

GOVT. POLYTECHNIC, BOLANGIR
LESSON PLAN

Discipline : Mechanical	Semester: 5th	Name of the Teaching Faculty : Sachidananda Padhi
Subject :HM&IFP	No. of Days / per week class allotted : 4	Semester From date : 27.08.2024 to Date :08.11.2024 No. of Weeks : 10
Week	Class Day	Topics
Dt. 27.08.2024 to Dt.31.08.2024	1st	Definition and classification of hydraulic turbines
	2nd	Construction and working principle of impulse turbine.
	3rd	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
Dt. 02.09.2024 to Dt.07.09.2024	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
Dt. 09.09.2024 to Dt.14.09.2024	1st	Work done and derivation of various efficiencies of centrifugal pump and numericals on above
	2nd	Describe construction & working of single acting reciprocating pump and double acting reciprocating pump.
	3rd	Derive the formula for power required to drive the pump (Single acting & double acting)
	4th	Define slip and State positive & negative slip & establish relation between slip & coefficient of discharge.
Dt. 16.09.2024 to Dt.21.09.2024	1st	Solve numericals on above
	2nd	Elements –filter-regulator-lubrication unit
	3rd	Pressure control valves
	4th	Pressure relief valves
Dt. 23.09.2024 to Dt.28.09.2024	1st	Pressure regulation valves
	2nd	Direction control valves -1 3/2DCV,5/2 DCV,5/3DCV
	3rd	Flow control valves
	4th	Throttle valves
Dt. 30.09.2024 to Dt.05.10.2024	1st	ISO Symbols of pneumatic components
	2nd	Pneumatic circuits - Direct control of single acting cylinder
	3rd	Operation of double acting cylinder
	4th	Operation of double acting cylinder with metering in and metering out control
Dt. 14.10.2024 to Dt.19.10.2024	1st	Hydraulic system, its merit and demerits
	2nd	Hydraulic accumulators - Pressure control valves
	3rd	Pressure relief valves
	4th	Pressure regulation valves
Dt. 21.10.2024 to Dt.26.10.2024	1st	Direction control valve - 3/2DCV,5/2 DCV,5/3DCV
	2nd	Flow control valves
	3rd	Throttle valves
	4th	Fluid power pumps - External and internal gear pumps
Dt. 28.10.2024 to Dt.02.11.2024	1st	Vane pump
	2nd	Radial piston pumps
	3rd	ISO Symbols for hydraulic components, Actuators
	4th	Hydraulic circuits - Direct control of single acting cylinder
Dt. 04.11.2024 to Dt.08.11.2024	1st	Operation of double acting cylinder
	2nd	Operation of double acting cylinder with metering in and metering out control
	3rd	Comparison of hydraulic and pneumatic system
	4th	Question answer discussion and doubt clearing


Signature of concerned Faculty