

# SCIENCE QUIZ - September 2021

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1. What are the conditions for 'something' to be called matter?  
(A) occupy space (B) have mass  
(C) felt by any of our five senses (D) all of these.
2. Which processes provide the best evidence for the motion of particle in matter?  
(A) diffusion and Brownian motion  
(B) Brownian motion  
(C) Effusion  
(D) Particles of matter have space between them.
3. When sugar is dissolved in water, there is no increase in the volume. Which characteristics of matter is illustrated by this observation?  
(A) particles of matter attract each other  
(B) particles of matter have spaces between them  
(C) particles of matter are continuously moving  
(D) matter is made up of particles
4. A piece of chalk can be broken into small pieces particles by hammering but a piece of iron cannot be taken into small pieces by hammering. Which characteristics of the particles of matter is illustrated by these observations?  
(A) this shows that particles of iron attract each other with a greater force than the particle of chalk.  
(B) matter is made up of particles  
(C) particles of iron have space between them  
(D) none of these
5. What is the general name of 'rigid' form of matter?  
(A) liquid (B) solid (C) gas (D) none of these

6. Which one has maximum inter particle attractions and minimum space between particles?  
(A) solid (B) liquid (C) gas (D) all of these
7. Which gas is supplied in compressed form in hospitals?  
(A) LPG (B) CNG (C) oxygen (D) none of these
8. Water is liquid at room temperature due to fact that  
(A) water has fixed volume but no fixed shape  
(B) particles of water have large intermolecular spaces between them and intermolecular force of attraction between the particles is small  
(C) water flows freely  
(D) all of these
9. Honey is more viscous than water because -----  
(A) intermolecular forces of attraction between honey particle is more than that of water molecules  
(B) intermolecular force of attraction between Honey particles is less than that of water molecules  
(C) intermolecular force of attraction between honey particle is same as that of water molecules  
(D) none of these
10. Which two gases of air dissolved in water by diffusion, used by aquatic animals and plants?  
(A) oxygen and carbon dioxide (B) oxygen and nitrogen  
(C) carbon dioxide and nitrogen (D) helium and oxygen.
11. Which one of the following statements is correct in respect to fluids?  
(A) only gases behave as fluids  
(B) gases and solids behave as fluids  
(C) gases and liquids behave as fluids  
(D) only liquids are fluids

12. In which of the following conditions the distance between the molecules of hydrogen gas would increase?

- (i) increasing pressure on hydrogen contained in a closed container
- (ii) some hydrogen gas leaking out of the container
- (iii) increasing the volume of the container of hydrogen gas
- (iv) adding more hydrogen gas to the container without increasing the volume of the container.

(A) (i) and (iii)      (B) (i) and (iv)      (C) (ii) and (iii)      (D) (ii) and (iv)

13. Bromine and air take about 15 minutes to diffuse completely but bromine diffuses into a vacuum very rapidly why is this so?

- (A) motion of bromine particles is obstructed due to the collision with the moving air particles.
- (B) bromine diffuses very rapidly in vacuum because in vacuum there is no gas and the motion of the particles of bromine gas is not obstructed by any other particles.
- (C) both (A) and (B) statements are wrong
- (D) none of these

14. Why is liquid (the hydraulic fluid) used to operate the brakes in a car?

- (A) the particles in brake oil can move freely without being compressed much
- (B) this can transmit the applied force into the pressure, which is applied on the brakes efficiently
- (C) both (A) and (B) are correct
- (D) none of these

15. When heat is constantly supplied by a burner to boiling water, then the temperature of the water during vaporization -----
- (A) rises very slowly
  - (B) rises rapidly until steam is produced
  - (C) first rises and then becomes constant
  - (D) does not rise at all.
16. Which one of the following set of phenomena would increase on raising the temperature?
- (A) diffusion, evaporation, compression of gases
  - (B) evaporation, compression of gases, solubility
  - (C) evaporation, diffusion, and expansion of gases,
  - (D) evaporation, solubility, diffusion and compression of gases.
17. Which of the following represent the suitable condition for the liquefaction of gases?
- (A) low temperature, low pressure
  - (B) high temperature, low pressure
  - (C) low temperature, high pressure
  - (D) high temperature high pressures.
18. Which of the following factors are responsible for the change in state of solid carbon dioxide, when kept exposed to air?
- (A) increasing in pressure, increase in temperature
  - (B) increase in temperature, decrease in pressure
  - (C) decrease in pressure, decrease in temperature
  - (D) none of these
19. During respiration, glucose and oxygen enter our body cells and waste products carbon dioxide and water leave the body cells by the process of-----
- (A) diffusion (B) osmosis (C) diffusion (D) plasmolysis

20. Why does a gas exert pressure?
- (A) When gas is stored in a container, the fast moving particles of gas collide with each other and with the walls of the container
  - (B) gases have large intermolecular space and weak intermolecular force of attraction
  - (C) gases are easily compressible
  - (D) none of these
21. The best evidence for the existence and movement of particles in liquids was provided by ----
- (A) John Dalton
  - (B) Ernest Rutherford
  - (C) J J Thomson
  - (D) Robert Brown
22. When a beam of sunlight enters a room through a window, we can see tiny particles 'x' suspended in a gas or air which are moving rapidly in a very haphazard manner. What is the phenomenon and exhibited by particles 'X' known as -----
- (A) Brownian movement
  - (B) diffusion
  - (C) osmosis
  - (D) distribution
23. Which one of the following does not undergo sublimation?
- (A) iodine
  - (B) sodium chloride
  - (C) ammonium chloride
  - (D) camphor
24. Which of the following process/ processes release heat?
- (i) condensation (ii) vaporization (iii) freezing (iv) melting point
- (A) only (i)
  - (B) only (iv)
  - (C) (i) and (iii)
  - (D) (ii) and (iv)
25. If the temperature of an object is 268 K. It will be equivalent to-----
- (A)  $-5^{\circ}\text{C}$
  - (B)  $+ 50^{\circ}\text{C}$
  - (C)  $368^{\circ}\text{C}$
  - (D)  $-25^{\circ}\text{C}$
26. Which of the following energy is absorbed during the change of state of a substance?
- (A) specific heat
  - (B) latent heat
  - (C) heat capacity
  - (D) heat of solution
27. A process in which a gas changes into a liquid on cooling is called-----
- (A) freezing
  - (B) condensation
  - (C) boiling
  - (D) vaporization

## ANSWERS

1. (D) 2. (A) 3. (B) 4. (A) 5. (B) 6. (A) 7. (C) 8. (D) 9. (A) 10. (A)  
11. (C) 12. (C) 13. (B) 14. (C) 15. (D) 16. (C) 17. (C) 18. (B) 19. (C) 20. (A)  
21. (D) 22. (A) 23. (B) 24. (C) 25. (A) 26. (B) 27. (B)