

SESSION:		WINTER 2023				
BRANCH:		MECHANICAL ENGINEERING				
SEMESTER:		5TH SEC-B				
SUBJECT:		FLUID MECHANICS AND HYDRAULIC MACHINE TH-3				
NAME OF THE FACULTY:			KISHORE KUMAR DAS			
SL NO.	MONTH	CHAPT. NO.	DATE	TOPICS TO BE COVERED	NO. OF ACADEMIC DAYS AVAILABLE FOR THE SUBJECT	% COVERED
1	AUGUST	1	4/8/2023	CH-1,1.1:Definition and classification of hydraulic turbines	16	29%
			8/8/2023	1.2:Construction and working principle of impulse turbine		
			9/8/2023	1.3:Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.		
			10/8/2023	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.		
			11/8/2023	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.		
			16/8/23	1.4:Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.		
			17/8/23	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.		
			18/8/23	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.		
			21/8/23	1.5:Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine		
			22/8/23	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine		
			23/8/23	1.6Numerical on above		
			24/8/23	1.6Numerical on above		
			25/8/23	1.6Numerical on above		
			28/8/23	1.7:Distinguish between impulse turbine and reaction turbine		
		2	29/8/23	CH-2,2.1:Construction and working principle of centrifugal pumps		
31/8/23	Construction and working principle of centrifugal pumps					

2	SEPT.	2	1/9/2023	2.2: work done and derivation of various efficiencies of centrifugal pumps	17	30%
			4/9/2023	2.3: Numerical on above		
			5/9/2023	Numerical on above		
	3		7/9/2023	CH-3,3.1: Describe construction & working of single acting reciprocating pump		
			8/9/2023	3.2 Describe construction & working of double acting reciprocating pump		
			11/9/2023	3.3: Derive the formula for power required to drive the pump (Single acting & double acting)		
			12/9/2023	3.4 Define slip.		
			13/9/23	3.5 State positive & negative slip & establish relation between slip & coefficient of discharge.		
			14/9/23	3.5 State positive & negative slip & establish relation between slip & coefficient of discharge.		
			15/9/23			
	21/9/23	3.6: Solve numerical on above				
	4		22/9/23	CH-4,4.1: Elements - filter-regulator-lubrication unit		
			25/9/23	4.2: Pressure control valves		
			26/9/23	4.2.1: Pressure relief valves		
			27/9/23	4.2.2: Pressure regulation valves		
			28/9/23	4.3: 3/2DCV, 5/2 DCV, 5/3DCV		
			29/9/23	Flow control valves Throttle valves		
3	OCT.	4	3/10/2023	4.4: ISO Symbols of pneumatic components	10	18%
			4/10/2023	4.5: Direct control of single acting cylinder		
			5/10/2023	Operation of double acting cylinder		
			6/10/2023	Operation of double acting cylinder with metering in and metering out control		
	5		9/10/2023	CH-5,5.1: Hydraulic system, its merit and demerits		
			10/10/2023	5.2: Hydraulic accumulators		
			11/10/2023	Pressure control valves		
			12/10/2023	Pressure relief valves		
			13/10/23	Pressure regulation valves		
			31/10/23	5.3: Direction control valves		
		5	1/11/2023	3/2DCV, 5/2 DCV, 5/3DCV	14	23%
			2/11/2023	Flow control valves, Throttle valves		
			3/11/2023	5.4.1: External and internal gear pumps		
			6/11/2023	Vane pump		
			7/11/2023	Radial piston pumps		
			8/11/2023	5.5: ISO Symbols for hydraulic components		

4	NOV.	5	9/11/2023	5.6: Actuators	14	23%
			10/11/2023	5.7: Direct control of single acting cylinder		
			13/11/23	Operation of double acting cylinder		
			14/11/23	Operation of double acting cylinder with metering in and metering out control		
			15/11/2023	5.8: Comparison of hydraulic and pneumatic system		
			16/11/23	Comparison of hydraulic and pneumatic system		
			17/11/23	Comparison of hydraulic and pneumatic system		

BRIEF SUMMARY OF THE PLAN

SL. NO.	MONTH	UNIT/CHAPTER TO BE COVERED	% COVERAGE
1	AUGUST	CHAPTER NO. - 1 & 2	29%
2	SEPTEMBER	CHAPTER NO. - 2, 3 & 4	30%
3	OCTOBER	CHAPTER NO. - 4 & 5	18%
4	NOVEMBER	CHAPTER NO. - 5	23%

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signature of faculty

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