TOTAL PERIOD-60

NAME OF FACULTY: DEVASIS SAHOO, Lect. (PTGF)   **THEORY-4P/WEEK**

Sl No.	week	Day	Topics to be covered
1	1st	1st day	Define fluid
		2nd day	Description of fluid properties like Density, Specific weight
		3rd day	Specific gravity, specific volume
		4th day	Solve simple problems
Sl No.	week	Day	Topics to be covered
2	2nd	1st day	Definitions and Units of Dynamic viscosity,
		2nd day	Definitions and Units of kinematic viscosity
		3rd day	Surface tension Capillary phenomenon
		4th day	Solve simple problems
Sl No.	week	Day	Topics to be covered
3	3rd	1st day	Definitions and units of fluid pressure,
		2nd day	What is pressure intensity and pressure head ?
		3rd day	Statement of Pascal's Law.
		4th day	Concept of atmospheric pressure, gauge pressure, vacuum and absolute pressure
Sl No.	week	Day	Topics to be covered
4	4th	1st day	What is Pressure measuring instruments Manometers (Simple)
		2nd day	What is Pressure measuring instruments Manometers (Differential)
		3rd day	Bourdon tube pressure gauge(Simple Numerical)
		4th day	Solve simple problems on Manometer.
Sl No.	week	Day	Topics to be covered
5	5th	1st day	Definition of hydrostatic pressure
		2nd day	Total pressure and centre of pressure on immersed bodies(Horizontal Bodies)
		3rd day	Total pressure and centre of pressure on immersed bodies (Vertical Bodies)
		4th day	Solve Simple problems
Sl No.	week	Day	Topics to be covered
6	6th	1st day	What is Archimedes principle?
		2nd day	What is concept of buoyancy? (Definition only)
		3rd day	Meta center and meta centric height (Definition only)
		4th day	Concept of floatation
Sl No.	week	Day	Topics to be covered

Sl No.	week	Day	Topics to be covered
7	7th	1st day	What is fluid flow? Types of fluid flow
		2nd day	What is Continuity equation?
		3rd day	Continuity equation (Statement and proof for one dimensional flow)
		4th day	What is Bernoulli's theorem (Statement and proof)
Sl No.	**week**	**Day**	**Topics to be covered**
8	8th	1st day	What is Venturimeter, pitot tube
		2nd day	Applications and limitations of Bernoulli's theorem
		3rd day	Solve simple problems
		4th day	Solve simple problems
Sl No.	**week**	**Day**	**Topics to be covered**
9	9th	1st day	Define orifice
		2nd day	Flow through orifice
		3rd day	Orifices coefficient & the relation between the orifice coefficients
		4th day	Classifications of notches & weirs
Sl No.	**week**	**Day**	**Topics to be covered**
10	10th	1st day	Discharge over a rectangular notch or weir
		2nd day	Discharge over a triangular notch or weir
		3rd day	Simple problems on above
		4th day	Simple problems on above
Sl No.	**week**	**Day**	**Topics to be covered**
11	11th	1st day	Definition of pipe.
		2nd day	Loss of energy in pipes.
		3rd day	Energy loss through pipe due to friction
		4th day	What is Head loss due to friction?
Sl No.	**week**	**Day**	**Topics to be covered**
12	12th	1st day	Head loss due to friction: Darcy's and Chezy's formula (Expression only)
		2nd day	Head loss due to friction: Chezy's formula (Expression only)
		3rd day	Solve Problems using Darcy's and Chezy's formula.
		4th day	Solve Problems using Darcy's and Chezy's formula.
Sl No.	**week**	**Day**	**Topics to be covered**
13	13th	1st day	What is Hydraulic gradient?
		2nd day	What is total gradient line?
		3rd day	What is jet?
		4th day	What is Impact of jet on fixed flat plates?
Sl No.	**week**	**Day**	**Topics to be covered**
14	14th	1st day	What is Impact of jet on moving vertical flat plates?
		2nd day	Derivation of work done on series of vanes and condition for maximum efficiency.
		3rd day	Derivation of work done on series of vanes and condition for maximum efficiency.
		4th day	Numerical Problem solving
Sl No..	**week**	**Day**	**Topics to be covered**
15	15th	1st day	Numerical Problem solving
		2nd day	Impact of jet on moving curved vanes,
		3rd day	Illustration using velocity triangles,
		4th day	Derivation of work done, efficiency of jet