

**KENDRIYA VIDYALAYA, JALGAON**  
**CLASS- XI**  
**TEST- Mechanics of Fluids**

**Time Allowed: 1hour.**

**M. M 20**

**Date: 18/5/2020**

1. A body measures 5N in air and 2N when put in water. The buoyant force is. (1)
  - a) 7 N
  - b) 9 N
  - c) 3 N
  - d) None of these
  
2. An ice cube having a large air bubble is floating in water in a trough. The whole of the ice melts; the level of water in trough. (1)
  - a) Rises
  - b) Falls
  - c) Remains unchanged
  - d) Changes erratically
  
3. The Bernoulli theorem is based on the conservation of. (1)
  - a) Mass
  - b) Energy
  - c) Momentum
  - d) All of the above
  
4. Water on a clean glass surface tends to spread out, while mercury on the same surface tends to form drops. Give reason. (2)
  
5. Two soap bubbles of radii 3 cm and 4 cm respectively combines to form a bubble of radius r. What is the value of r? (2)
  
6. What is the pressure on a swimmer 10 m below the surface of a lake? Given atmospheric pressure=  $1.01 \times 10^5$  Pascal. (2)
  
7. Find the work done in blowing a soap bubble of surface tension 0.06 N/m from 2 cm radius to 5 cm radius. (3)

8. State the conditions of floatation of a body. Describe when the body is said to be in stable and unstable equilibrium. (3)
9. Derive an expression for rise of liquid in a capillary tube. State what happens when the height to which a liquid can rise is more than the length of actual tube. (5)