Educonclave

**Science (Class V)**

**Particulate nature of matter (Objective)**

1. Matter is anything that:
   a) Can be seen
   b) Has mass and occupies space
   c) Is invisible
   d) Floats in water

2. Which of the following is a gas?
   a) Ice
   b) Oxygen
   c) Sugar
   d) Oil

3. Solids have:
   a) No fixed shape
   b) Fixed shape and volume
   c) Fixed shape only
   d) Fixed volume only

4. A liquid has:
   a) Fixed shape
   b) No volume
   c) Fixed volume but no fixed shape
   d) Fixed shape and volume

5. Which state of matter has particles that are far apart and move freely?
   a) Solid
   b) Liquid
   c) Gas
   d) Plasma

6. The process by which ice becomes water is called:
   a) Freezing
   b) Evaporation
   c) Melting
   d) Condensation

7. Water changing to steam is:
   a) Melting
   b) Condensation
   c) Freezing
   d) Evaporation

8. Steam turning back into water is called:
   a) Melting
   b) Evaporation
   c) Condensation
   d) Diffusion

**9.** Which of these shows diffusion?
a) Ice melting
b) Smoke spreading in air
c) Boiling milk
d) Sugar being sweet

**10.** In solids, the force of attraction between particles is:
a) Very weak
b) Weak
c) Medium
d) Strong

**11.** Liquid particles:
a) Are tightly packed
b) Slide over each other
c) Are far apart
d) Vibrate in fixed positions

**12.** Gases have:
a) Fixed shape only
b) No fixed shape or volume
c) Only fixed volume
d) Only color

**13.** Ink drops spreading in water is an example of:
a) Condensation
b) Freezing
c) Diffusion
d) Melting

**14.** What causes butter to melt in a pan?
a) Cooling
b) Pressure
c) Heat
d) Wind

**15.** Steam rising from hot tea is an example of:
a) Condensation
b) Evaporation
c) Freezing
d) Melting

**16.** Which of the following is **not** matter?
a) Water
b) Air
c) Light
d) Ice

**17.** Salt dissolving in water shows:
a) Water is sticky
b) Water has space between particles
c) Salt melts
d) Sugar is sweet

**18.** The process of water turning into ice is called:
a) Freezing
b) Melting
c) Condensation
d) Boiling

**19.** Particles of matter are:
a) Still
b) Visible
c) Continuously moving
d) Without mass

**20.** The arrangement of particles in a gas is:
a) Loosely packed
b) Far apart
c) Tightly packed
d) Vibrating

**Assertion-Reason Questions (1 mark each)**

Options:
A. Both A and R are true, and R explains A
B. Both A and R are true, but R is not the correct explanation of A
C. A is true, R is false
D. A is false, R is true

**21.** **A:** Solids have a definite shape.
**R:** Their particles are tightly packed and vibrate in fixed positions.

**22.** **A:** Gases have a fixed volume.
**R:** Gas particles are far apart and move freely.

**23.** **A:** Ice melting into water is a physical change.
**R:** It involves a change in state, not in composition.

**24.** **A:** Particles in liquids do not move.
**R:** Liquids are non-moving states of matter.

**25.** **A:** Diffusion is faster in gases than in solids.
**R:** Gas particles are far apart and move freely.

**Case Study-Based Questions (Each with 4 sub-questions)**

**Case Study 1: Sugar in Water**

Riya stirred sugar into a glass of water. The sugar disappeared, and the water tasted sweet.

1. Is sugar a solid, liquid, or gas?
2. What does the sugar disappearing show about water?
3. Is this an example of a change of state or diffusion?
4. Will this change reverse on cooling?

**Case Study 2: Boiling Kettle**

When a kettle was heated, water turned into steam and spread across the kitchen.

1. What change in state happened?
2. What is the name of this process?
3. Why does steam spread out?
4. Is steam visible or invisible?