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- 1. The frictional effect present between different layers of a moving fluid is called its**
(a) fluidity (b) density
(c) viscosity (d) none of these
 - 2. Stoke's law holds for bodies moving through**
(a) free space (b) horizontal plane
(c) viscous medium (d) air
 - 3. A force that opposes the motion of a body moving through it is called**
(a) frictional force (b) gravitational force
(c) drag force (d) impulsive force
 - 4. The rate of flow of a liquid is expressed in the units of**
(a) $\text{Nm}^3 \text{s}$ (b) $\text{kg m}^3 \text{s}^{-1}$
(c) $\text{m}^3 \text{s}^2$ (d) $\text{m}^3 \text{s}^{-2}$
 - 5. Stoke's law holds for bodies when these have**
(a) any shape (b) spherical shape
(c) oblong shape (d) rectangular shape
 - 5. The co-efficient of viscosity is expressed in the units of**
(a) kgm^{-1} (b) $\text{kgm}^{-1}\text{s}^{-2}$
(c) kgm^{-2} (d) $\text{kgm}^{-1}\text{s}^{-1}$
 - 6. The dimensions of co-efficient of viscosity are**
(a) ML^2T^{-1} (b) $\text{ML}^{-2}\text{T}^{-1}$
(c) MLT^{-1} (d) $\text{ML}^{-1}\text{T}^{-1}$
 - 7. A rain drop falls down in air with**
(a) increasing speed and increasing acceleration
(b) decreasing speed and increasing acceleration
(c) increasing speed and decreasing acceleration
(d) decreasing speed and decreasing acceleration

- 8. The terminal velocity of a body falling through a fluid**
 (a) increases with increasing mass
 (b) decreases with increasing mass
 (c) is independent of its mass
 (d) is independent of its size
- 9. The terminal velocity of a spherical droplet is**
 (a) inversely proportional to its radius
 (b) directly proportional to its radius
 (c) directly proportional to the square of its radius
 (d) inversely proportional to the square of its radius
- 10. A fog droplet falls vertically with an acceleration**
 (a) equal to g (b) less than g
 (c) equal to zero (d) greater than g
- 11. Hails fall faster than rain drops due to their**
 (a) greater mass (b) greater size
 (c) solid shape (d) none of these
- 12. A fluid is said to be ideal if it satisfies the following conditions**
 (a) is non-viscous
 (b) is non-viscous and in-compressible
 (c) is non-viscous, incompressible and has steady flow
 (d) has steady flow and is non-viscous
- 13. Fluid dynamics is analogous to mechanics of moving objects. Which of the following pairs of quantities are analogous?**
- | Fluid dynamics | – Mechanics of objects |
|---------------------------|-------------------------------|
| 1- Equation of continuity | Law of conservation of mass |
| 2- Bernoulli's theorem | Law of conservation of energy |
| 3- Fluidity | Momentum |
- (a) 1 and 3 (b) 1 and 2
 (c) 2 and 3 (d) 1, 2 and 3
- 14. In a steady flow of water through a pipe of non-uniform bore, its velocity at a thicker area of cross-section 0.25**

- m^2 is 2 ms^{-1} . At thinner cross-section of half of this area, its speed is**
- (a) 1 ms^{-1} (b) 2 ms^{-1}
(c) 4 ms^{-1} (d) 8 ms^{-1}
- 15. The liquid in a perfume sprayer emerges at high speed because of the**
- (a) work done in pressing the nozzle
(b) creation of the pressure difference
(c) narrow size of the nozzle
(d) smaller density of the liquid
- 16. An aerofoil moves through the air and experiences lift. Which of the following statements is / are true?**
- 1. Air moves faster across the top of the aerofoil than across the bottom**
2. Air pressure below the aerofoil is greater than above
3. The upward lift is independent of the velocity of the aerofoil
- (a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 2 only
- 17. Identify the correct answer in the light of Bernoulli's theorem**
- (a) Where the speed of the fluid is high, the pressure will be low
(b) Where the speed of the fluid is low, the pressure is also low
(c) This theorem holds for turbulent flow of the fluid
(d) Pressure of a fluid is independent of its speed
- 18. For which body position, will the systolic blood pressure have the least value in the body?**
- (a) Standing up right (b) Sitting relaxed
(c) Lying horizontally (d) Standing on one's head
- 19. Two boats moving parallel to each other in water in the same direction**
- (a) are moved away from each other
(b) are pulled towards each other
(c) continue their motion unaffected
(d) none of these
- 20. 1 torr equals**
- (a) 13.33 Nm^{-2} (b) 1.333 Nm^{-2}
(c) 133.3 Nm^{-2} (d) 1333 Nm^{-2}

