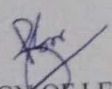
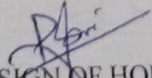
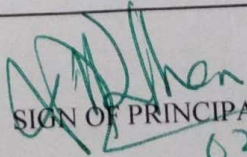


Discipline : <b>MECHANICAL ENGG</b>	Semester : <b>4TH</b>	Name of the Teaching Faculty:Er RAMAKANT SWAIN/Er SUBARNA SINGH
Subject: <b>FLUID MECHANICS</b>	No. of days/per week class allotted: <b>06</b>	Semester From date : <b>04.02.2025</b> To Date: <b>17.05.2025</b> No. of Weeks: <b>10</b>
Week	Class Day	Theory / Practical Topics
1ST	1ST	<b>CH 1.0</b> Introduction about fluid mechanics and hydraulic machines
	2ND	Definitions and Units of Density, Specific weight
	3RD	Definitions and Units of specific gravity, specific volume
	4TH	Definitions and Units of Dynamic viscosity, kinematic viscosity
	5TH	Definitions and Units of surface tension , Capillary phenomenon
	6TH	Problem Solved
2ND	1ST	<b>CH 2.0</b> Definitions and units of fluid pressure, pressure intensity and pressure head
	2ND	Concept of atmospheric pressure, gauge pressure
	3RD	Concept of vacuum pressure and absolute pressure
	4TH	Describe about Pressure measuring instruments
	5TH	Describe about Manometers: Simple and differential
	6TH	Problem solved
3RD	1ST	Describe about Bourden tube pressure gauge
	2ND	Simple problems of Simple and differential manometer
	3RD	Simple problems of Bourden tube pressure gauge
	4TH	<b>CH 3</b> Definition of hydrostatic pressure
	5TH	Discuss about Total pressure and centre of pressure on immersed bodies
	6TH	Problem solved
4TH	1ST	Numerical solved of Total pressure and centre of pressure on immersed bodies
	2ND	Discuss about Archimedis' principle
	3RD	Discuss about concept of buoyancy
	4TH	Discuss about metacentre
	5TH	Discuss about metacentric height
	6TH	Problem solved
5TH	1ST	Discuss about the Concept of floatation
	2ND	<b>CH 4</b> Define fluid flow and Types of fluid flow

	3RD	Discuss about Continuity equation (Statement and proof for one dimensional flow)
	4TH	State & proof Bernoulli's theorem
	5TH	Applications and limitations of Bernoulli's theorem
	6TH	Problem solved
TH	1ST	Discuss about Venturi meter, pitot tube
	2ND	CLASS TEST
	3RD	Discuss $C_c$ , $C_v$ , $C_d$ and relation among them
	4TH	<b>CH 5</b> Definition of orifices,
	5TH	Flow through through orifice
	6TH	Orifice coefficients & the relation between orific co efficient
TH	1ST	classification of notches & weir
	2ND	Discharge over Rectangular notches or weir
	3RD	Discharge over Triangular notches or weir
	4TH	Problem solved
	5TH	Definition of pipe
	6TH	Discuss Flow through pipe
8TH	1ST	Define laws of fluid friction
	2ND	Head loss due to friction: Darcy's formula
	3RD	Head loss due to friction: Chezy's formula
	4TH	Problem solved
	5TH	Define Hydraulic gradient
	6TH	Problem solved
9TH	1ST	Define total gradient line
	2ND	Define impact of jets
	3RD	Discuss about various types of impact of jets
	4TH	Discuss about Impact of jet on fixed and moving vertical flat plates
	5TH	Discuss about derivation of work done on series of vanes
	6TH	Problem solved
10TH	1ST	Discuss about condition for maximum efficiency
	2ND	Discuss about Impact of jet on moving curved vanes
	3RD	Discuss about illustration using velocity triangles
	4TH	Discuss about derivation of work done, efficiency
	5TH	Problem solved
	6TH	Problem solved

  
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