

**UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA**

**Academic Lesson Plan for Winter semester- 2022**

Name of the teaching faculty: Er.RajendraMohanty Department: Mechanical Engineering

Semester: 3<sup>rd</sup> 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 <sup>st</sup>	1 <sup>st</sup>	State Unit of Heat and work, 1st law of thermodynamics.
2.		2 <sup>nd</sup>	Do
3.		3 <sup>rd</sup>	State Laws of perfect gases
4.		4 <sup>th</sup>	Do
5.	2 <sup>nd</sup>	1 <sup>st</sup>	Determine relationship of specific heat of gases
6.		2 <sup>nd</sup>	at constant volume and constant pressure.
7.		3 <sup>rd</sup>	About properties of steam
8.		4 <sup>th</sup>	Do
9.	3 <sup>rd</sup>	1 <sup>st</sup>	Explain total heat of wet, dry and super heated steam
10.		2 <sup>nd</sup>	Use steam table for solution of simple problem
11.		3 <sup>rd</sup>	Do
12.		4 <sup>th</sup>	State types of Boilers
13.	4 <sup>th</sup>	1 <sup>st</sup>	Describe Cochran, Babcock Wilcox boiler
14.		2 <sup>nd</sup>	Do
15.		3 <sup>rd</sup>	Do
16.		4 <sup>th</sup>	Describe Mountings and accessories
17.	5 <sup>th</sup>	1 <sup>st</sup>	Do
18.		2 <sup>nd</sup>	Do
19.		3 <sup>rd</sup>	Do
20.		4 <sup>th</sup>	Do
21.	6 <sup>th</sup>	1 <sup>st</sup>	Do
22.		2 <sup>nd</sup>	Explain the principle of Simple steam engine
23.		3 <sup>rd</sup>	Do
24.		4 <sup>th</sup>	Do
25.	7 <sup>th</sup>	1 <sup>st</sup>	Draw Indicator diagram
26.		2 <sup>nd</sup>	Do
27.		3 <sup>rd</sup>	Calculate Mean effective pressure,
28.		4 <sup>th</sup>	IHP and BHP and mechanical efficiency.
29.	8 <sup>th</sup>	1 <sup>st</sup>	Do
30.		2 <sup>nd</sup>	Solve Simple problem.
31.		3 <sup>rd</sup>	Do
32.		4 <sup>th</sup>	About Steam turbine
33.	9 <sup>th</sup>	1 <sup>st</sup>	State Types
34.		2 <sup>nd</sup>	Do
35.		3 <sup>rd</sup>	Do
36.		4 <sup>th</sup>	Differentiate between impulse and reaction Turbine

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

**The lesson plan prepared by the concerned faculty**

**Er.RajendraMohanty**

**PTGF, MECHANICAL DEPARTMENT**