- 21. Study of fluids in motion is called**
 (a) fluid resistance (b) fluid mobility
 (c) fluid static (d) fluid dynamics
- 22. Drag force is also called**
 (a) terminal force (b) retarding force
 (c) increased force (d) attractive force
- 23. Viscosity of air at 30° C in Nsm⁻² is**
 (a) 0.019×10^{-3} (b) 0.019×10^5
 (c) 0.019×10^6 (d) 0.019×10^7
- 24. Irregular flow of a fluid is also called**
 (a) turbulent flow (b) laminar flow
 (c) both 'a' and 'b' (d) none of these
- 25. Which equation represents law of conservation of mass in fluids?**
 (a) $\rho A = \text{Constant}$ (b) $\rho A v = \text{Constant}$
 (c) $\rho \eta v = \text{Constant}$ (d) $\frac{\rho}{Av} = \text{Constant}$
- 26. Blood is**
 (a) a compressible fluid (b) an incompressible fluid
 (c) non-viscous fluid (d) an ideal fluid
- 27. Carburetor of a car uses**
 (a) Newton's laws (b) Kepler's laws
 (c) Bernoulli's equation (d) Coulomb's law
- 28. Fluids that do not flow easily have**
 (a) large co-efficient of viscosity.
 (b) small co-efficient of viscosity.
 (c) intermediate co-efficient of viscosity.
 (d) no viscosity.
- 29. Torricelli's theorem states that**
 (a) $v_2 = \sqrt{2gh}$ (b) $v_2 = \sqrt{2g(h_1 - h_2)}$
 (c) $v_2 = \sqrt{2(h_1 - h_2)}$ (d) $v_2 = \sqrt{2g(h_1 + h_2)}$
- 30. Air blows from**
 (a) high pressure to low pressure.

- (b) low pressure to high pressure.
- (c) hot regions to cold regions.
- (d) cold regions to hot regions.

- 31. The term $\frac{1}{2} \rho v^2$ has the dimensions of**
- (a) work
 - (b) force
 - (c) density
 - (d) pressure
- 32. Above a certain velocity, the motion of a fluid becomes**
- (a) steady and regular
 - (b) unsteady and regular
 - (c) steady and irregular
 - (d) unsteady and irregular
- 33. Taller the chimney, _____ will be the draught.**
- (a) smaller
 - (b) steadier
 - (c) slower
 - (d) greater
- 34. $P_1 - P_2 = \frac{1}{2} \rho v^2$ is called**
- (a) Bernoulli's equation
 - (b) Equation of continuity
 - (c) Venturi's relation
 - (d) none of these.
- 35. The term ρgh for a liquid represent its**
- (a) viscosity
 - (b) density
 - (c) pressure
 - (d) fluidity
- 36. Blood vessels are**
- (a) rigid
 - (b) non-rigid
 - (c) hard
 - (d) flexible
- 37. Sphygmomanometer is a device to measure**
- (a) pulse rate
 - (b) red cells in blood
 - (c) blood pressure
 - (d) blood speed
- 38. The path followed by the particle of a fluid is called**
- (a) streamline path
 - (b) line of flow
 - (c) orderly path
 - (d) none of these
- 39. In a steady flow,**
- (a) the streamlines cross line of flow
 - (b) the streamlines are perpendicular to the line of flow
 - (c) the streamlines coincide the line of flow
 - (d) none of these.
- 40. An incompressible fluid is one in which**

- (a) change of pressure does not change the density.
- (b) change of pressure changes density of the liquid
- (c) increase of pressure produces decrease of density
- (d) decrease of pressure produces increase of density

Key to Test Chapter 6

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