

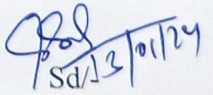
BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING



LESSON PLAN

SUBJECT: FLUID MECHANICS
FACULTY: MRS SUNITA SAMAL

ACCADEMIC SESSION: 2023-24(S)
SEMESTER: 4TH
SEC: A


Sd/ 3/01/24
H O D (Mech.Engg.)

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Discipline: Mechanical Engineering	Semester: 4 TH /A		Name of the teaching faculty: Mrs SUNITA SAMAL
Subject: Fluid Mechanics (TH-3)	No. of Days/ per week class allotted: 04 periods per week (Mon-1 period, Wed-2 periods, Fri-1 period,)		Semester From Date: 16-01-2024 To Date: 26-04-2024 No. of weeks: 15 weeks
Week	Class Day	No of periods available	Theory Topics
1 ST (3)	17/01/24	2	1.0 Properties of Fluid 1.1 Define fluid 1.2 Description of fluid properties like Density, Specific weight.
	19/01/24	1	1.2 Description of fluid properties like specific gravity, specific volume.
2 ND (3)	22/01/24	1	1.2 Solve simple problems.
	24/01/24	2	1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon.
3 RD (4)	29/01/24	1	2.0 Fluid Pressure and its measurements 2.1 Definitions and units of fluid pressure, pressure intensity and pressure head. 2.2 Statement of Pascal's Law. .
	31/01/24	2	2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure. 2.4 Pressure measuring instruments Manometers (Simple and Differential).
	02/02/24	1	2.4 Pressure measuring instruments Manometers (Simple and Differential). 2.4.1 Bourdon tube pressure gauge (Simple Numerical) .
4 TH (4)	05/02/24	1	2.5 Solve simple problems on Manometer.
	07/02/24	2	3.0 Hydrostatics 3.1 Definition of hydrostatic pressure 3.2 Total pressure and centre of pressure on immersed bodies (Horizontal and Vertical Bodies)
	09/02/24	1	3.3 Solve Simple problems.

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5 TH (2)	12/02/24	1	3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only)
	16/02/24	1	3.5 Concept of floatation
6 TH (4)	19/02/24	1	Class Test-I
	21/02/24	2	4.0 Kinematics of Flow 4.1 Types of fluid flow
	23/02/24	1	4.2 Continuity equation(Statement and proof for one dimensional flow)
7 TH (4)	26/02/24	1	4.3 Bernoulli's theorem(Statement and proof)
	28/02/24	2	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	01/03/24	1	4.4 Solve simple problems
8 TH (3)	04/03/24	1	5.0 Orifices, notches & weirs 5.1 Define orifice 5.2 Flow through orifice
	06/03/24	2	5.3 Orifices coefficient & the relation between the orifice coefficients 5.4 Classifications of notches & weirs
9 TH (4)	11/03/24	1	5.5 Discharge over a rectangular notch or weir
	13/03/24	2	5.6 Discharge over a triangular notch or weir 5.7 Simple problems on above
	15/03/24	1	6.0 Flow through pipe 6.1 Definition of pipe.

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10 TH (4)	18/03/24	1	6.2 Loss of energy in pipes.
	20/03/24	2	6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only) 6.4 Solve Problems using Darcy's and Chezy's formula.
	22/03/24	1	6.5 Hydraulic gradient and total gradient line.
11 TH (2)	27/03/24	2	7.0 Impact of jets 7.1 Impact of jet on fixed and moving vertical flat plates
12 TH (3)	03/04/24	2	INTERNAL ASSESSMENT
	05/04/24	1	7.2 Derivation of work done on series of vanes and condition for maximum efficiency.
13 TH (4)	08/04/24	1	7.2 Derivation of work done on series of vanes and condition for maximum efficiency.
	10/04/24	2	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	12/04/24	1	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
14 TH (2)	15/04/24	1	Internal Assessment-II / Class Test – II
	19/04/24	1	Revision.
15 TH (4)	22/04/24	1	Revision.
	24/04/24	2	Previous year question discussion.
	26/04/24	1	Previous year question discussion.

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EXTENTION OF CLOSING OF ATTENDANCE UPTO

76 th (4) Extra class	29.04.24	1	7.3 Impact of jet on moving curved vane
	30.04.24	1	7.3 Impact of jet on moving curved vane
	01.05.24	2	Revision & previous year question discussion