

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2024-2025

Semester: 4th Discipline: Mechanical Engg.

Subject: FLUID MECHANICS

Name of the Teaching Faculty: VIKAS BARGAH

Subject: Fluid Mechanics No. of Days/per week class allotted: 4

Semester From Date: 4.07.25 To Date: 17.05.25 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
01	1	Properties of fluid, Definition of fluid, example of fluid
	2	Description to Density, specific weight, specific gravity
	3	Description to specific volume
	4	Solved Problem
02	1	Definition and unit of dynamic and kinematic viscosity
	2	Surface tension - Definition and explanation.
	3	Capillary phenomenon - capillary rise or fall
	4	Simple problem discussion
03	1	Definition and unit of fluid pressure
	2	Pressure intensity and pressure head
	3	Statement of Pascal's law
	4	Concept of P_{atm} , P_{gauge} , P_{vacuum} and P_{abs}

Vikas Bansal
Signature of the Faculty

Subject: Fluid Mechanics

No. of Days/per week class allotted: 4

Semester From Date: 4.02.25

To Date: 17.05.25

No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
04	1	Classification of pressure measuring instruments
	2	Manometers - construction and classification
	3	Simple manometers
	4	Differential manometers
05	1	Bourdon tube pressure gauge
	2	Problem discussion
	3	Problem discussion
	4	Introduction to hydrostatic
06	1	Definition of hydrostatic pressure
	2	Definition and explanation of Total pressure and centre of pressure
	3	Total pressure and centre of pressure on vertical immersed body.
	4	Total pressure and centre of pressure on horizontal immersed body.

Jikas Barisak

Signature of the Faculty

Subject: Fluid Mechanics No. of Days/per week class allotted: 1
 Semester From Date: 4/2/25 To Date: 17/05/25 No. of Weeks: 15

Week	Class Day	Theory/Practical Topics
07	1	Problem discussion on immersed plane surface.
	2	Archimedes principle and concept of buoyancy
	3	metacentre and metacentric height
	4	Concept of flotation
08	1	Introduction to kinematics of flow
	2	Types of fluid flow
	3	continuity equation
	4	Bernoulli's theorem
09	1	Venturimeter
	2	Pitot tube
	3	Problem discussion
	4	Definition & flow through orifice

Vikas Borsal
 Signature of the Faculty

Subject: Fluid Mechanics No. of Days/per week class allotted: 4
 semester From Date: 4.02.25 To Date: 17.05.25 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
10	1	Orifice coefficient & relation b/w them
	2	Classification of notches & weirs
	3	Discharge through rectangular notches or weirs
	4	Discharge through triangular notch or weir
11	1	Problem discussion
	2	Definition of pipe & Loss of energy in pipe
	3	Head loss due to friction - Darcy's & Chezy's formula
	4	Problem discussion about Darcy's & Chezy's formula
12	1	Hydraulic gradient & Total gradient line
	2	Impact of Jet on fixed block ^{plate}
	3	Impact of Jet on moving block ^{plate}
	4	Derivation of Work done on series of jets ^{Venues}

Nitesh Baxsal
 Signature of the Faculty

Subject: Fluid Mechanics No. of Days/per week class allotted: 4
 Semester From Date: 4.02.25 To Date: 17.05.25 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
13	1	Condition of maximum efficiency
	2	Impact of jet on moving curved plates ^{blades}
	3	Velocity triangle
	4	Derivation of work done
14	1	Derivation of efficiency
	2	Revision
	3	Revision
	4	Revision
15	1	Revision
	2	Revision
	3	Revision
	4	Revision

Vikas Bansal
 Signature of the Faculty