



UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE:	SEMESTER:			
MECHANICAL	4TH Sem	NAME OF THE TEACHING FACULTY: Er.SUBRAT MOHANTY		
SUBJECT:	No of Days/Per week class allotted: 4Class P/W(60)	Semester From Date:16/01/2024		
FLUID MECHANICS		To Date:26/04/2024		
		No. Of Weeks: 15		
WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
1 st	1 st	Define fluid	Date	Dean/Principal
	2 nd	Define fluid		
	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	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.		
	2 nd	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon		
	3 rd	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon		
	4 th	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon		

3 rd	1 st	Definitions and units of fluid pressure, pressure intensity and pressure head.		
	2 nd	Definitions and units of fluid pressure, pressure intensity and pressure head.		
	3 rd	Statement of Pascal's Law.		
	4 th	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure		
4 th	1 st	pressure, gauge pressure,		
	2 nd	Pressure measuring instruments Manometers (Simple and Differential)		
	3 rd	Bourdon tube pressure gauge(Simple Numerical)		
	4 th	Solve simple problems on Manometer.		
5 th	1 st	Definition of hydrostatic pressure		
	2 nd	Definition of hydrostatic pressure		
	3 rd	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)		
	4 th	Solve Simple problems.		
6 th	1 st	Solve Simple problems.		
	2 nd	Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only)		
	3 rd	Concept of floatation		
	4 th	Concept of floatation		
7 th	1 st	Types of fluid flow		
	2 nd	Types of fluid flow		
	3 rd	Continuity equation(Statement and proof for one dimensional flow)		
	4 th	Continuity equation(Statement and proof for one dimensional flow)		

8 th	1 st	Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)		
	2 nd	Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)		
	3 rd	Solve simple problems		
	4 th	Solve simple problems		
9 th	1 st	Define orifice		
	2 nd	Define orifice		
	3 rd	Flow through orifice		
	4 th	Orifices coefficient & the relation between the orifice coefficients		
10 th	1 st	Classifications of notches & weirs		
	2 nd	Discharge over a rectangular notch or weir		
	3 rd	Discharge over a triangular notch or weir		
	4 th	Simple problems on above		
11 th	1 st	Definition of pipe.		
	2 nd	Definition of pipe.		
	3 rd	Loss of energy in pipes.		
	4 th	Loss of energy in pipes.		
12 th	1 st	Head loss due to friction: Darcy's and Chezy's formula (Expression only)		
	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		

13 th	2 nd	Hydraulic gradient and total gradient line		
	3 rd	Impact of jet on fixed and moving vertical flat plates		
	4 th	Impact of jet on fixed and moving vertical flat plates		
14 th	1 st	Impact of jet on fixed and moving vertical flat plates		
	2 nd	Derivation of work done on series of vanes and condition for maximum efficiency.		
	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.		
15 th	1 st	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.		
	2 nd	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.		
	3 rd	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.		
	4 th	DOUBT CLEAR CLASS		

Gnehasis Das

HOD

Chittaranjan Parida

DEAN

(Signature)

PRINCIPAL

