NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060, BALASORE (ODISHA)
(Approved by AICTE& affiliated to SCTE&VT, Odisha)

LESSON PLAN

SUBJECT: TH -3 FLUID MECHANICS

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Properties of Fluid	08	08
2	Fluid Pressure and its measurements	08	08
3	Hydrostatics	08	08
4	Kinematics of Flow	08	08
5	orifices, notches & weirs	08	08
6	Flow through pipe	10	10
7	Impact of jets	10	10
	TOTAL	60	60

DISCIPLINE: MECHANICAL ENGG.	Semester: 4TH	**Name of the Teaching Faculty:** ER.RANJIT GIRI
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	1.1 Define fluid
	2nd	1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.
	3rd	1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.
	4th	1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.
2nd	1st	1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	2nd	1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	3rd	1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	4th	2.1 Definitions and units of fluid pressure, pressure intensity and pressure head.
3rd	1st	2.1 Definitions and units of fluid pressure, pressure intensity and pressure head.
	2nd	2.2 Statement of Pascal's Law.
	3rd	2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
	4th	2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
4th	1st	2.4 Pressure measuring instruments Manometers (Simple and Differential)
	2nd	2.4.1 Bourdon tube pressure gauge(Simple Numerical)
	3rd	2.5 Solve simple problems on Manometer
	4th	2.5 Solve simple problems on Manometer
5th	1st	3.1 Definition of hydrostatic pressure
	2nd	3.2 Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical
	3rd	3.2 Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)
	4th	3.3 Solve Simple problems.
6th	1st	3.3 Solve Simple problems.
	2nd	3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only)
	3rd	3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only)
	4th	3.5 Concept of floatation
7th	1st	4.1 Types of fluid flow
	2nd	4.1 Types of fluid flow
	3rd	4.2 Continuity equation(Statement and proof for one dimensional flow)
	4th	4.2 Continuity equation(Statement and proof for one dimensional flow)

8th	1st	4.3 Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	2nd	4.3 Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	3rd	4.4 Solve simple problems
	4th	4.4 Solve simple problems
9th	1st	5.1 Define orifice
	2nd	5.2 Flow through orifice
	3rd	5.3Orifices coefficient & the relation between the orifice coefficients
	4th	5.4 Classifications of notches & weirs
10th	1st	5.5 Discharge over a rectangular notch or weir
	2nd	5.6 Discharge over a triangular notch or weir
	3rd	5.7 Simple problems on above
	4th	5.7 Simple problems on above
11th	1st	6.1 Definition of pipe.
	2nd	6.2 Loss of energy in pipes.
	3rd	6.2 Loss of energy in pipes.
	4th	6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only)
12th	1st	6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only)
	2nd	6.4 Solve Problems using Darcy's and Chezy's formula.
	3rd	6.4 Solve Problems using Darcy's and Chezy's formula.
	4th	6.4 Solve Problems using Darcy's and Chezy's formula.
13th	1st	6.5 Hydraulic gradient and total gradient line
	2nd	6.5 Hydraulic gradient and total gradient line
	3rd	7.1 Impact of jet on fixed and moving vertical flat plates
	4th	7.1 Impact of jet on fixed and moving vertical flat plates
14th	1st	7.1 Impact of jet on fixed and moving vertical flat plates
	2nd	7.2 Derivation of work done on series of vanes and condition for maximum efficiency
	3rd	7.2 Derivation of work done on series of vanes and condition for maximum efficiency
	4th	7.2 Derivation of work done on series of vanes and condition for maximum efficiency
15th	1st	7.2 Derivation of work done on series of vanes and condition for maximum efficiency
	2nd	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	3rd	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	4th	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.