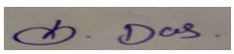
UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

'DISCIPLINE: Mechanical Engineering SUBJECT:	SEMESTER: 5th Sem No of Days/Per week class allotted: **4**	NAME OF THE TEACHING FACULTY: ER.SUJIT KUMAR Semester From Date:15/09/2022
HYDRAULIC MACHINES &INDUSTRIAL FLUID POWER	**Class P/W(60)**	To Date:22/12/2022 No. Of Weeks: **15**

WEEK	CLASS DAY	THEORY	REMARKS	
1st	1st	Definition and classification of hydraulic turbines	Date	Dean/Principal
	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		
2nd	1st	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine		
	2nd	Numerical Prblem Solve		
	3rd	Distinguish between impulse turbine and reaction turbine.		
	4th	Construction and working principle of centrifugal pumps		
3rd	1st	work done and derivation of various efficiencies of centrifugal pumps		
	2nd	Numerical Prblem Solve		
	3rd	Describe construction & working of single acting reciprocating pump		

	4th	Doubt clear class revision of previous class.		
4th	1st	Describe construction & working of double acting reciprocating pump.		
	2nd	Derive the formula foe power required to drive the pump (Single acting & double acting) , Define slip.		
	3rd	State positive & negative slip & establish relation between slip & coefficient of discharge		
	4th	Solve numerical problem		
5th	1st	Elements –filter-regulator-lubrication unit		
	2nd	Pressure control valves		
	3rd	Pressure relief valves , Pressure regulation valves		
	4th	Numeric problem solve		
6th	1st	Numeric problem solve		
	2nd	Numeric problem solve		
	3rd	Direction control valves 3/2DCV,5/2 DCV,5/3DCV		
	4th	Flow control valves , Throttle valves		
7th	1st	Doubt clear class revision of previous class.		
	2nd	ISO Symbols of pneumatic components		
	3rd	Direct control of single acting cylinder		
	4th	Operation of double acting cylinder		
8th	1st	Operation of double acting cylinder with metering in and metering out control		
	2nd	Operation of double acting cylinder with metering in and metering out control		
	3rd	Numeric problem solve		
	4th	Numeric problem solve		
9th	1st	Numeric problem solve		
	2nd	Numeric problem solve		
	3rd	Notebook check and class test		

	4th	Hydraulic system, its merit and demerits		
10th	1st	Hydraulic accumulators		
	2nd	Hydraulic accumulators		
	3rd	Pressure control valves		
	4th	Pressure control valves		
11th	1st	Pressure control valves		
	2nd	Pressure relief valves		
	3rd	Pressure relief valves		
	4th	Pressure regulation valves		
12th	1st	Direction control valves , 3/2DCV,5/2 DCV,5/3DCV		
	2nd	Flow control valves		
	3rd	Throttle valves		
	4th	Fluid power pumps		
13th	1st	External and internal gear pumps		
	2nd	Vane pump		
	3rd	Radial piston pumps		
	4th	ISO Symbols for hydraulic components.		
14th	1st	Actuators		
	2nd	Hydraulic circuits		
	3rd	Direct control of single acting cylinder		
	4th	Operation of double acting cylinder		
15th	1st	Operation of double acting cylinder with metering in and metering out control		
	2nd	Comparison of hydraulic and pneumatic system		
	3rd	Revision Last Class		
	4th	Sample paper question Discussion		



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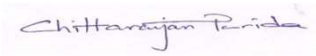

DEAN

PRINCIPAL