LESSON PLAN - 4TH

GOVERNMENT POLYTECHNIC, KORAPUT

DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: **MECHANICAL ENGG**	Semester: 4TH	Name of the Teaching Faculty: SHARMILA SABAR.
Subject: THERMAL ENGG -2	No. of days/per week class allotted:4	Semester From date: 20/4/21. To Date: 03/8/21. No. of Weeks:15

COURSE OUTCOMES

Student will develop ability towards.

1. Understanding the power developed in I.C engine and efficiency.
2. Understanding the principle, performance and application of air compressor.
3. Determining thermodynamic properties of steam using steam tables & mollier chart.
4. Comprehending the working of various steam generators i.e. boilers.
5. Comprehending the vapor power cycles and computing work done & efficiencies thereof

Week	Class Day	Theory/Practical Topics
1ST	1ST	Introduction to ic Engine, parts of ic Engine
	2ND	Terminology related to ic engine, indicated power
	3RD	Brake power, mechanical efficiency
	4TH	Indicated thermal efficiency, brake thermal efficiency, relative efficiency, overall efficiency
2ND	1ST	Specific fuel consumption
	2ND	Numericals
	3RD	Numericals
	4TH	Air fuel ratio, types of mixture , calorific value
3RD	1ST	Air compressors, industrial use of compressors
	2ND	Classification of compressors, principle of operations
	3RD	Reciprocating air compressor
	4TH	Terminology related reciprocating air compressor
4TH	1ST	Single stage air compressor with clearance
	2ND	Single stage air compressor without clearance
	3RD	Multistage air compressor with clearance
	4TH	Multistage air compressor with clearance
5TH	1ST	Multistage air compressor without clearance
	2ND	Numericals
	3RD	Numericals
	4TH	Numericals
6TH	1ST	Gas, vapour, pure substance
	2ND	Formation of steam
	3RD	Representation on pv, ts, hs,th diagram
	4TH	Properties of steam
7TH	1ST	Properties of steam
	2ND	Mollier diagram & steam table

	3RD	Flow & non flow process of vapour
	4TH	Flow & non flow process of vapour
8TH	1ST	Numericals
	2ND	Numericals
	3RD	Numericals
	4TH	Numericals
9TH	1ST	Boiler , classification of boiler
	2ND	Types of boiler
	3RD	Cochran boiler
	4TH	Babcock & Willcox boiler
10TH	1ST	Boiler draught
	2ND	Boiler draught
	3RD	Boiler mountings
	4TH	Boiler mountings
11TH	1ST	Boiler mountings
	2ND	Boiler mountings
	3RD	Boiler accessories
	4TH	Boiler accessories
12TH	1ST	Carnot cycle
	2ND	Carnot cycle
	3RD	Rankine cycle
	4TH	Rankine cycle
13TH	1ST	Numericals
	2ND	Numericals
	3RD	Numericals
	4TH	Numericals
14TH	1ST	Modes of heat transfer
	2ND	Fouriers law of heat conduction
	3RD	Newton law of cooling
	4TH	Radiation , law's of radiation
15TH	1ST	Black body radiation, emmisivity, absorbity,transmissibility
	2ND	Heat exchanger
	3RD	Heat exchanger
	4TH	Revision

LEARNING RESOURCES:

1 Thermal Engineering R.S. Khurmi S.Chand

2 Thermal Engineering A.R.Basu Dhanpat Rai

3 Thermal Engineering A.S. Sarao Satya Prakash

4 Engineering Thermodynamics P.k.Nag TMH

5 Thermal Engineering Mahesh M Rathore TMH

Sharmila

Sign. Of Faculty concerned

Sharmila Sabar.

Signature. Of HOD

Principal