



Class 11 Physics | Mechanical Properties Of Fluids

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Pressure at depth h in a liquid of density ρ exceeds surface pressure by:

- A. gh/ρ B. ρgh C. $\rho g/h$ D. $\rho h/g$

2. A point 2 m below water surface has gauge pressure ($\rho=1000$, $g=10$):

- A. 200 kPa B. 0.2 kPa C. 2 kPa D. 20 kPa

3. A hydraulic press has piston areas in ratio 1:20. A 50 N input produces ideally:

- A. 50 N B. 20 N C. 1000 N D. 2.5 N

4. A floating body displaces liquid whose weight is:

- A. Equal to its own weight
B. Zero
C. Always less than its weight
D. Always greater than its weight

5. Water flows steadily through a pipe. If area halves, speed becomes:

- A. Unchanged B. Twice C. Four times D. Half

6. For steady horizontal ideal-fluid flow, greater speed accompanies:

- A. Higher pressure
B. Greater density necessarily
C. Unchanged pressure necessarily
D. Lower pressure

7. Water exits a small hole 1.25 m below the free surface. Speed ($g=10$) is:

- A. 25 m/s B. 5 m/s C. 2.5 m/s D. 12.5 m/s

8. SI unit of surface tension is:

- A. N/m B. kg/m^3 C. Pa s D. N m

9. Excess pressure inside a soap bubble of radius r is:

- A. $2S/r$ B. $8Sr$ C. $4S/r$ D. S/r

10. Excess pressure inside a liquid drop of radius r is:

- A. $4S/r$ B. $S/(2r)$ C. $2S/r$ D. $2Sr$

11. For complete wetting, capillary rise is inversely proportional to:

- A. g^{-1} B. Surface tension
C. Tube radius D. Liquid density $^{-1}$

12. If a capillary radius doubles, rise of the same liquid becomes:

- A. Unchanged B. Four times C. Half D. Twice

13. Stokes' drag on a slowly moving sphere is:

- A. $\eta v/r$ B. $6\pi\eta r v$ C. $6\pi\eta r v$ D. $6\pi\eta r^2 v$

14. Under Stokes' law, terminal speed of a sphere is proportional to:

- A. Radius squared
B. Radius
C. Inverse radius
D. Inverse radius squared

15. Water does not wet a waxed surface well. Its contact angle is typically:

- A. Greater than 90° B. Always 45°
C. Always 90° D. Zero

ANSWER KEY — check after completing all 15 questions

1.B 2.D 3.C 4.A 5.B 6.D 7.B 8.A 9.C 10.C 11.C 12.C 13.C 14.A 15.A

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper