

ORISSA SCHOOL OF ENGINEERING & POLYTECHNIC, BERHAMPUR

Discipline: Mechanical Engineering	Semester : 4 th Semester	Name of the Teaching Faculty: Er. Robin Gouda
Subject: FLUID MECHANICS	No. of Days/week Class Allotted: 60	No of weeks: 18
week	Class Day	Theory Topics
1 st	1 st	Define fluid
	2 nd	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems..
	3 rd	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems
	4 th	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems
2 nd	1 st	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	2 nd	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	3 rd	Definitions and units of fluid pressure, pressure intensity and pressure head.
	4 th	Definitions and units of fluid pressure, pressure intensity and pressure head.
3 rd	1 st	Statement of Pascal's Law
	2 nd	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
	3 rd	Pressure measuring instruments
	4 th	Manometers (Simple and Differential)
4 th	1 st	Bourdon tube pressure gauge (Simple Numerical)
	2 nd	Solve simple problems on Manometer
	3 rd	Solve simple problems on Manometer
	4 th	Solve simple problems on Manometer.
	1 st	Solve simple problems on Manometer
5 th	2 nd	Definition of hydrostatic pressure

	3 rd	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bod
	4 th	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bod
6 th	1 st	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bod
	2 nd	Solve Simple problems
	3 rd	Solve Simple problems
	4 th	Solve Simple problems
7 th	1 st	Archimedes 'principle, concept of buoyancy, meta center and meta centric height(Definition o
	2 nd	Archimedes 'principle, concept of buoyancy, meta center and meta centric height(Definition o
	3 rd	Concept of floatation
	4 th	Types of fluid flow
8 th	1 st	Continuity equation(Statement and proof for one dimensional flow)
	2 nd	Continuity equation(Statement and proof for one dimensional flow) .
	3 rd	Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	4 th	Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
9 th	1 st	Bernoulli's theorem Applications and limitations of Bernoulli's theorem (Venturimeter,
	2 nd	Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	3 rd	Define orifice
	4 th	Flow through orifice
10 th	1 st	Orifices coefficient & the relation between the orifice coefficients .
	2 nd	Classifications of notches & weirs
	3 rd	Discharge over a rectangular notch or weir .
	4 th	Discharge over a triangular notch or weir
11 th	1 st	Simple problems on above

12 th	2 nd	Simple problems on above
	3 rd	Simple problems on above
	4 th	Definition of pipe.
	1 st	Loss of energy in pipes.
13 th	2 nd	Head loss due to friction: Darcy's and Chezy's formula (Expression only)
	3 rd	Solve Problems using Darcy's and Chezy's formula.
	4 th	Solve Problems using Darcy's and Chezy's formula.
	1 st	Hydraulic gradient and total gradient line
14 th	2 nd	Impact of jet on fixed and moving vertical flat plates
	3 rd	Derivation of work done on series of vanes and condition for maximum efficiency.
	4 th	Derivation of work done on series of vanes and condition for maximum efficiency.
	1 st	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
15 th	2 nd	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	3 rd	Revision of Chapter – 1
	4 th	Revision of Chapter – 2
	1 st	Revision of Chapter – 2
16 th	2 nd	Revision of Chapter – 3
	3 rd	Revision of Chapter – 3
	4 th	Revision of Chapter – 4
	1 st	Revision of Chapter – 4
17 th	2 nd	Revision of Chapter – 5
	3 rd	Revision of Chapter – 5
	4 th	Revision of Chapter – 6
	1 st	Revision of Chapter – 6
18 th	2 nd	Revision of Chapter – 7
	3 rd	Discussion of Probable Questions and Answers (1)
	4 th	Discussion of Probable Questions and Answers (2)
	1 st	Discussion of Probable Questions and Answers (3)

2nd	Discussion of Probable Questions and Answers(4)
3rd	Discussion of Probable Questions and Answers (5)
4th	Discussion of Probable Questions and Answers (6)


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