Page No. 27
Date : / /

4th Semester
Summer - 2024

Sub :- Fluid Mechanics

AJAYA KUMAR SAHOO

's Signature

Discipline	Semester	Name of the teaching faculty
Mechanical	4th	AJAYA KUMAR SAHOO
Subject	No. of Days/week class	Semester from 16-01-24
Fluid mechanics	04	to 26-04-24
		No. of weeks

Week	Class Day	Theory TOPICS
	1st	x
	2nd	Defination of Fluid
1st	3rd	x
	4th	Description of Fluid properties. Density
	5th	x
	6th	Specific weight, Specific gravity
	1st	Specific volume and Simple problem
	2nd	Defination and Units of Dynamic Viscosity
2nd	3rd	x
	4th	Kinematic Viscosity
	5th	x
	6th	x
	1st	Surface tension, Capillary phenomenon
	2nd	Definations and Unit of Fluid pressure
3rd	3rd	x
	4th	Defination of pressure intensity and pressure head
	5th	x
	6th	Statement of Pascal's Law

's Signature.....

	1st	Concept of atmospheric pressure, gauge pr
	2nd	vacuum pressure and absolute pressure
4th	3rd	x
	4th	pressure measuring instrument (simple manometer)
	5th	x
	6th	Differential manometers
	1st	Bourdon tube pressure gauge
	2nd	simple problems on manometer
5th	3rd	x
	4th	Defination of hydrostatic pressure
	5th	x
	6th	Total pressure and centre pressure on horizontal immersed bodies
	1st	Vertical immersed bodies
	2nd	Simple problems on Total pressure and
6th	3rd	Archimedis principle centre pressure
	4th	x
	5th	x
	6th	x
	1st	x
	2nd	Concept of buoyancy
7th	3rd	meta centre and meta centric height
	4th	Concept of Floatation
	5th	x
	6th	x

	1st	Types of Floating
	2nd	Continuity equation (statement and proof)
8th	3rd	Bernoulli's Theorem (statement and proof)
	4th	x
	5th	x
	6th	x
	1st	Application of Bernoulli's Theorem (Venturimeter)
	2nd	Application of Bernoulli's Theorem (pitote tube)
9th	3rd	Limitation of Bernoulli's Theorem
	4th	x
	5th	Simple problems on venturimeter,
	6th	pitote tube
	1st	Defination of orifice
	2nd	flow through orifice
10th	3rd	Orifice coefficient and relation between Cc, Cv and Cd
	4th	x
	5th	x
	6th	x
	1st	Classification of notches and weirs
	2nd	Discharge over a rectangular notch and weir
11th	3rd	Discharge over a triangular notch and weir.
	4th	Simple problems on above.
	5th	x
	6th	x

's Signature

	1st	Defination of pipe
	2nd	Loss of energy in pipes
12th	3rd	Head loss due to friction (Darcy's Formula)
	4th	Head loss due to friction (Chezy's formula)
	5th	X
	6th	X
	1st	simple problems on Darcy's formula
	2nd	simple problems on chezy's formula
13th	3rd	Hydraulic gradient and total gradient Line
	4th	Impact of jet on fixed Flat plate.
	5th	X
	6th	X
	1st	Impact of jet on vertical flat plate
	2nd	Derivation of workdone on series of vane
14th	3rd	Condition for maximum efficiency.
	4th	X
	5th	X
	6th	X
	1st	Impact of jet on moving curved vane
	2nd	velocity triangles derivation of workdone
15th	3rd	X efficiency
	4th	Simple problems on above
	5th	X
	6th	X

Sir Signature .....