Multiple Choice Questions

1. **Which of the following is not considered matter?**
   (a) Air (b) Water
   (c) Love (d) Stone

2. **Matter is made up of very tiny particles which**
   (a) Do not move
   (b) Have spaces between them
   (c) Are visible to naked eye
   (d) Have no mass

3. **The spreading of smell of incense stick in air is due to**
   (a) Evaporation (b) Condensation
   (c) Diffusion (d) Freezing

4. **Which state of matter has fixed shape and fixed volume?**
   (a) Liquid (b) Gas
   (c) Solid (d) Plasma

5. **Which of the following is highly compressible?**
   (a) Ice (b) Water
   (c) Iron (d) Air

6. **The process of change of liquid into vapour at any temperature below boiling point is called**
   (a) Boiling (b) Sublimation
   (c) Evaporation (d) Fusion

7. **Which state of matter shows maximum kinetic energy of particles?**
   (a) Liquid
   (b) Solid
   (c) Plasma
   (d) Gas

8. **The temperature at which a solid changes into liquid is called**
   (a) Freezing point (b) Melting point
   (c) Boiling point (d) Condensation point

9. **Evaporation causes cooling because**
   (a) Heat is released to surroundings (b) Particles lose mass
   (c) Surrounding temperature increases (d) Particles absorb heat from surroundings

10. **Which factor does not affect evaporation?**
(a) Surface area (b) Wind speed
(c) Density (d) Humidity

Fill in the blanks :

11. The intermixing of particles of different substances on their own is called _____.

12. The SI unit of temperature is _____.

True / False

13. Particles of matter are continuously moving.

14. Liquids have a fixed shape.

Very Short Type Questions

15. What is diffusion?

16. Name one factor that affects evaporation.

Short Type Questions

17. Why are gases easily compressible?

18. State any two differences between solids and liquids.

Essay Type Questions

19. Explain the characteristics of particles of matter with suitable examples.

20. Describe the three states of matter and explain how they differ from each other.

HOTS

21. **Assertion (A) :** Evaporation causes cooling.
Reason (R) : During evaporation, particles absorb heat energy from their surroundings.
(a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

1. **(c)** Love
2. **(b)** Have spaces between them
3. **(c)** Diffusion
4. **(c)** Solid
5. **(d)** Air
6. **(c)** Evaporation
7. **(d)** Gas
8. **(b)** Melting point
9. **(d)** Surrounding temperature increases
10. **(c)** Density
11. Diffusion
12. Kelvin
13. True
14. False
15. Diffusion is the spontaneous intermixing of particles of different substances.
16. Temperature.
17. Gases are easily compressible because their particles are far apart and have very weak forces of attraction.
18. • Solids have fixed shape, liquids do not.
    • Solids are rigid, liquids can flow.
19. All matter around us—solids, liquids, and gases—is made up of very tiny particles called particles of matter. These particles have certain important characteristics.
First, particles of matter are extremely small and cannot be seen with the naked eye. For example, when sugar is dissolved in water, it seems to disappear, but the water still tastes sweet. This shows that sugar particles are very tiny and remain present in the water.
Second, particles of matter have spaces between them. The amount of space differs in solids, liquids, and gases. When salt is dissolved in water, the salt particles occupy the spaces between water particles, so the water level does not increase much.
Third, particles of matter are in constant motion. Their movement increases with an increase in temperature. This is why the smell of perfume spreads throughout a room on its own.
Lastly, particles of matter attract each other. This force of attraction is strongest in solids and weakest in gases. For example, a stretched rubber band returns to its original shape due to attraction between its particles.

20. Matter mainly exists in three states: solid, liquid, and gas. These states differ because of the arrangement, movement, and attraction between their particles.
In the solid state, particles are very closely packed and have a strong force of attraction between them. Solids have a fixed shape and a fixed volume. The particles cannot move freely and can only vibrate at their fixed positions. Because of this, solids are hard and rigid.
Common examples of solids include stone, wood, ice, and iron.
In the liquid state, particles are less closely packed than in solids and have a moderate force of attraction. Liquids have a fixed volume but no fixed shape, as they take the shape of the container. The particles can move and slide past one another. Examples of liquids are water, milk, oil, and juice.
In the gaseous state, particles are far apart and have a very weak force of attraction. Gases have neither a fixed shape nor a fixed volume. Their particles move freely and very fast. Examples include air, oxygen, carbon dioxide, and steam.

21. Correct option: a
Explanation: During evaporation, high-energy particles absorb heat from the surroundings to change into vapour. This absorption of heat lowers the surrounding temperature, causing cooling.