

Discipline:  
Mechanical

Semester - 4th

Name of the faculty:  
ER. Jitu Patoo.

Subject:  
Fluid Mechanics

No. of days/  
week class - 6

Semester from : 05/04/21

Week	Class day	Theory Topics
	1st	Introduction of fluid mechanics
5th Apr	2nd	Define fluid
to	3rd	Density, Specific Density, Specific gravity
10th Apr	4th	Specific volume
	5th	Solve simple problems.
	6th	Definition and units of Dynamic Viscosity
	1st	Units of kinematic Viscosity.
12th Apr	2nd	Surface tension with Examples
to	3rd	Capillary Action phenomenon.
17th Apr	4th	Maha Visuva Sankranti.
	5th	Definition and units of fluid pressure.
	6th	Pressure intensity and Pressure head.
	1st	statement of Pascal's Law.
	2nd	Concept of atmospheric Pressure, gauge Pressure
19th Apr		
to	3rd	Vacuum Pressure and absolute Pressure.
24th Apr	4th	Ram Navami.
	5th	Manometer Simple with Example.
	6th	Differential Manometer.
	1st	Bourdon tube Pressure gauge.
	2nd	Solve simple Numerical.
26th Apr	3rd	Solve simple Problem on Manometer.
to	4th	Definition of hydrostatic Pressure
1st May	5th	Total pressure and Center of Pressure on immersed bodies.
	6th	Solve simple Problems.
	1st	Archimedes Principle.
3rd May	2nd	Concept of buoyancy
to	3rd	Meta center and meta Centric height
8th May	4th	Concept of flotation.
	5th	Solve Numerical.

Week	Class day	Theory Topics	Week	Class day	Theory Topics
11th	6th	Introduction of kinematic flow.			
10th may	1st	Types of fluid.		6th	Solve Numerical
to	2nd	Continuity equation statement and Proof for one dimensional flow.	7th June	2nd	Discharge over a rectangular notch or weir.
15th may	3rd	Two dimensional flow	to	3rd	Derive the equation.
	4th	Numerical solved.	19th June	4th	Revision.
	5th	Revision		5th	Sabitri Amabasse.
	6th	TD-III-Filter		6th	Discharge over a triangular notch or weir.
	1st	Numerical solved		1st	Derive the equation on triangular notch
17 may	2nd	Bernoulli's theorem (statement and proof)	14th June	2nd	Simple problem on above.
to	3rd	Revision Bernoulli's theorem	to	3rd	Defination of pipe.
22nd may	4th	Application and limitation of Bernoulli's theorem.	19th June	4th	Loss of energy in pipe.
	5th	Construction features of Venturimeter		5th	Raja Sankranti.
	6th	Construction features of Pitot tube and explanation.		6th	Head loss due to friction.
	1st	Problem related to venturimeter.	21st June	1st	Darcy's and chezy's formula
24th may	2nd	Problem related to venturimeter as well as Pitot tube.	to	2nd	Revision.
to	3rd	Revision	26th June	4th	Solved problems using Darcy
29th may	4th	Solve simple problem.		5th	Hydraulic gradient and total gradient line.
	5th	Define orifice with example.		6th	Introduction of orifice jet on fixed & moving vertical flat plate
	6th	Introduction of Flow through pipes		1st	Revision.
	1st	Flow through pipes	28th June		Derivation of orifice jet on series of
31st may	2nd	Orifices coefficient	to		waves and condition for maximum efficiency
to	3rd	Orifice coefficient and the relation between the orifice coefficient.	5th June	2nd	Impact of jet on moving curved waves
5th June	4th	Revision			Illustration using velocity triangles. derivation of work done, efficiency.
	5th	Classification of notches & weirs			Revision.

Dr. J. P. Singh  
05/06/20

J.P.