

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Academic Lesson Plan for Winter semester- 2021

Name of the teaching faculty: Er. Rajendra Mohanty

Department: Mechanical Engineering

Semester: 3rd

Subject: Elements of Mechanical Engineering

No. of periods per week: 4

Total Periods: 60

End semester exam: 80

Class test: 20

Total Marks : 100

Sl. No.	Week	Period	Topic to be covered
1.	1 st	1 st	State Unit of Heat and work, 1st law of thermodynamics.
2.		2 nd	Do
3.		3 rd	State Laws of perfect gases
4.		4 th	Do
5.	2 nd	1 st	Determine relationship of specific heat of gases
6.		2 nd	at constant volume and constant pressure.
7.		3 rd	About properties of steam
8.		4 th	Do
9.	3 rd	1 st	Explain total heat of wet, dry and super heated steam
10.		2 nd	Use steam table for solution of simple problem
11.		3 rd	Do
12.		4 th	State types of Boilers
13.	4 th	1 st	Describe Cochran, Babcock Wilcox boiler
14.		2 nd	Do
15.		3 rd	Do
16.		4 th	Describe Mountings and accessories
17.	5 th	1 st	Do
18.		2 nd	Do
19.		3 rd	Do
20.		4 th	Do
21.	6 th	1 st	Do
22.		2 nd	Explain the principle of Simple steam engine
23.		3 rd	Do
24.		4 th	Do
25.	7 th	1 st	Draw Indicator diagram
26.		2 nd	Do
27.		3 rd	Calculate Mean effective pressure,
28.		4 th	IHP and BHP and mechanical efficiency.
29.	8 th	1 st	Do
30.		2 nd	Solve Simple problem.
31.		3 rd	Do
32.		4 th	About Steam turbine
33.	9 th	1 st	State Types
34.		2 nd	Do
35.		3 rd	Do
36.		4 th	Differentiate between impulse and reaction Turbine

37.	10 th	1 st	Do
38.		2 nd	Explain the function of condenser
39.		3 rd	State their types
40.		4 th	Do
41.	11 th	1 st	Do
42.		2 nd	Explain working of two stroke
43.		3 rd	and 4 stroke petrol and Diesel engines.
44.		4 th	Do
45.	12 th	1 st	Differentiate between them
46.		2 nd	Describe properties of fluid
47.		3 rd	Do
48.		4 th	Determine pressure at a point,
49.	13 th	1 st	pressure measuring Instruments
50.		2 nd	Do
51.		3 rd	Deduce equation of continuity of flow
52.		4 th	Do
53.	14 th	1 st	Explain energy of flowing liquid
54.		2 nd	State and explain Bernoulli's theorem
55.		3 rd	Do
56.		4 th	About Hydraulic Device
57.	15 th	1 st	Intensifier
58.		2 nd	Hydraulic lift
59.		3 rd	Accumulator
60.		4 th	Hydraulic ram

The lesson plan prepared by the concerned faculty

Er. Rajendra Mohanty

PTGF, MECHANICAL DEPARTMENT

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Academic Lesson Plan for Winter semester- 2021

Name of the teaching faculty: Er. Rajendra Mohanty Department: Mechanical Engineering

Semester: 3rd

Subject: MECHANICAL ENGINEERING LABORATORY

No. of periods per week:3

Total Periods: 45

End semester exam: 50

Sessional: 25

Total Marks:75

Sl. No.	Week	Period	Topic to be covered
1.	1 st	1 st	Determination of M.A.,V.R. and efficiency of Screw Jack
2.		2 nd	Do
3.		3 rd	Do
4.		4 th	Determination of Young's modulus by Searle's Apparatus
5.	2 nd	1 st	Do
6.		2 nd	Do
7.		3 rd	Study of Universal Testing Machine and
8.		4 th	Do
9.	3 rd	1 st	Do
10.		2 nd	Study of Cochran Boiler
11.		3 rd	Do
12.		4 th	Do
13.	4 th	1 st	Study and demonstration of Stream Engine
14.		2 nd	Do
15.		3 rd	Do
16.		4 th	Study and demonstration of Diesel Engine
17.	5 th	1 st	Do
18.		2 nd	Do
19.		3 rd	Study and demonstration of Petrol Engine
20.		4 th	Do
21.	6 th	1 st	Do
22.		2 nd	Model study of Centrifugal pumps,
23.		3 rd	Do
24.		4 th	Do
25.	7 th	1 st	Francis Turbine, Kaplan turbine and Pelton wheel.
26.		2 nd	Do
27.		3 rd	Do

28.		4 th	Study of pressure measuring devices
29.	8 th	1 st	Do
30.		2 nd	Do
31.		3 rd	Study of venturi-meter
32.		4 th	Do
33.	9 th	1 st	Do
34.		2 nd	Verification of Bernouli's Theorem
35.		3 rd	Do
36.		4 th	Do
37.	10 th	1 st	Determination of Bending stress in beam using strain gauge
38.		2 nd	Do
39.		3 rd	Do
40.		4 th	Determination of M.A.,V.R. and efficiency of wheel train
41.	11 th	1 st	Do
42.		2 nd	Do
43.		3 rd	Determination of friction co-efficient of bearing
44.		4 th	Do
45.	12 th	1 st	Do

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