PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

LESSON PLAN

Session-2023-2024

Discipline: Mechanical Engg. Semester: 4th

Subject: Thermal Engg.-II

Name of the Teaching Faculty: Shashanka Sekhar Bhoi

Subject: TE-II No. of Days/per week class allotted : 04

Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
01	01	Introduction to I.C engine.
	02	Mechanical Efficiency, Indicated thermal efficiency.
	03	Relative efficiency, brake thermal efficiency.
	04	overall efficiency.
02	01	~~Air Fuel ratio~~ Mean effective pressure, Specific fuel consumption.
	02	Air fuel ratio
	03	Calorific value of fuel.
	04	Workout problems to determine efficiencies and specific fuel consumption.
03	01	Introduction to air compressor.
	02	Function of compressor and industrial uses of it.
	03	Classification of compressor
	04	Principle of operation of compressor

Signature of the Faculty

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Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
04	01	Different parts of compressor.
	02	Working principle of reciprocating air compressor.
	03	Terminology of reciprocating air compressor
	04	Volumetric efficiency.
05	01	Workdone of single stage reciprocating air compressor.
	02	Work done of two stage compressor.
	03	Solve simple problems
	04	Solve simple problems.
06	01	Introduction to properties of steam.
	02	Difference between gas and vapour.
	03	Formation of steam.
	04	Representation on P-V, T-S, H-S & T-H diagram.

Signature of the Faculty

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Week	Class Day	Theory /Practical Topics
07	01	Defination & properties of steam.
	02	Use of steam Table.
	03	Mollier chart.
	04	Non flow proces of vapour.
08	01	Flow proces of vapour.
	02	P-V, T-S, & H-S diagram.
	03	Determination of change of properties
	04	Solve simple numerical.
09	01	Introduction to Steam Generator.
	02	Classification of Boiler.
	03	Types of Boiler.
	04	Important terms of Boiler.

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Week	Class Day	Theory /Practical Topics
10	01	Fire tube boiler
	02	Water tube boiler
	03	Cochran Boiler
	04	Lancashire Boiler.
11	01	Babcock Boiler.
	02	Wilcox Boiler.
	03	Boiler Draught.
	04	Boiler mounting and accessories.
12	01	Introduction to steam power cycles.
	02	Carnot cycle.
	03	Derive work and efficiency of the cycle.
	04	Rankine cycle.

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Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
13	01	Derive work and efficiency.
	02	Reheat cycle.
	03	Regenerative cycle.
	04	Solve simple numericals.
14	01	Introduction to Heat Transfer.
	02	Modes of heat transfer
	03	Fourier law of heat conduction.
	04	Thermal conductivity.
15	01	Newton's law of cooling.
	02	Radiation heat Transfer
	03	Blackbody Radiation.
	04	Definition of Emissivity, absorptivity & Transmissibility.

Signature of the Faculty