

Lesson Plan

Discipline: Mechanical, Semester:4TH, Name of Faculty : TRUPTI MOHANTY		
Subject: Fluid Mechanics	No. of days/ week Class allotted: 4	Semester From Date: 13-02-2023 To date : 23-05-2023
Week	Class Day	Theory
1st	1st	Introduction to subject
	2nd	Define fluid
	3rd	Description of fluid properties like Density, Specific weight
	4th	specific gravity, specific volume
2nd	1st	solve simple problems.
	2nd	Definitions and Units of Dynamic viscosity
	3rd	kinematic viscosity, surface tension
	4th	Capillary phenomenon
3rd	1st	Definitions and units of fluid pressure
	2nd	pressure intensity and pressure head.
	3rd	Statement of Pascal's Law.
	4th	Concept of atmospheric pressure
4th	1st	gauge pressure, vacuum pressure and absolute pressure
	2nd	Manometers (Simple and Differential)
	3rd	Bourdon tube pressure gauge(Simple Numerical)
	4th	Solve simple problems on Manometer.
5th	1st	Definition of hydrostatic pressure
	2nd	Total pressure and centre of pressure on immersed bodies
	3rd	Horizontal and Vertical Bodies
	4th	Solve Simple problems.
6th	1st	Solve Simple problems.
	2nd	Archimedes 'principle, concept of buoyancy
	3rd	meta center and meta centric height
	4th	Concept of floatation
7th	1st	Types of fluid flow
	2nd	Types of fluid flow

	3rd	Continuity equation
	4th	Bernoulli's theorem
8th	1st	Applications and limitations of Bernoulli's theorem
	2nd	Venturimeter, pitot tube
	3rd	Solve simple problems
	4th	Solve simple problems
9th	1st	Define orifice
	2nd	Flow through orifice
	3rd	Orifices coefficient & the relation between the orifice coefficient,
	4th	Classifications of notches & weirs
10th	1st	Discharge over a rectangular notch or weir
	2nd	Discharge over a triangular notch or weir
	3rd	Simple problems on above
	4th	Unit test
11th	1st	Definition of pipe.
	2nd	Loss of energy in pipes.
	3rd	Loss of energy in pipes.
	4th	Head loss due to friction
12th	1st	Darcy's and Chezy's formula
	2nd	Solve Problems using Darcy's and Chezy's formula.
	3rd	Solve Problems using Darcy's and Chezy's formula.
	4th	Hydraulic gradient
13th	1st	total gradient line
	2nd	TEST
	3rd	Impact of jets
	4th	Impact of jet on fixed plates
14th	1st	Impact of jet on moving vertical flat plates
	2nd	Derivation of work done on series of vanes
	3rd	Derivation of work done on series of vanes
	4th	condition for maximum efficiency.
15th	1st	Impact of jet on moving curved vanes
	2nd	illustration using velocity triangles
	3rd	derivation of work done, efficiency
	4th	derivation of work done, efficiency

16th	1st	Overall subject revision
	2nd	Overall subject revision
	3rd	Previous year question answer discussion
	4th	Previous year question answer discussion