LESSON PLAN-4TH SEMESTER (2022-23)			
Subject- Fluid mechanics			
Name of the Faculty- P.K.Behera			
MONTH	CHAPTER /UNIT	COURSE TO BE COVERED	CLASSES REQUIRED
decem ber	**Unit-1**	**Properties of Fluid**	**08**
	1.1	Define fluid	01
	1.2	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.	03
	1.3	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon	04
january	**Unit-2**	**Fluid Pressure and its measurements**	**08**
	2.1	Definitions and units of fluid pressure, pressure intensity and pressure head.	02
	2.2	Statement of Pascal's Law.	01
	2.3	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure	01
	2.4	Pressure measuring instruments Manometers (Simple and Differential)	02
	2.4.1	Bourdon tube pressure gauge(Simple Numerical)	01
	2.5	Solve simple problems on Manometer.	01
january	**Unit-3**	**Hydrostatics**	**08**
	3.1	Definition of hydrostatic pressure	01
	3.2	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)	02
	3.3	Solve Simple problems.	02
	3.4	Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only)	02
	3.5	Concept of floatation	01
february	**Unit-4**	**Kinematics of Flow**	**08**
	4.1	Types of fluid flow	01
	4.2	Continuity equation(Statement and proof for one dimensional flow)	02
	4.3	Bernoulli's theorem(Statement and proof) Applications and limitations ofBernoulli's theorem(Venturimeter, pitot tube)	03
	4.4	Solve simple problems	02
february	**Unit-5**	**Orifices, notches & weirs**	**08**
	5.1	Define orifice	01
	5.2	Flow through orifice	01

	5.3	Orifices coefficient & the relation between the orifice coefficients	01
	5.4	Classifications of notches & weirs	01
	5.5	Discharge over a rectangular notch or weir	01
	5.6	Discharge over a triangular notch or weir	01
	5.7	Simple problems on above	02
march	**Unit-6**	**Flow through pipe**	**10**
	6.1	Definition of pipe.	01
	6.2	Loss of energy in pipes.	02
	6.3	Head loss due to friction: Darcy's and Chezy's formula (Expression only)	03
	6.4	Solve Problems using Darcy's and Chezy's formula.	03
	6.5	Hydraulic gradient and total gradient line	01
march	**Unit-7**	**Impact of jets**	**10**
	7.1	Impact of jet on fixed and moving vertical flat plates	03
	7.2	Derivation of work done on series of vanes and condition for maximum efficiency.	02
	7.3	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.	05