

## Tutorial 2

- 1) Name some important properties of liquids.
- 2) Explain briefly the following terms:
  - (i) Mass density (ii) Weight density
  - (iii) Specific volume (iv) Specific gravity.
- 3) What do you mean by the term 'Viscosity'?
- 4) State and explain the Newton's law of viscosity  
And Explain briefly the following:
  - (i) Surface tension, and
  - (ii) Compressibility.
- 5) What is capillarity? Derive expression for height of capillary rise.
- 6) Determine the mass density, specific volume and specific weight of a liquid whose specific gravity is 0.85.  
[Ans. 850 kg/m<sup>3</sup>, 0.00118 m<sup>3</sup>/kg, 8350 N/m<sup>3</sup>]
- 7.) A liquid has a specific gravity of 1.9 and kinematic viscosity of 6 stokes. What is its dynamic viscosity? [Ans. 11.38 poise]
- 8.) . A plate has an area of 1 m<sup>2</sup>. It slides down an inclined plane, having angle of inclination 45° to the horizontal, with a velocity of 0.5 m/s. The thickness of oil film between the plane and the plate is 1 mm. Find the viscosity of the fluid if the weight of the plate is 70.72 N.  
[Ans. 1 poise]
- 9) What is dynamic viscosity? What are its units?
- 10) What is kinematic viscosity? What are its units?
- 11) . What is a Newtonian fluid?
- 12) . Define the term vapour pressure. How does it vary with temperature?
- 13) . What is the difference between cohesion and adhesion?