

1. What is the engineering unit of measurement for pressure?

- a) Newton (N)
- b) Pascal (Pa)
- c) Joule (J)
- d) Kilogram (kg)

Answer: b) Pascal (Pa)

Explanation: Pressure is measured in Pascals (Pa), named after the French mathematician Blaise Pascal. It is defined as one Newton per square meter.

2. Which property of a fluid refers to the force exerted by the fluid per unit area?

- a) Density
- b) Specific gravity
- c) Surface tension
- d) Pressure

Answer: d) Pressure

Explanation: Pressure in a fluid is the force exerted by the fluid per unit area. It is essential in determining fluid behavior and is crucial in various engineering applications.

3. What is the SI unit of surface tension?

- a) Newton per cubic meter (N/m^3)
- b) Newton per meter (N/m)
- c) Pascal (Pa)
- d) Joule (J)

Answer: b) Newton per meter (N/m)

Explanation: Surface tension is measured in Newton per meter (N/m), representing the energy required to increase the surface area of a liquid by one square meter.

4. Which property of a fluid is defined as its resistance to flow?

- a) Density
- b) Specific weight
- c) Viscosity
- d) Bulk modulus of elasticity

Answer: c) Viscosity

Explanation: Viscosity is the property of a fluid that represents its resistance to flow. It is a crucial factor in determining how easily a fluid can flow through pipes or around objects.

5. What is the pressure exerted by a fluid at a point within the fluid called?

- a) Absolute pressure
- b) Gauge pressure
- c) Atmospheric pressure
- d) Hydrostatic pressure

Answer: d) Hydrostatic pressure

Explanation: Hydrostatic pressure refers to the pressure exerted by a fluid at a point within the fluid due to the weight of the fluid above that point.

6. In a manometer, what is the term for the difference in height between the two fluid

columns?

- a) Pressure head
- b) Piezometric head
- c) Manometric head
- d) Hydraulic head

Answer: c) Manometric head

Explanation: The manometric head refers to the difference in height between the two fluid columns in a manometer. It indicates the pressure difference between two points in a fluid system.

7. Which force acts vertically upward on a submerged or floating body in a fluid?

- a) Centrifugal force
- b) Buoyant force
- c) Gravitational force
- d) Viscous force

Answer: b) Buoyant force

Explanation: The buoyant force is the upward force exerted by a fluid on a submerged or floating body, counteracting the force of gravity.

8. What is the term for the condition when a floating body is in stable equilibrium?

- a) Neutral equilibrium
- b) Unstable equilibrium
- c) Metastable equilibrium
- d) Stable equilibrium

Answer: d) Stable equilibrium

Explanation: In stable equilibrium, a floating body returns to its original position after being displaced slightly. It indicates a balanced state where small disturbances do not cause further displacement.

9. Which property of a fluid determines its ability to dissolve other substances?

- a) Density
- b) Specific gravity
- c) Surface tension
- d) Vapor pressure

Answer: d) Vapor pressure

Explanation: Vapor pressure is the pressure exerted by a vapor when it is in equilibrium with its liquid phase. It plays a significant role in determining a fluid's ability to dissolve other substances.

10. What is the term for the ratio of the density of a substance to the density of a reference substance (usually water)?

- a) Density ratio
- b) Specific weight
- c) Specific gravity
- d) Relative density

Answer: c) Specific gravity

Explanation: Specific gravity is the ratio of the density of a substance to the density of a

reference substance (usually water). It is a dimensionless quantity and is commonly used in various engineering applications.

11. What is the SI unit of viscosity?

- a) N/m^2
- b) kg/m^3
- c) Ns/m^2
- d) N/m

Answer: c) Ns/m^2

Explanation: The SI unit of viscosity is the Newton-second per square meter (Ns/m^2), also known as Pascal-second (Pa.s). It represents the fluid's resistance to shear stress.

12. Which property of a fluid is defined as the ratio of the fluid's mass to its volume?

- a) Density
- b) Specific weight
- c) Specific volume
- d) Specific gravity

Answer: c) Specific volume

Explanation: Specific volume is defined as the ratio of the fluid's mass to its volume. It is the reciprocal of density and is commonly used in thermodynamics and fluid mechanics.

13. What is the term for the change in pressure with depth in a static fluid?

- a) Pascal's Law
- b) Archimedes' Principle

- c) Bernoulli's Principle
- d) Hydrostatic pressure

Answer: d) Hydrostatic pressure

Explanation: Hydrostatic pressure refers to the change in pressure with depth in a static fluid. It follows Pascal's Law and is crucial in understanding fluid behavior in various engineering applications.

14. Which instrument is used to measure the pressure of a fluid in a closed container relative to atmospheric pressure?

- a) Barometer
- b) Manometer
- c) Thermometer
- d) Hydrometer

Answer: b) Manometer

Explanation: A manometer is used to measure the pressure of a fluid in a closed container relative to atmospheric pressure. It consists of a U-shaped tube filled with a liquid and is widely used in various pressure measurement applications.

15. What is the term for the tendency of a fluid to rise or fall in a narrow tube due to surface tension?

- a) Capillarity
- b) Viscosity
- c) Surface tension
- d) Buoyancy

Answer: a) Capillarity

Explanation: Capillarity is the tendency of a fluid to rise or fall in a narrow tube due to surface tension. It plays a significant role in various natural phenomena and engineering applications.

16. Which force acts horizontally on a submerged or floating body in a fluid?

- a) Centrifugal force
- b) Buoyant force
- c) Gravitational force
- d) Viscous force

Answer: a) Centrifugal force

Explanation: The centrifugal force acts horizontally on a submerged or floating body in a fluid, perpendicular to the direction of motion. It is caused by the rotation of the fluid or the body.

17. What is the term for the pressure measured relative to atmospheric pressure?

- a) Absolute pressure
- b) Gauge pressure
- c) Hydrostatic pressure
- d) Atmospheric pressure

Answer: b) Gauge pressure

Explanation: Gauge pressure is the pressure measured relative to atmospheric pressure. It indicates the pressure difference between the measured pressure and atmospheric pressure.

18. What is the term for the resistance of a fluid to deformation under pressure?

- a) Surface tension
- b) Viscosity
- c) Bulk modulus of elasticity
- d) Capillarity

Answer: c) Bulk modulus of elasticity

Explanation: Bulk modulus of elasticity is the resistance of a fluid to deformation under pressure. It represents the fluid's compressibility and is a crucial property in understanding its behavior under different conditions.

19. Which principle states that the pressure exerted by a fluid at a point is transmitted undiminished in all directions?

- a) Archimedes' Principle
- b) Pascal's Law
- c) Bernoulli's Principle
- d) Newton's Third Law

Answer: b) Pascal's Law

Explanation: Pascal's Law states that the pressure exerted by a fluid at a point is transmitted undiminished in all directions. It is fundamental in understanding fluid behavior and is widely applied in hydraulic systems.

20. What is the term for the pressure exerted by the vapor of a substance in equilibrium with its liquid phase?

- a) Atmospheric pressure
- b) Absolute pressure

- c) Vapor pressure
- d) Hydrostatic pressure

Answer: c) Vapor pressure

Explanation: Vapor pressure is the pressure exerted by the vapor of a substance in equilibrium with its liquid phase. It depends on the temperature and the properties of the substance and is crucial in various applications, including evaporation and boiling.