MAHAMAYA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCE, NUAPADA

LESSON PLAN

Discipline : MECHANICAL ENGG	Semester : 4TH	Name of the Teaching Faculty: ER. MICHAEL SUVEER
Subject: FLUID MECHANICS	No. of days/per week class allotted: 04	Semester From date : 10.03.2022 To Date: 10.06.2022 No. of Weeks: 15
Week	Class Day	Theory / Practical Topics
1ST	1ST Ch-1	Define fluid and its properties
	2ND	Description of fluid properties like Density, Specific weight
	3RD	Description of fluid properties like specific gravity, specific volume
	4TH	solve simple problems
2ND	1ST	solve simple problems.
	2ND	Definitions and Units of Dynamic viscosity
	3RD	Definitions and Units of Kinematic viscosity
	4TH	Definitions and Units of surface tension and capillary phenomenon
3RD	1ST Ch-2	Definitions and units of fluid pressure,
	2ND	Definitions and units of pressure intensity and pressure head
	3RD	Statement of Pascal's Law.
	4TH	Concept of atmospheric pressure, gauge pressure
4TH	1ST	Concept of vacuum pressure and absolute pressure
	2ND	Pressure measuring instruments 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(Horizontal bodies)
	3RD	Total pressure and centre of pressure on immersed bodies(Vertical bodies)
	4TH	solve simple problems
	1ST	solve simple problems
	2ND	Archimedes 'principle, concept of buoyancy,

6TH	3RD	meta center and meta centric height (Definition only)
	4TH	Concept of floatation
7TH	1ST	Types of fluid flow
	2ND	Continuity equation(Statement
	3RD	Continuity equation(proof for one dimensional flow)
	4TH	Bernoulli's theorem(Statement)
8TH	1ST	Bernoulli's theorem(proof)
	2ND	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	3RD	Solve simple problems
	4TH	Solve simple problems
9TH	1ST	Define orifice, Flow through orifice
	2ND	Orifices coefficient
	3RD	The relation between the orifice coefficients
	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
	4TH	Simple problems
11TH	1ST	Definition of pipe
	2ND	Loss of energy in pipes.
	3RD	Head loss due to friction: Darcy's
	4TH	Head loss due to friction: Chezy's
12TH	1ST	Solve Problems using Darcy's
	2ND	Solve Problems using Chezy's
	3RD	Solve Problems using Chezy's
	4TH	Hydraulic gradient definition
13TH	1ST	total gradient line
	2ND	Simple problems
	3RD	Impact of jet on fixed vertical flat plates
	4TH	Impact of jet on moving vertical flat plates
14TH	1ST	Derivation of work done on series of vanes
	2ND	condition for maximum efficiency.
	3RD	Impact of jet on moving curved vanes
	4TH	Impact of jet on moving curved vanes (continued)
15TH	1ST	illustration using velocity triangles
	2ND	derivation of work done,
	3RD	derivation of efficiencies
	4TH	Important question discussion