

GOVT. POLYTECHNIC BOLANGIR
LESSON PLAN

Discipline : Mechanical	Semester: 4th	Name of the Teaching Faculty : Sachidananda Paalhi
Subject : FLUID MECHANICS	No. of Days / per week class allotted : 4	Semester From date : 05.02.2025 To Date : 17.05.2025 No. of Weeks: 15
Week	Class Day	Topics
05 Feb to 08 Feb	1st	Properties of Fluid
	2nd	Define fluid
	3rd	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.
	4th	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
10 Feb to 15 Feb	1st	Definitions and units of fluid pressure, pressure intensity and pressure
	2nd	Statement of Pascal's Law.
	3rd	Concept of atmospheric pressure, gauge pressure, vacuum pressure and
	4th	Pressure measuring instruments
17 Feb to 22 Feb	1st	Manometers (Simple and Differential)
	2nd	Bourdon tube pressure gauge(Simple Numerical)
	3rd	Solve simple problems on Manometer.
	4th	Hydrostatics
24 Feb to 01 Mar	1st	Definition of hydrostatic pressure
	2nd	Total pressure and centre of pressure on
	3rd	immersed bodies(Horizontal and Vertical Bodies)
	4th	Solve Simple problems.
03 Mar to 08 Mar	1st	Archimedes 'principle, concept of buoyancy, meta center and meta centric
	2nd	(Definition only)
	3rd	Concept of floatation
	4th	Kinematics of Flow
10 Mar to 15 Mar	1st	Types of fluid flow
	2nd	Continuity equation(Statement and proof for one dimensional flow)
	3rd	Bernoulli's theorem(Statement and proof)
	4th	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot
17 Mar to 22 Mar	1st	Solve simple problems
	2nd	Orifices, notches & weirs
	3rd	Define orifice
	4th	Flow through orifice
24 Mar to 29 Mar	1st	Orifices coefficient & the relation between the orifice coefficients
	2nd	Classifications of notches & weirs
	3rd	Discharge over a rectangular notch or weir
	4th	Discharge over a triangular notch or weir
31 Mar to 05 Apr	1st	Simple problems on above
	2nd	Flow through pipe
	3rd	Definition of pipe.
	4th	Loss of energy in pipes.

07 Apr to 12 Apr	1st	Head loss due to friction: Darcy's and Chezy's formula (Expression only)
	2nd	Solve Problems using Darcy's and Chezy's formula.
	3rd	Hydraulic gradient and total gradient line
	4th	Impact of jets
14 Apr to 19 Apr	1st	Impact of jet on fixed and moving vertical flat plates
	2nd	Derivation of work done on series of vanes and condition for maximum efficiency.
	3rd	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	4th	Doubt Clearing
21 Apr to 26 Apr	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
28 Apr to 03 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
05 May to 10 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion
12 May to 17 May	1st	Doubt Clearing
	2nd	Revision
	3rd	Class test
	4th	Q & A discussion

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