BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

SUBJECT: THERMAL ENGINEERING -II

FACULTY:MRS. SUNITA NAYAK

ACCADEMIC SESSION: 2022-23

SEMESTER:4TH

SEC:A

13/02/23

H O D (MechEngg.)

LESSON PLAN

Discipline:Mechanic alEngg.	Semester:4TH SEC-A	Name of the teaching faculty: SUNITA NAYAK
Subject:THERMAL ENGG.-II	No of days/per week class allotted:4 (Monday, Tues day, Thurs day, Friday)	Semester from date: 14/02/2023 to date:23/05/2023 No. of weeks-15
Week	Class day	Theory/practical topics
1st (3P)	14/02/2023	Discussion of Syllabus and application of Thermodynamic
	16/02/2023	Introduction to thermal engineering-II Performance of IC engine 1.1 Define mechanical efficiency ,indicated thermal efficiency
	17/02/2023	1.1 Define relative efficiency ,brake thermal efficiency, overall efficiency,
2nd (4P)	20/02/2023	1.1 Define mean effective pressure and specific fuel consumption
	21/02/2023	1.2 Define air-fuel ratio and calorific value of fuel
	23/02/2023	1.3 work out problems to determine efficiencies and specific fuel consumption
	24/02/2023	2.1 Explain function of compressor and industrial uses of compressed air
3rd (4P)	27/02/2023	2.2 classify air compressor and principle of operation
	28/02/2023	2.3 describe the parts of reciprocating air compressor

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	2/03/2023	2.3describe the principle of reciprocating air compressor
	3/03/2023	2.4 explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio ,free air delivered and volumetric efficiency
4th (3P)	06/03/2023	2.5 derive the work done of single stage compressor without clearance
	09/03/2023	2.5 derive the work done of single stage compressor with clearance
	10/03/2023	2.5 derive the work done of two stage compressor with or without clearance
5th (4P)	13/03/2023	2.6 solve simple problems(without clearance only)
	14/03/2023	3.1 Difference between gas and vapour 3.2 formation of steam
	16/03/2023	3.3 Representation on P-V,T-S H-S and T-H diagram
	17/03/2023	3.3 Representation on P-V,T-S H-S and T-H diagram
6th (4P)	20/03/2023	3.4 definition and properties of steam
	21/03/2023	3.5 use of steam table for finding unknown properties
	23/03/2023	3.5 use of mollier chart for finding unknown properties
	24/03/2023	Class test-1
7th(3P)	27/03/2023	3.6 non flow and flow process of vapour
	28/03/2023	3.6 non flow and flow process of vapour
	31/03/2023	3.7 P-V,T-S AND H-S diagram
8th(3P)	3/04/2023	3.8 determine the changes in properties and solve simple numerical
	4/04/2023	4.1 classification and types of boiler
	6/04/2023	4.2 important terms for boiler
9th(3P)	10/04/2023	4.3 comparison between fire tube and water tube boiler
	11/04/2023	4.4 description and working of common boilers (Cochran,Lancashire,babcock and wilcox boiler)
	13/04/2023	4.4 description and working of common boilers (Cochran,Lancashire,babcock and wilcox boiler
10th(4P)	17/04/2023	4.4 description and working of common boilers(Cochran,Lancashire,babcock and wilcox boiler
	18/04/2023	4.5 boiler draught (forced, induced and balanced)

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	20/04/2023	4.6 boiler mounting and accessories
	21/04/2023	5.1 carnot cycle with vapour
11th(4P)	24/04/2023	5.2 derive work and efficiency of the cycle 5.3.3 effect of various end conditions in rankine cycle
	25/04/2023	5.3 rankine cycle 5.3.1 representation in P-V,T-S and H-S diagram
	27/04/2023	Internal assessment
	28/04/2023	Internal assessment
12th(4P)	01/05/2023	5.3.2 derive work and efficiency of the cycle Black body radiation, emissivity, absorpvity and transmissivity
	02/05/2023	5.3.3 effect of various end conditions in rankine cycle
	4/05/2023	5.3.4 reheat and regeneration cycle
13th(4P)	8/05/2023	5.4 solve simple numerical on carnot vapour cycle and rankine cycle
	9/05/2023	6.1 modes of heat transfer(conduction ,convection and radiation)
	11/05/2023	6.2 fourier law of heat conduction and thermal conductivity
	12/05/2023	6.3newtons law of cooling
14th(3P)	15/05/2023	6.4 Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation
	16/05/2023	6.5 Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.
	18/05/2023	revision
15th(1P)	22/05/2023	Class test-2
	23/05/2023	revision

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