Matters Exercise

1. A form of matter has no fixed shape but it has a fixed volume. An example of this form of matter is

- (a) Krypton
- (b) Kerosene
- (c) Carbon steel
- (d) Carbon dioxide

2. Which one of the following statements is not true?

(a) The molecules in a solid vibrate about a fixed position

(b) The molecules in a liquid are arranged in a regular pattern

(c) The molecules in a gas exert negligibly small forces on each other, except during collisions

(d) The molecules of a gas occupy all the space available

3. The correct procedure of heating iron-sulphur mixture to prepare iron sulphide is: :

(a) Heat the powder mixture at the base of the test tube using a blue flame throughout.

(b) Heat the iron filings and sulphur mixture in the middle of the test tube using yellow flame throughout.

(c) Heat the powder mixture at the top of the test tube using an orange flame throughout.

(d) Heat the iron filings-sulphur mixture at 3/4 quarters of the test tube using a red flame throughout.

4. When water at 0°C freezes to form ice at the same temperature of 0°C, then it:

- (a) Absorbs some heat
- (b) Releases some heat
- (c) Neither absorbs nor releases heat

(d) Absorbs exactly $3.34 \times 10^5 J/kg$ of heat

5. When heat is constantly supplied by a burner to boiling water, then the temperature of water during vaporisation :

- (a) Rises very slowly
- (b) Rises rapidly until steam is produced
- (c) First rises and then becomes constant
- (d) Does not rise at all

6. 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, expansion of gases

(d) Evaporation, solubility, diffusion, compression of gases

7. Which of the following phenomena always results in the cooling effect?

(a) Condensation

(b) Evaporation

(c) Sublimation

(d) None of these

8. Which of the following cannot be considered a form of matter?

(a) Atom

(b) Water

(c) Humidity

(d) Electron

9. Which of the following causes the temperature of a substance to remain constant while it is undergoing a change in its state?

(a) Latent heat

(b) Lattice energy

(c) Loss of heat

(d) None of these

10. Which of the following statement is correct?

(a) Materials existing as liquids at room temperature have their melting and boiling points lower than that of room temperature.

(b) The phenomenon involving the transition of a substance from solid to liquid state is called sublimation.

(c) To convert a temperature on the Celsius scale to Kelvin scale, subtract 273 from the given temperature

(d) The density of ice is less than that of water.

11. Which of the following statement is not true regarding the characteristic of matter?

(a) Particles of a matter are randomly moving in all directions.

(b) Kinetic energy of the particles increases with a rise in temperature

(c) Kinetic energy of the particles of all maters remains the same at a particular temperature.

(d) Particles of matter diffuse into each other on their own.

12. Which of the following is incorrect about plasma?

- (a) Fluorescent tube and neon sign bulbs consist of plasma.
- (b) The gas gets ionised when electrical energy flows through it.
- (c) It consists of super-energetic and super-excited particles.
- (d) The plasma glows with colour which does not depend upon nature of gas.

- 13. The components of water can be separated by
- (a) Physical methods
- (b) Chemical methods
- (c) Both
- (d) They can't be separated
- 14. Question 3.
- The property of flow is unique to fluids. Which one of the following statements is correct?
- (a) Only gases behave like fluids
- (b) Gases and solids behave like fluids
- (c) Gases and liquids behave like fluids
- (d) Only liquids are fluids

15. During summer, water kept in an earthen pot becomes cool because of the phenomenon of

- (a) diffusion
- (b) transpiration
- (c) osmosis
- (d) evaporation

16. A few substances are arranged in the increasing order of 'forces of attraction' between their particles. Which one of the following represents a correct arrangement?

- (a) Water, air, wind
- (b) Air, sugar, oil
- (c) Oxygen, water, sugar
- (d) Salt, juice, air

17. Choose the correct statement from the following:

- (a) Conversion of solid into vapour without passing through the liquid state is called vapourisation.
- (b) Conversion of vapour into solid without passing through the liquid state is called sublimation.
- (c) Conversion of vapour into solid without passing through the liquid state is called freezing.
- (d) Conversion of solid into liquid is called sublimation.

18. Which of the following conditions is most favourable for converting a gas into a liquid?

- (a) High pressure, low temperature
- (b) Low pressure, low temperature
- (c) Low pressure, high temperature
- (d) High pressure, high temperature

19. When we put some crystals of potassium permanganate in a beaker containing water, we observe that after sometime whole water has turned pink. This is due to:

(a)Boiling

(b)Melting of potassium permanganate crystals

- (c)Sublimation of crystals
- (d)Diffusion
- 20. Butter is separated from milk by
- (a) sedimentation
- (b) filtration
- (c) churning
- (d) decantation
- 21. The components of a solution (say sugar in water) can be separated by
- (a) filtration
- (b) evaporation
- (c) sedimentation
- (d) decantation
- 22. What type of a substance is steel?
- a) A solid liquid heterogeneous mixture
- b) A solid solid heterogeneous mixture
- c) A solid solid homogeneous mixture
- d) A pure substance

Answers key

1. b 2. B 3. A 4. B 5. D 6. C 7. B 8. C 9. A 10. D 11. C 12. D 13. B 14. C 15. D 16. C 17. B 18. A 19. D 20. C 21. b 22. c