

# GOVT.POLYTECHNIC NAYAGARH

## DEPARTMENT OF MECHANICAL ENGINEERING

### LESSON PLAN

**SUBJECT:** FLUID MECHANICS & FLUID POWER LAB (PR-3)  
**PERIODS:** 4P/WEEK **SEMESTER:** 3rd  
**NAME OF FACULTY:** ABINAS NAYAK, LECTURER (Gr. A)  
SAURAV RANJAN PRADHAN, (Gr. B),  
**SEMESTER FROM:** 14/07/2024 to 15/11/2024 **NO. OF WEEKS:** 15

Week	Class Day	Theory / Practical Topics
1st	1st Period	Verification of Bernoulli's theorem (Theory of Experiment)
	2nd Period	Verification of Bernoulli's theorem (Practical Session)
2nd	1st Period	Determination of Coefficient of Discharge of Venturi meter (Theory of Experiment)
	2nd Period	Determination of Coefficient of Discharge of Venturi meter (Practical Session)
3rd	1st Period	Determination of Coefficient of Discharge, coefficient of contraction and coefficient of velocity of Orifice meter (Theory of Experiment)
	2nd Period	Determination of Coefficient of Discharge, coefficient of contraction and coefficient of velocity of Orifice meter (Practical Session)
4th	1st Period	Determination of coefficient of friction of flow through pipes (Theory of Experiment)
	2nd Period	Determination of coefficient of friction of flow through pipes (Practical Session)
5th	1st Period	Determination of force exerted by the jet of water on the given vane (Theory of Experiment)
	2nd Period	Determination of force exerted by the jet of water on the given vane (Practical Session)
6th	1st Period	Determination of minor losses of flow through pipes (Theory of Experiment)
	2nd Period	Determination of minor losses of flow through pipes (Practical Session)
7th	1st Period	Calibration of pressure gauge using dead weight pressure gauge tester (Theory of Experiment)
	2nd Period	Calibration of pressure gauge using dead weight pressure gauge tester (Practical Session)
8th	1st Period	Trial on centrifugal pump to determine overall efficiency (Theory of Experiment)
	2nd Period	Trial on centrifugal pump to determine overall efficiency (Practical Session)
9th	1st Period	Trial on reciprocating pump to determine overall efficiency (Theory of Experiment)
	2nd Period	Trial on reciprocating pump to determine overall efficiency (Practical Session)

10th	1st Period	Trial on Pelton wheel /Francis/Kaplan turbine to determine overall efficiency (Theory of Experiment)
	2nd Period	Trial on Pelton wheel /Francis/Kaplan turbine to determine overall efficiency (Practical Session)
11th	1st Period	Analysis of Hydraulic circuits in a hydraulic trainer (Theory of Experiment)
	2nd Period	Analysis of Hydraulic circuits in a hydraulic trainer (Practical Session)
12th	1st Period	Analysis of pneumatic circuits in a pneumatic trainer (Theory of Experiment)
	2nd Period	Analysis of pneumatic circuits in a pneumatic trainer (Practical Session)
13th	1st Period	Revision & Catch-up
	2nd Period	Revision & Catch-up
14th	1st Period	Revision & Catch-up
	2nd Period	Revision & Catch-up
15th	1st Period	Final Lab Record Submission / Review
	2nd Period	Final Lab Record Submission / Review

#### REFERENCES:

1. Fluid Mechanics and Machinery Laboratory Manual- N. Kumara Swamy, Charotar Publishing House Pvt. Ltd., ANAND 388 001, Ed. 2008
2. Fluid Power with Applications - Anthony Esposito -Pearson Education Limited.

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