

S.E. (Mechanical and Automobile Engineering)

FLUID MECHANICS

(2019Pattern) (Semester-II)

1. Write short note on HGL & TEL.
2. Derive an expression for Velocity and shear stress for laminar steady flow between two parallel plate
3. Explain Modified Bernoulli's Theorem with Mathematical equation.
4. Write short note on i) Euler number ii) Reynolds number iii) Weber Number.
5. State and explain Buckingham's pi theorem.
6. Explain how dimensional analysis is used in analyzing fluid flow problems?
7. Write a short note on i) Stream Line ii) Stream Function iii) Stream tube.
8. Explain Separation of boundary Layer with neat sketch
9. Write a short note on (i) Stead Flow & Unsteady Flow (ii) Streak Line
10. Explain Langrangian Method.
11. A fluid of viscosity 0.5 Ns/m^2 and specific gravity 1.5 is flowing through a circular pipe of diameter 120 mm. The maximum shear stress at the pipe wall is given as 196.3 N/m^2 , Find (i) the pressure gradient, (ii) the average velocity, and (iii) Reynolds number of the flow
12. State and explain Froude's Model law
13. Derive an expression for Darcy-Wiesbach equation for flow through pipes
14. State and explain Reynold's Model law
15. Derive an expression of Velocity & Shear Stress distribution for laminar flow.