

ACADEMIC SESSION: 2023-24(WINTER -2023)

DISCIPLINE:MECHANICAL ENGINEERING			Semester:5TH	Name of the teaching faculty: ASHISH MEHER
Subject: Hydraulic Machines &Industrial Fluid Power			Semester from date:01.08.2023 to 30.11.2023	
SL NO	DATE	CHAPTER	THEORY TOPIC NAME	NO OF PERIODS
1.	01.08.2023	HYDRAULIC TURBINE	Definition and classification of hydraulic turbines	1
2.	02.08.2023		Construction and working principle of impulse turbine, Velocity diagram of moving blades	1
3.	03.08.2023		work done and derivation of various efficiencies of impulse turbine	1
4.	05.08.2023		Construction and working principle of Francis turbine	1
5.	07.08.2023		Velocity diagram of moving blades, work done	1
6.	08.08.2023		derivation of various efficiencies of Francis turbine	1
7.	10.08.2023		Solve simple problems on above	1
8.	12.08.2023		Solve simple problems on above	1
9.	14.08.2023		Construction and working principle of Kaplan turbine	1
10	17.08.2023		Velocity diagram of moving blades Kaplan turbine,	1
11	19.08.2023		work done and derivation of Kaplan turbine, various efficiencies of Kaplan turbine	1
12	21.08.2023		Solve simple problems on above	1
13	22.08.2023		Distinguish between impulse turbine and reaction turbine	1
14	24.08.2023		Solve simple problems on above	1
15	26.08.2023		Solve simple problems on above	1
16	28.08.2023	CENTRIFUGAL PUMPS	Construction and working principle of centrifugal pumps	1
17	29.08.2023		work done of centrifugal pump	1
18	31.08.2023		derivation of various efficiencies of centrifugal pumps	1
19	02.09.2023		Numerical on above	1
20	04.09.2023		Numerical on above	1
21	07.09.2023	RECIPROCATING PUMP	Describe construction Amp of reciprocating pump	1
22	09.09.2023		working of ingle acting reciprocating pump	1
23	11.09.2023		Derive the formula foe power required to drive the pump	1
24	12.09.2023		Describe construction & amp of double acting reciprocating pump, working of double acting reciprocating pump	1
25	16.09.2023		Derive the formula foe power required to drive the pump of	1

			double acting reciprocating pump		
26	18.09.2023		Define slip , State positive & negative slip & ,	1	
27	21.09.2023		establish relation between slip & coefficient of discharge	1	
28	23.09.2023		Solve numerical on above	1	
29	25.09.2023		Solve numerical on above	1	
30	26.09.2023	PNEUMATIC CONTROL SYSTEM	Elements –filter-regulator-lubrication unit	1	
31	28.09.2023		Pressure control valves	1	
32	30.09.2023		Pressure relief valves	1	
33	03.10.2023		Pressure regulation valves	1	
34	05.10.2023		Direction control valves, 3/2DCV,5/2 DCV,5/3DCV	1	
35	07.10.2023		Flow control valves, Throttle valves	1	
36	09.10.2023		ISO Symbols of pneumatic components,	1	
37	10.10.2023		Pneumatic circuits	1	
38	12.10.2023		Direct control of single acting cylinder	1	
39	14.10.2023		Operation of double acting cylinder	1	
40	16.10.2023		Operation of double acting cylinder with metering in,	1	
41	17.10.2023		Operation of double acting cylinder with metering out control	1	
42	19.10.2023		HYDRAULIC CONTROL SYSTEM	Hydraulic system, its merit and demerits	1
43	30.10.2023			Hydraulic accumulators	1
44	31.10.2023	Pressure control valves		1	
45	02.11.2023	Pressure relief valves		1	
46	04.11.2023	Pressure regulation valves		1	
47	06.11.2023	Direction control valves,3/2DCV,5/2 DCV,5/3DCV		1	
48	07.11.2023	Flow control valves,		1	
49	09.11.2023	Throttle valves		1	
50	11.11.2023	Fluid power pumps		1	
51	13.11.2023	External gear pumps		1	
52	14.11.2023	internal gear pumps,		1	
53	16.11.2023	Vane pump		1	
54	18.11.2023	Radial piston pumps		1	

55	20.11.2023		
56	21.11.2023	ISO Symbols for hydraulic components	1
57	23.11.2023	Actuators	1
58	25.11.2023	Hydraulic circuits, Direct control of single acting cylinder	1
59	28.11.2023	Operation of double acting cylinder with metering in and metering out control	1
60	30.11.2023	Comparison of hydraulic and pneumatic system	1

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31/07/2023
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