GOVT. POLYTECHNIC MAYURBHANJ			
LESSON PLAN			
Discipline : MECHANICAL ENGG.		**Semester: 5th Sem**	**Name of the Teaching Faculty :Sagar Kumar Mohapatra**
Subject : HM&IFP		**No. of Days / per week class allotted : 04**	**Semester From date : 01.07.2024 To Date : 16.12.2024**
MONTH	**Week**	**Day**	**Topics**
SEPTEMBER	3rd	4th	**1.0 HYDRAULIC TURBINES -**Introduction about hydraulic machine
		5th	Definition and classification of hydraulic turbines
	4th	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
		5th	Velocity diagram of moving blades, work done and derivation of various efficiencies of Kaplan turbine
	5th	2nd	Distinguish between impulse turbine and reaction turbine
		3rd	Problem solved
		4th	Problem solved
		5th	Problem solved
	3rd	2nd	**2.0 CENTRIFUGAL PUMPS-**Construction and working principle of centrifugal pumps
		3rd	work done and derivation of various efficiencies of centrifugal pumps
		4th	Problem solved
		5th	**CLASS TEST-1**
	4th	2nd	**3.0 RECIPROCATING PUMPS**- Describe construction & working of single acting and double acting reciprocating pump
		3rd	Describe construction & working of single acting reciprocating pump
		4th	Describe construction & working of double acting reciprocating pump
		5th	Derive the formula foe power required to drive the pump (Single acting & double acting)
		2nd	State positive & negative slip & establish relation between slip & coefficient of discharge

	5th	3rd	Problem solved
		4th	Problem solved
		5th	Problem solved
NOVEMBER	1st	2nd	REVISION
		3rd	**4.0 PNEUMATIC CONTROL SYSTEM** -Introduction to pneumatic circuit
		4th	Elements –filter-regulator-lubrication unit
		5th	Pressure control valves
	2nd	3rd	Pressure regulation valves
		4th	Direction control valves
		5th	3/2DCV,5/2 DCV,5/3DCV
	3rd	2nd	Flow control valves
		3rd	Throttle valves
		4th	ISO Symbols of pneumatic components
		5th	Pneumatic circuits
	4th	2nd	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
		5th	REVISION
	5th	2nd	REVISION
		3rd	**5.0 HYDRAULIC CONTROL SYSTEM -**Basic component of hydraulic system
DECEMBER	1st	4th	Hydraulic system, its merit and demerits
		5th	Hydraulic accumulators
	2nd	2nd	Pressure control valves
		3rd	Pressure relief valves
		4th	Pressure regulation valves and direction control valves
		5th	**INTERNAL**
	3rd	2nd	3/2DCV,5/2 DCV,5/3DCV
		3rd	Flow control valves
		4th	Throttle valves
		5th	Fluid power pumps
	4th	2nd	External and internal gear pumps
		3rd	Vane pump
		4th	Radial piston pumps
		5th	ISO Symbols for hydraulic components.
	1st	2nd	Actuators
		3rd	Hydraulic circuits
		4th	Direct control of single acting cylinder
		5th	Operation of double acting cylinder

JANUARY	2nd	2nd	Operation of double acting cylinder with metering in and metering out control
		3rd	Comparison of hydraulic and pneumatic system
		4th	REVISION
		5th	REVISION
	3rd	2nd	Discussion of previous year question with answer
		3rd	Discussion of previous year question with answer
		4th	Discussion of previous year question with answer
		5th	**CLASS TEST -2**