SESSION	WINTER 2022				
BRANCH:	MECHANICAL ENGINEERING				
SEMESTER:	5TH -A				
SUBJECT:	FLUID MECHANICES AND HYDRAULIC MACHNE TH-3				
NAME OF THE FACULTY:	A JENA				
SL NO.	MONTH	No. of academic days available for the subject	DATE	TOPICS TO BE COVERED	% COVERED
1	Sep-22	10	**19.9.22**	CH-1,1.1:Definition and classification of hydraulic turbines	19%
			20.9.22	1.2:Construction and working principle of impulse turbine	
			21.9.22	1.3:Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
			22.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
			23.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
			26.9.22	1.4:Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.	
			27.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.	
			28.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of Francis turbine.	
			29.9.22	1.5:Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine	
			30.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine	
			10.10.22	1.6Numerical on above	
			11.10.22	1.7:Distinguish between impulse turbine and reaction turbine	
			12.10.22	CH-2,2.1:Construction and working principle of centrifugal pumps	
			13.10.22	Construction and working principle of centrifugal pumps	
			14.10.22	2.2:work done and derivation of various efficiencies of centrifugal pumps	
			17.10.22	2.3:Numerical on above	
			18.10.22	Numerical on above	

2	Oct-22	15	19.10.22	CH-3,3.1:Describe construction & working of single acting reciprocating pump	29%
			20.10.22	3.2Describe construction & working of double acting reciprocating pump	
			21.10.22	3.3:Derive the formula for power required to drive the pump (Single acting & double acting	
			25.10.22	3.4Define slip.	
			26.10.22	3.5 State positive & negative slip & establish relation between slip & coefficient of discharge.	
			27.10.22	3.5 State positive & negative slip & establish relation between slip & coefficient of discharge.	
			28.10.22	3.6:Solve numerical on above	
			31.10.22	CH-4,4.1:Elements –filter-regulator-lubrication unit	
3	Nov-22	15	1.11.22	4.2:Pressure control valves	29%
			2.11.22	4.2.1:Pressure relief valves	
			3.11.22	4.2.2:Pressure regulation valves	
			4.11.22	4.3: 3/2DCV,5/2 DCV,5/3DCV	
			9.11.22	Flow control valves Throttle valves	
			10.11.22	4.4: ISO Symbols of pneumatic components	
			11.11.22	4.5: Direct control of single acting cylinder	
			21.11.22	Operation of double acting cylinder	
			22.11.22	Operation of double acting cylinder with metering in and metering out control	
			23.11.22	CH-5,5.1: Hydraulic system, its merit and demerits	
			24.11.22	5.2: Hydraulic accumulators	
			25.11.22	Pressure control valves	
			28.11.22	Pressure relief valves	
			29.11.22	Pressure regulation valves	
			30.11.22	5.3: Direction control valves	
4	Dec-22	12	1.12.22	3/2DCV,5/2 DCV,5/3DCV	23%
			2.12.22	Flow control valves,Throttle valves	
			5.12.22	5.4.1: External and internal gear pumps	
			6.12.22	Vane pump	
			7.12.22	Radial piston pumps	
			8.12.22	5.5: ISO Symbols for hydraulic components	
			9.12.22	5.6: Actuators	
			12.12.22	5.7: Direct control of single acting cylinder	
			13.12.22	Operation of double acting cylinder	
			14.12.22	Operation of double acting cylinder with metering in and metering out control	
			15.12.22	5.8: Comparison of hydraulic and pneumatic system	

			16.12.22	Comparison of hydraulic and pneumatic system	

Abhishek Jena
SIGNATURE OF LECTURER

Gautam
SIGNATURE OF H.O.D. (MECHANICAL)

SESSION	WINTER 2022				
BRANCH:	MECHANICAL ENGINEERING				
SEMESTER :	5TH-B				
SUBJECT:	FLUID MECHANICES AND HYDRAULIC MACHNE TH-3				
NAME OF THE	P.K Siwain				
SL NO.	MONTH	No. of academic days available for the	DATE	TOPICS TO BE COVERED	% COVERED
1	Sep-22	10	19.9.22	CH-1,1.1:Definition and classification of hydraulic turbines	19%
			20.9.22	1.2:Construction and working principle of impulse turbine	
			21.9.22	1.3:Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
			22.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
			23.9.22	Velocity diagram of moving blades, work done and derivation of various efficiencies of impulse turbine.	
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			14.10.22	2.2:work done and derivation of various efficiencies of centrifugal pumps	
			17.10.22	2.3:Numerical on above	

2	Oct-22	15	18.10.22	Numerical on above	29%
			19.10.22	CH-3,3.1:Describe construction & working of single acting reciprocating pump	
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			31.10.22	CH-4,4.1:Elements –filter-regulator lubrication unit	
3	Nov-22	15	1.11.22	4.2:Pressure control valves	29%
			2.11.22	4.2.1:Pressure relief valves	
			3.11.22	4.2.2:Pressure regulation valves	
			4.11.22	4.3: 3/2DCV,5/2 DCV,5/3DCV	
			9.11.22	Flow control valves Throttle valves	
			10.11.22	4.4: ISO Symbols of pneumatic components	
			11.11.22	4.5: Direct control of single acting cylinder	
			21.11.22	Operation of double acting cylinder	
			22.11.22	Operation of double acting cylinder with metering in and metering out control	
			23.11.22	CH 5,5.1: Hydraulic system, its merit and demerits	
			24.11.22	5.2: Hydraulic accumulators	
			25.11.22	Pressure control valves	
			28.11.22	Pressure relief valves	
			29.11.22	Pressure regulation valves	
			30.11.22	5.3: Direction control valves	
4	Dec-22	12	1.12.22	3/2DCV,5/2 DCV,5/3DCV	23%
			2.12.22	Flow control valves, throttle valves	
			5.12.22	5.4.1: External and internal gear pumps	
			6.12.22	Vane pump	
			7.12.22	Radial piston pumps	
			8.12.22	5.5: ISO Symbols for hydraulic components	
			9.12.22	5.6: Actuators	
			12.12.22	5.7: Direct control of single acting cylinder	

			13.12.22	Operation of double acting cylinder	
			14.12.22	Operation of double acting cylinder with metering in and metering out control	
			15.12.22	5.8: Comparison of hydraulic and pneumatic system	
			16.12.22	Comparison of hydraulic and pneumatic system	

Pramod Kishore Swain

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