Lesson Plan on

(PR-2) HYDRAULIC & INDUDTRIAL FLUID POWER LAB (5th sem)

Prepared by

SUSHRI PRIYANKA PANIGRAHI

W/S SUPTD.

GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: MECHANICAL ENGG	Semester: **5TH**	Name of the Teaching Faculty: **Ms Prangya Paramita Prusty, PTGF IN MECH. ENGG.**
Subject: HM & IFP LAB	No. of days/per week class allotted: **04**	Semester From date: **01.10.2021** To Date: **08.01.2022** No. of Weeks: **15**
PRE-REQUISITE	Basic knowledge about Hydraulic machines, fluid power and practical related to them.	
COURSE OUTCOMES	**CO1:** Conducting performance test on impulse and reaction turbine. **CO2:** Conducting performance test on centrifugal pump. **CO3:** Designing &operating pneumatic circuits. **CO4:** Designing &operating industrial fluid power circuits.	

Week	Class Day	Theory / Practical Topics	DELIVERY METHOD
1ST	1ST	Performance test on impulse turbine and to find out the efficiency.	WHITEBOARD
	2ND	Performance test on impulse turbine and to find out the efficiency.	DEMONSTRATION
	3RD	Performance test on impulse turbine and to find out the efficiency.	DEMONSTRATION
	4TH	Performance test on impulse turbine and to find out the efficiency.	DEMONSTRATION
2ND	1ST	Performance test on impulse turbine and to find out the efficiency.	WHITEBOARD
	2ND	Performance test on Kaplan turbine and to find out the efficiency.	DEMONSTRATION
	3RD	Performance test on Kaplan turbine and to find out the efficiency.	DEMONSTRATION
	4TH	Performance test on Kaplan turbine and to find out the efficiency.	DEMONSTRATION
3RD	1ST	Performance test on Kaplan turbine and to find out the efficiency.	WHITEBOARD
	2ND	Performance test on Kaplan turbine and to find out the efficiency.	DEMONSTRATION
	3RD	Performance test on Francis turbine and to find out the efficiency.	DEMONSTRATION
	4TH	Performance test on Francis turbine and to find out the efficiency.	DEMONSTRATION
4TH	1ST	Performance test on Francis turbine and to find out the efficiency.	WHITEBOARD
	2ND	Performance test on Francis turbine and to find out the efficiency.	DEMONSTRATION
	3RD	Performance test on Francis turbine and to find out the efficiency.	DEMONSTRATION
	4TH	Performance test on centrifugal pump and to find out the characteristic curves.	DEMONSTRATION
5TH	1ST	Performance test on centrifugal pump and to find out the characteristic curves.	WHITEBOARD

	2ND	Performance test on centrifugal pump and to find out the characteristic curves.	DEMONSTRATION
	3RD	Performance test on centrifugal pump and to find out the characteristic curves.	DEMONSTRATION
	4TH	Performance test on centrifugal pump and to find out the characteristic curves.	DEMONSTRATION
6TH	1ST	Direct operation of single &double acting pneumatic cylinder.	WHITEBOARD
	2ND	Direct operation of single &double acting pneumatic cylinder.	DEMONSTRATION
	3RD	Direct operation of single &double acting pneumatic cylinder.	DEMONSTRATION
	4TH	Direct operation of single &double acting pneumatic cylinder.	DEMONSTRATION
7TH	1ST	Direct operation of single &double acting pneumatic cylinder.	WHITEBOARD
	2ND	Operating double acting pneumatic cylinder with quick exhaust valve.	DEMONSTRATION
	3RD	Operating double acting pneumatic cylinder with quick exhaust valve.	DEMONSTRATION
	4TH	Operating double acting pneumatic cylinder with quick exhaust valve.	DEMONSTRATION
8TH	1ST	Operating double acting pneumatic cylinder with quick exhaust valve.	WHITEBOARD
	2ND	Operating double acting pneumatic cylinder with quick exhaust valve.	DEMONSTRATION

	3RD	Speed control double acting pneumatic cylinder using metering in and metering out circuits.	DEMONSTRATION
	4TH	Speed control double acting pneumatic cylinder using metering in and metering out circuits.	DEMONSTRATION
9TH	1ST	Speed control double acting pneumatic cylinder using metering in and metering out circuits.	WHITEBOARD
	2ND	Speed control double acting pneumatic cylinder using metering in and metering out circuits.	DEMONSTRATION
	3RD	Speed control double acting pneumatic cylinder using metering in and metering out circuits.	DEMONSTRATION
	4TH	Direct operation of single &double acting hydraulic cylinder.	DEMONSTRATION
10TH	1ST	Direct operation of single &double acting hydraulic cylinder.	WHITEBOARD
	2ND	Direct operation of single &double acting hydraulic cylinder.	DEMONSTRATION
	3RD	Direct operation of single &double acting hydraulic cylinder.	DEMONSTRATION
	4TH	Direct operation of single &double acting hydraulic cylinder.	DEMONSTRATION
11TH	1ST	Direct operation of hydraulic motor.	WHITEBOARD
	2ND	Direct operation of hydraulic motor.	DEMONSTRATION
	3RD	Direct operation of hydraulic motor.	DEMONSTRATION
	4TH	Direct operation of hydraulic motor.	DEMONSTRATION
12TH	1ST	Direct operation of hydraulic motor.	DEMONSTRATION
	2ND	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	WHITEBOARD

	3RD	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	DEMONSTRATION
	4TH	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	DEMONSTRATION
13TH	1ST	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	DEMONSTRATION
	2ND	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	DEMONSTRATION
	3RD	Speed control double acting hydraulic cylinder using metering in & metering out circuits.	DEMONSTRATION
	4TH	**QUIZ**	
14TH	1ST	REVISION	
	2ND	REVISION	
	3RD	REVISION	
	4TH	REVISION	
15TH	1ST	REVISION	
	2ND	REVISION	
	3RD	REVISION	
	4TH	REVISION	

LEARNING RESOUCES:

01. A Text Book of Hydraulic & Pneumatic Control by K. Shanmuga, Sundaram, S Chand Publisher.

WEBSITE RESOUCES:

01. https://www.youtube.com/watch?v=wlPXZrP9vR8&list=PLCoE5wxWtHFYiVGswvsWRaHjv18vxZzE2
02. https://www.youtube.com/watch?v=Dao9V8YsSB8

Pranagya Panamita Prusty
29/10/2021
Sign. of Faculty concerned

Sign. of HOD i/c
29/10/2021

Principal
G.P Puri