

GOVT. POLYTECHNIC BOLANGIR		LESSON PLAN
Discipline : Mechanical	Semester: 5TH	Name of the Teaching Faculty : Faculty 3
Subject : HM & IFP	No. of Days / per week class allotted : 4	Semester From date : 15.09.2022 to Date :22.12.2022 No. of Weeks : 14
Week	Class Day	Topics
15.9 - 17.9	1st	1.1 Definition and classification of hydraulic turbines
	2nd	Construction and working principle of impulse turbine
	3rd	3 Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine
	4th	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine
19.9-24.9	1st	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine
	2nd	Numerical on above
	3rd	Distinguish between impulse turbine and reaction turbine
	4th	Construction and working principle of centrifugal pumps
26.9-1.10	1st	work done and derivation of various efficiencies of centrifugal pumps.
	2nd	Numerical on above
	3rd	Describe construction & working of single acting reciprocating pump
	4th	Describe construction & working of double acting reciprocating pump
10.10-15.10	1st	Derive the formula foe power required to drive the pump (Single acting & double acting)
	2nd	Define slip.
	3rd	State positive & negative slip & establish relation between slip & coefficient of discharge
	4th	Solve numerical on above
17.10-22.10	1st	Elements –filter-regulator-lubrication unit
	2nd	Pressure control valves
	3rd	Pressure relief valves
	4th	Pressure regulation valves
24.10-29.10	1st	Direction control valves
	2nd	3/2DCV,5/2 DCV,5/3DCV
	3rd	Flow control valves
	4th	Throttle valves
31.10-5.11	1st	ISO Symbols of pneumatic components
	2nd	Pneumatic circuits
	3rd	Direct control of single acting cylinder
	4th	Operation of double acting cylinder
7.11-12.11	1st	Operation of double acting cylinder with metering in and metering out control
	2nd	HYDRAULIC CONTROL SYSTEM
	3rd	Hydraulic system, its merit and demerits
	4th	Hydraulic accumulators
14.11-19.11	1st	Pressure control valves
	2nd	Pressure relief valves
	3rd	Pressure regulation valves
	4th	Direction control valves
21.11-26.11	1st	3/2DCV,5/2 DCV,5/3DCV
	2nd	Flow control valves
	3rd	Throttle valves
	4th	Fluid power pumps
28.11-3.12	1st	External and internal gear pumps
	2nd	Vane pump
	3rd	Radial piston pumps
	4th	ISO Symbols for hydraulic components

5.12-10.12	1st	Actuators
	2nd	Hydraulic circuits
	3rd	Direct control of single acting cylinder
	4th	Operation of double acting cylinder
12.12-17.12	1st	Operation of double acting cylinder with metering in and metering out control
	2nd	Comparison of hydraulic and pneumatic system
	3rd	Numerical Practise on above
	4th	Numerical Practise on above
19.12-22.12	1st	Revision
	2nd	Revision
	3rd	Revision
	4th	Revision