Winter- 23

Discipline :- **MECHANICAL**	Semester:- **5TH**	Name of the Teaching Faculty **MS RUPA BHENGRAJ**
Subject:- Hydraulic Machines &Industrial Fluid Power Course Code: **TH3**	No of Days/per Week Class **Allotted :-04**	Semester :15 WEEKS
Week	**Class Day**	**Theory/ Practical Topics**
1st	1st	Definition of hydraulic turbine. classification of hydraulic turbines
	2nd	Construction and working principle of impulse turbine.
	3rd	Velocity diagram of moving blades. work done of impulse turbine.
	4th	derivation of various efficiencies of impulse turbine.
2nd	1st	Velocity diagram of moving blades. work done of Francis turbine.
	2nd	derivation of various efficiencies of Francisturbine.
	3rd	Velocity diagram of moving blades. work done of various efficiencies of Kaplanturbine
	4th	derivation of various efficiencies of Kaplanturbine
3rd	1st	Numerical
	2nd	Numerical
	3rd	Numerical
	4th	Distinguish between impulse turbine and reaction turbine.
4th	1st	Construction of centrifugal pumps
	2nd	working principle of centrifugal pumps
	3rd	work done and derivation of various efficiencies of centrifugal pumps
	4th	Numerical

5th	1st	Numerical
	2nd	Describe construction & working of single acting reciprocating pump
	3rd	Describe construction & working of double acting reciprocating pump.
	4th	Derive the formula foe power required to drive the pump (Single acting &amp: double acting)
6th	1st	Define slip.State positive & negative slip &amp
	2nd	establish relation between slip & coefficient ofdischarge.
	3rd	numerical
	4th	numerical
7th	1st	Elements –filter-regulator
	2nd	lubrication unit
	3rd	Pressure control valves
	4th	Pressure relief valves
8th	1st	Pressure regulation valves
	2nd	Direction control valves
	3rd	3/2DCV,5/2 DCV
	4th	5/3DCV
9th	1st	Flow control valves
	2nd	Throttle valves
	3rd	ISO Symbols of pneumatic components
	4th	ISO Symbols of pneumatic components
10th	1st	Operation of double acting cylinder
	2nd	Operation of double acting cylinder
	3rd	Operation of double acting cylinder with metering in
	4th	Operation of double acting cylinder with metering out control
11th	1st	Hydraulic system,
	2nd	its merit and demerits
	3rd	Hydraulic accumulators
	4th	Pressure control valves
12th	1st	Pressure relief valves
	2nd	Pressure regulation valves
	3rd	Direction control valves
	4th	3/2DCV,5/2 DCV
13th	1st	5/3DCV
	2nd	Flow control valves

	3rd	Flow control valves
	4th	Throttle valves
14th	1st	External gear pumps
	2nd	internal gear pumps
	3rd	Vane pump
	4th	Radial piston pumps
15th	1st	ISO Symbols for hydraulic components.
	2nd	Actuators
	3rd	Direct control of single acting cylinder Operation of double acting cylinder
	4th	Operation of double acting cylinder with metering in and metering out control Comparison of hydraulic and pneumatic system

Signature 9/08/23

HOD (MECH.) 07/08/23