

**U.C.P.ENGG.SCHOOL,ERHAMPUR-10**  
**LESSON PLAN(2021-22)**

**SUBJECT-FLUID MECHANICS**

**CODE-TH 03**

**SEM-4<sup>TH</sup>**

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<b>TOPIC</b>	<b>NO. of classes</b>
Define fluid Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.	05
Definitions and Units of Dynamic viscosity, kinematic viscosity	01
surface tension Capillary phenomenon	02
Definitions and units of fluid pressure, pressure intensity and pressure head.	02
Statement of Pascal's Law. Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure	02
Manometers (Simple and Differential)	02
simple problems on Manometer.	01
Definition of hydrostatic pressure Total pressure and centre of pressure on immersed bodies (Horizontal and Vertical Bodies)	03

Solve simple problem	01
Archimedes 'principle, concept of buoyancy, meta center and meta centric height	02
Concept of floatation	01
<b>Kinematics of Flow</b> Types of fluid flow	01
Continuity equation(Statement and proof for one dimensional flow)	01
Bernoulli's theorem(Statement and proof)	01
Venturimeter, pitot tube	02
Solve simple problems	01
Define orifice Flow through orifice Orifices coefficient & the relation between the orifice coefficients	02
Classifications of notches & weirs	01
Discharge over a rectangular notch or weir	01
Discharge over a triangular notch or weir	01
Simple problems	01
Definition of pipe. Loss of energy in pipes	02
Head loss due to friction: Darcy's and Chezy's formula	01
Solve Problems using Darcy's and Chezy's formula.	01
Hydraulic gradient and total gradient line	1

Impact of jet on fixed and moving vertical flat plates	04
Derivation of work done on series of vanes and condition for maximum efficiency.	03
Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.	04