INDUSTRIAL ENGINEERING & QUALITY CONTROL

JHARSUGUDA ENGINEERING SCHOOL	
NAME OF FACULTY – Dusmanta Bariha/Prakash Ku. Samal	ACADEMY YEAR:2021-22
SUBJECT NO.:Th.3	COURSE NAME:HM & IFP
Semester:6th	BRANCH:MECHANICAL
PROGRAME NAME: DIPLOMA	SECTION:M1 & M2

sl no.	period	Unit	duration	topic to be covered	teaching method
1.	1.	1	55 min	Definition and classification of hydraulic turbines	black board & chalk
2.	2.	1	55 min	Construction and working principle of impulse turbine	black board & chalk
3.	3.	1	55 min	Velocity diagram of impulse turbine	black board & chalk
4.	4.	1	55 min	work done of impulse turbine and derivation of various efficiencies of impulse turbine	black board & chalk
5.	5.	1	55 min	Velocity diagram of Francis turbine	black board & chalk
6.	6.	1	55 min	work done of Francis turbine	black board & chalk
7.	7.	1	55 min	derivation of various efficiencies of Francis turbine	black board & chalk
8.	8.	1	55 min	Problem on impulse turbin	black board & chalk
9.	9.	1	55 min	Velocity diagram of Francis turbine	black board & chalk
10.	10.	1	55 min	work done of Francis turbine and derivation of	black board & chalk
11.	11.	1	55 min	various efficiencies of Francis turbine	black board & chalk
12.	12.	1	55 min	Problem on Francis turbine	black board & chalk
13.	13.	1	55 min	Velocity diagram of Kaplan turbine	black board & chalk
14.	14.	1	55 min	work done of Kaplan turbine and derivation of various efficiencies of Kaplan turbine	black board & chalk
15.	15.	1	55 min	Problem on Kaplan turbine	black board & chalk
16.	16.	1	55 min	Distinguish between impulse turbine and reaction turbine	black board & chalk
17.	17.	2	55 min	Construction of centrifugal pumps	black board & chalk
18.	18.	2	55 min	working principle of centrifugal pumps	black board & chalk
19.	19.	2	55 min	work done of centrifugal pumps	black board & chalk
20.	20.	2	55 min	various efficiencies of centrifugal pumps.	black board & chalk
21.	21.	2	55 min	Problem on centrifugal pumps	black board & chalk
22.	22.	3	55 min	construction of single acting reciprocating pump	black board & chalk
23.	23.	3	55 min	working of single acting reciprocating pump	black board & chalk
24.	24.	3	55 min	Derivation for power required to drive the single acting reciprocating pump	black board & chalk
25.	25.	3	55 min	Problem on single acting reciprocating pump	black board & chalk
26.	26.	3	55 min	construction of double acting reciprocating pump	black board & chalk

27.	27.	3	55 min	working of double acting reciprocating pump	black board & chalk
28.	28.	3	55 min	Derivation for power required to drive the double acting reciprocating pump	black board & chalk
29.	29.	3	55 min	Problem on double acting reciprocating pump	black board & chalk
30.	30.	3	55 min	construction of double acting reciprocating pump Slip: positive & negative	black board & chalk
31.	31.	3	55 min	coefficient of discharge relation between slip & coefficient of discharge Problem on slip & coefficient of discharge reciprocating pump	black board & chalk
32.	32.	4	55 min	PNEUMATIC CONTROL SYSTEM ELEMENT: filter	black board & chalk
33.	33.	4	55 min	PNEUMATIC CONTROL SYSTEM ELEMENT: regulator lubrication unit	black board & chalk
34.	34.	4	55 min	Pressure control valves: Pressure relief valves Pressure control valves	black board & chalk
35.	35	4	55 min	:Pressure regulation valves Direction control valves: 3/2DCV	black board & chalk
36.	36	4	55 min	Direction control valves:5/2 DCV,5/3DCV	black board & chalk
37.	37	4	55 min	Direction control valves: Flow control valves	black board & chalk
38.	38	4	55 min	valves Direction control valves: Throttle valves	black board & chalk
39.	39	4	55 min	ISO Symbols of pneumatic components Pneumatic circuits: Direct control of single acting cylinder Pneumatic circuits	black board & chalk
40.	40	4	55 min	Operation of double acting cylinder Pneumatic circuits	black board & chalk
41.	41	4	55 min	Operation of double acting cylinder with metering in control	black board & chalk
42.	42	4	55 min	Operation of double acting cylinder with metering out control	black board & chalk
43.	43	5	55 min	Hydraulic system, its merit and demerits	black board & chalk
44.	44	5	55 min	Hydraulic accumulators: Pressure control valves	black board & chalk
45.	45	5	55 min	Hydraulic accumulators: Pressure relief valves	black board & chalk
46.	46	5	55 min	Direction control valves: 3/2DCV,5/2 DCV,5/3DCV	black board & chalk
47.	47	5	55 min	Direction control valves: Flow control valves	black board & chalk
48.	48	5	55 min	Direction control valves: Throttle valves	black board & chalk
49.	49	5	55 min	Fluid power pumps: External gear pumps	black board & chalk
50.	50	5	55 min	Fluid power pumps: internal gear pumps	black board & chalk
51.	51	5	55 min	Fluid power pumps :Vane pump	black board & chalk
52.	52	5	55 min	Radial piston pumps ISO Symbols for	black board & chalk

				hydraulic components	
53.	53	5	55 min	Actuators	black board & chalk
54.	54	5	55min	Actuators	black board & chalk
55.	55	5	55min	Hydraulic circuits: Direct control of single acting cylinder	black board & chalk
56.	56	5	55min	Hydraulic circuits: Operation of double acting cylinder	black board & chalk
57.	57	5	55min	Hydraulic circuits: Operation of double acting cylinder with metering in and metering out control	black board & chalk
58.	58	5	55min	Comparison of hydraulic and pneumatic system	black board & chalk
59.	59	5	55min	REVISION	
60.	60	5	55min	REVISION	