

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA
Academic Lesson Plan for Winter Semester- 2022

Name of the Teaching Faculty: Er. Rajendra Mohanty

Department: Mechanical Engineering

Semester: 5th

Subject: HYDRAULIC MACHINES & INDUSTRIAL

FLUID POWER

No. of Periods per Week: 4

Total Periods: 60

End Semester Exam: 80

Class Test: 20

Total Marks: 100

Theory - 3

Sl. No.	Week	Period	Topic to be covered
1.	1 st	1 st	Definition and classification of hydraulic turbines
2.		2 nd	Construction and working principle of impulse turbine.
3.		3 rd	Do
4.		4 th	study Velocity diagram of moving blades & different important functions.
5.	2 nd	1 st	Do
6.		2 nd	Solve Numerical.
7.		3 rd	Study of Francis turbine
8.		4 th	study Velocity diagram of moving blades & different important functions Francis turbine.
9.	3 rd	1 st	Solve Numerical.
10.		2 nd	Study of Kaplan turbine.
11.		3 rd	study Velocity diagram of moving blades & different important functions Kaplan turbine.
12.		4 th	Solve Numerical.
13.	4 th	1 st	Distinguish between impulse turbine and reaction turbine.
14.		2 nd	Solve Numerical.
15.		3 rd	Solve Numerical.
16.		4 th	About Pump
17.	5 th	1 st	Construction and working principle of centrifugal pumps
18.		2 nd	work done and derivation of various efficiencies of centrifugal pumps.
19.		3 rd	Do
20.		4 th	Solve Numerical.
21.	6 th	1 st	Describe construction working of single acting reciprocating pump.
22.		2 nd	Describe construction, working of double acting reciprocating pump.
23.		3 rd	Derive the formula for power required to drive the pump
24.		4 th	Define Slip. State positive, negative, relation between slip & coefficient of Discharge
25.	7 th	1 st	Solve numerical
26.		2 nd	About Pneumatic System.
27.		3 rd	Elements –filter-regulator-lubrication unit

28.		4 th	Do
29.	8 th	1 st	Pressure control valves
30.		2 nd	Do
31.		3 rd	Direction control valves
32.		4 th	Do
33.	9 th	1 st	Do
34.		2 nd	ISO Symbols of pneumatic components
35.		3 rd	Do
36.		4 th	About Pneumatic circuits.
37.	10 th	1 st	Do
38.		2 nd	Do
39.		3 rd	Do
40.		4 th	Do
41.	11 th	1 st	About Hydraulic system, its merit and demerits
42.		2 nd	Do
43.		3 rd	Hydraulic accumulators
44.		4 th	Do
45.	12 th	1 st	Pressure control valves
46.		2 nd	Do
47.		3 rd	Pressure relief valves
48.		4 th	Do
49.	13 th	1 st	Pressure regulation valves
50.		2 nd	Direction control valves
51.		3 rd	Do
52.		4 th	Do
53.	14 th	1 st	Fluid power pumps
54.		2 nd	Do
55.		3 rd	ISO Symbols for hydraulic components.
56.		4 th	About Actuators
57.	15 th	1 st	Hydraulic circuits
58.		2 nd	Do
59.		3 rd	Do
60.		4 th	Comparison of hydraulic and pneumatic system

The above lesson plan prepared by the concerned faculty.

Er. Rajendra Mohanty

PTGF, MECHANICAL DEPARTMENT