Engineering-II		No. of Days / per week class allotted : 04	Semester From date : 13/2/2023 To Date : 23/5/2023
MONTH	**Week**	**Day**	**Topics**
FEBRUARY	3rd	1st	**CHAPTER -1. Performance of I.C engine** : Performance of I.C engine: Define mechanical efficiency, Indicated thermal efficiency
		2nd	Relative Efficiency, brake thermal efficiency overall efficiency
		3rd	Mean effective pressure &specific fuel consumption.
	4th	1st	Solve related problems
		2nd	Define air-fuel ratio & calorific value of fuel.
		3rd	Work out problems to determine efficiencies & specific fuel consumption
		6th	Work out problems to determine efficiencies & specific fuel consumption
	5th	1st	**CHAPTER-2 :Air Compressor** :Explain functions of compressor & industrial use of compressor air
		2nd	Explain functions of compressor & industrial use of compressor air
H	1st	3rd	Classify air compressor & principle of operation
		6th	Classify air compressor & principle of operation
	2nd	1st	Describe the parts and working principle of reciprocating Air compressor.
		6th	Describe the parts and working principle of reciprocating Air compressor.
	3rd	1st	Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency
		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.

MARC		6th	Derive the work done of single stage & two stage compressor with and without clearance.
	4th	1st	Solve simple problems (without clearance only)
		2nd	**CHAPTER- 3 :Properties of Steam** Difference between gas & vapours.Solve simple problems (without clearance only)
		3rd	**CLASS TEST -I**
		6th	Formation of steam.
	5th	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
		6th	Non flow & flow process of vapour.
APRIL	2nd	1st	Solve related problems
		2nd	Determine the changes in properties & solve simple numerical.
		6th	**CHAPTER-4: Steam Generator** :Classification & types of Boiler.
	3rd	1st	Important terms for Boiler.
		2nd	Comparison between fire tube & Water tube boiler.
		3rd	Description & working of Cochran boiler
		6th	Description & working of Lancashire boiler
	4th	1st	Description & working of Babcock & Wilcox Boiler
		2nd	Boiler Draught (Forced, induced & balanced)
		3rd	Boiler mountings & accessories
		6th	**CHAPTER -5: Steam Power Cycles:** Carnot cycle with vapour
	5th	1st	Derive work & efficiency of the cycle.
		2nd	Rankine cycle.
		3rd	**INTERNAL EXAMINATION**
		6TH	Representation in P-V, T-S & h-s diagram. Derive Work & Efficiency.
	1ST	1st	Effect of Various end conditions in Rankine cycle
		2nd	Reheat cycle & regenerative Cycle.

MAY	1ST	3rd	Revision
		6th	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.
	2ND	1st	**CHAPTER- 6: Heat Transfer** :Modes of Heat Transfer (Conduction, Convection, Radiation).
		2nd	Modes of Heat Transfer (Conduction, Convection, Radiation).
		3rd	Fourier law of heat conduction and thermal conductivity (k).
		6th	Newton's laws of cooling, Revision
	3rd	1st	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law)
		2nd	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.
		3rd	Solve related problems
		6th	Revision
	4TH	1st	Question Discussion.
		2nd	CLASS TEST-II