GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR
SESSION PLAN
4TH SEMESTER, BRANCH-MECHANICAL(GROUP 1)
TH -3 FLUID MECHANICS

Name of the Faculty – PROF. LAKSHMI NARAYANA PANDA						
Topics to be taken						
SL NO & CHAPTER	**No. of Periods assigned by SCTE & VT**	**Details of the topics**	**PLANNED DATE**	**Details of the topics**	**ACTUAL DATE**	**Remarks**
1. Properties of Fluid	**8**	1.1 Define fluid 1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems. 1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon	**19.01.2024 TO 2.02.2024**	1.1 Define fluid 1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems. 1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon	**19.01.2024** **20.01.2024** **24.01.2024** **30.01.2024** **31.01.2024** **2.02.2024**	

2. Fluid Pressure and its measurements	**8**	2.1 Definitions and units of fluid pressure, pressure intensity and pressure head. 2.2 Statement of Pascal's Law. 2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure 2.4 Pressure measuring instruments Manometers (Simple and Differential) 2.4.1 Bourdon tube pressure gauge(Simple Numerical) 2.5 Solve simple problems on Manometer.	**3.02.2024 TO 17.02.2024**	2.1 Definitions and units of fluid pressure, pressure intensity and pressure head. 2.2 Statement of Pascal's Law. 2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure 2.4 Pressure measuring instruments Manometers (Simple and Differential) 2.4.1 Bourdon tube pressure gauge(Simple Numerical) 2.5 Solve simple problems on Manometer.	**3.02.2024** **6.02.2024** **7.02.2024** **9.02.2024** **10.02.2024** **13.02.2024** **16.02.2024** **17.02.2024**	

3. Hydrostatics	**8**	3.1 Definition of hydrostatic pressure 3.2 Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies) 3.3 Solve Simple problems. 3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only) 3.5 Concept of floatation	**20.02.2024 TO 28.02.2024**	3.1 Definition of hydrostatic pressure 3.2 Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies) 3.3 Solve Simple problems. 3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only) 3.5 Concept of floatation	**20.02.2024** **21.02.2024** **23.02.2024** **24.02.2024** **27.02.2024** **28.02.2024**	

4. Kinematics of Flow	**8**	4.1 Types of fluid flow 4.2 Continuity equation(Statement and proof for one dimensional flow) 4.3 Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube) 4.4 Solve simple problems	**1.03.2024 TO 15.03.2024**	4.1 Types of fluid flow 4.2 Continuity equation(Statement and proof for one dimensional flow) 4.3 Bernoulli's theorem(Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube) 4.4 Solve simple problems	**1.03.2024** **2.03.2024** **6.03.2024** **12.03.2024** **13.03.2024** **15.03.2024**	
5. Orifices, notches & weirs	**8**	5.1 Define orifice 5.2 Flow through orifice 5.3Orifices coefficient & the relation between the orifice coefficients 5.4 Classifications of notches & weirs 5.5 Discharge over a rectangular notch or weir 5.6 Discharge over a triangular notch or weir 5.7 Simple problems on above	**16.03.2024 TO 27.03.2024**	5.1 Define orifice 5.2 Flow through orifice 5.3 Orifices coefficient & the relation between the orifice coefficients 5.4 Classifications of notches & weirs 5.5 Discharge over a rectangular notch or weir 5.6 Discharge over a triangular notch or weir 5.7 Simple problems on above	**16.03.2024** **19.03.2024** **20.03.2024** **22.03.2024** **23.03.2024** **27.03.2024**	

6. Flow through pipe	**10**	6.1 Definition of pipe. 6.2 Loss of energy in pipes. 6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only) 6.4 Solve Problems using Darcy's and Chezy's formula. 6.5 Hydraulic gradient and total gradient line	**30.03.2024 TO 12.04.2024**	6.1 Definition of pipe. 6.2 Loss of energy in pipes. 6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only) 6.4 Solve Problems using Darcy's and Chezy's formula. 6.5 Hydraulic gradient and total gradient line	**30.03.2024** **2.04.2024** **3.04.2024** **5.04.2024** **6.04.2024** **9.04.2024** **10.04.2024** **12.04.2024**	

7. Impact of jets	**10**	7.1 Impact of jet on fixed and moving vertical flat plates 7.2 Derivation of work done on series of vanes and condition for maximum efficiency. 7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.	**13.04.2024 TO 27.04.2024**	7.1 Impact of jet on fixed and moving vertical flat plates 7.2 Derivation of work done on series of vanes and condition for maximum efficiency. 7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.	**13.04.2024** **16.04.2024** **17.04.2024** **19.04.2024** **20.04.2024** **23.04.2024** **24.04.2024** **26.04.2024** **27.04.2024**	

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BHABANDHA, BERHAMPUR
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4TH SEMESTER, BRANCH-MECHANICAL(GROUP 2)
TH -3 FLUID MECHANICS

Name of the Faculty – ER. RAKESH TRIPATHY						
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