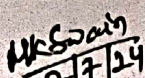


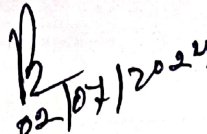
SYNERGY SCHOOL OF ENGINEERING , Dhenkanal

LESSON PLAN

Discipline : Mechanical Engg	Semester: 5th Sem Mech	Name of faculty: Mihir kumar swain	
Sub: HM&IFP	No of Days/ week class allotted :- 4	Total no of weeks:- 15 Session: 2024-25 (W)	Start date 5/7/24 End date 16/12/24
No of Week	Class day	Topic to be taught (Theory)	
1 st	1 st	Definition and classification of hydraulic turbines , Construction and working principle of impulse turbine.	
	2 nd	Velocity diagram of moving blades	
	3 rd	work done and derivation of various efficiencies of impulse turbine.	
	4 th	Solve numericals	
2 nd	1 st	Solve numericals	
	2 nd	Solve numericals	
	3 rd	Construction and working principle of francis turbine.	
	4 th	Velocity diagram , work done and derivation of various efficiencies of Francis turbine	
3 rd	1 st	Solve numericals	
	2 nd	Solve numericals	
	3 rd	Solve numericals	
	4 th	Construction and working principle of kaplan turbine.	
4 th	1 st	Velocity diagram , work done and derivation of various efficiencies of kaplan turbine	
	2 nd	Solve numericals	
	3 rd	Solve numericals	
	4 th	Solve numericals	
5 th	1 st	Distinguish between impulse turbine and reaction turbine.	
	2 nd	Construction and working principle of centrifugal pumps	
	3 rd	work done and derivation of various efficiencies of centrifugal pumps.	
	4 th	Solve numerical	
6 th	1 st	Solve numerical	
	2 nd	Solve numericals	
	3 rd	Solve numericals	
	4 th	Describe construction & working of single acting reciprocating pump.	
7 th	1 st	Describe construction & working of double acting reciprocating pump.	
	2 nd	Derive the formula for power required to drive the pump (Single acting & double acting)	
	3 rd	Define slip. State positive & negative slip & establish relation between slip & coefficient of discharge	
	4 th	Solve numerical	
8 th	1 st	Solve numerical	

	2 nd	Solve numerical
	3 rd	Monthly test-1
	4 th	Introduction to pneumatic control system, 1 Elements –filter-regulator-lubrication unit
9 th	1 st	Pressure control valves , Pressure relief valves , Pressure regulation valves
	2 nd	Direction control valves , 3/2 DCV
	3 rd	5/2 DCV, 5/3DCV
	4 th	Flow control valves , Throttle valves
10 th	1 st	ISO Symbols of pneumatic components
	2 nd	Direct control of single acting cylinder
	3 rd	Operation of double acting cylinder in pneumatic circuits
	4 th	Operation of double acting cylinder with metering in and metering out control
11 th	1 st	Hydraulic system, its merit and demerits
	2 nd	Hydraulic accumulators
	3 rd	Pressure control valves , Pressure relief valves , Pressure regulation valves
	4 th	3/2DCV, 5/2 DCV, 5/3DCV
12 th	1 st	Flow control valves , Throttle valves
	2 nd	External and internal gear pumps
	3 rd	Vane pump , Radial piston pumps
	4 th	ISO Symbols for hydraulic components.
13 th	1 st	Actuators
	2 nd	Direct control of single acting cylinder
	3 rd	Operation of double acting cylinder
	4 th	Operation of double acting cylinder with metering in and metering out control
14 th	1 st	Comparison of hydraulic and pneumatic system
	2 nd	Monthly test-2
	3 rd	Previous year questions & answers discussion
	4 th	Previous year questions & answers discussion
15 th	1 st	Previous year questions & answers discussion
	2 nd	Previous year questions & answers discussion
	3 rd	Previous year questions & answers discussion
	4 th	Previous year questions & answers discussion


 Prepared by:


 H.O.D