1. In all the three states of water, (i.e. ice, liquid and vapour) chemical composition of water

(a) is very different

(b) remains same

(c) sometimes same and sometimes different

(d) none of the above

Ans: (b)

Solution: In all the three states of water, (i.e. ice, liquid and vapour) chemical composition (H_2O) of water remains the same only the physical state is different.

2. Which of the following statements is incorrect about the state of matter?

(a) The force of attraction between the gas particles is very less.

(b) Plasma consists of super energetic and super excited particles.

(c) The plasma glows with a special colour depending on the nature of the gas.

(d) Bose-Einstein condensate is formed by heating gas of extremely low density.

Ans: (d)

Solution: Bose-Einstein condensate is formed by cooling a gas of extremely low density.

3. Which of the following is not a property of gas?

(a) Gases have a definite shape

(b) Gases have no definite volume

(c) The rate of diffusion of a gas is higher

(d) Gaseous particles are in a state of random motion

Ans: (a)

Solution: Gas is a state of matter in which the KE of particles is very high. Gases neither have definite shape nor volume.

4. A form of matter that has no fixed shape but has a fixed volume. An example of this form of matter is ————————

(a) carbon dioxide (b) ice (c) water vapor (d) kerosene

Ans: (d)

Solution: A form of matter that has no fixed shape but it has a fixed volume is an example of a liquid state.

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

Ans: (d)

Solution: During the process of vapourisation the temperature remains constant.

6. The boiling point of water at sea level is ——————

(a) 0℃ (b) 273 K (c) 373 K (d) 273℃

Ans: (c)

Solution: The boiling point of water at sea level is 100℃ or 373K

7. The process in which solid is directly converted to vapours state is called ——————

(a) vapourisation (b) solidification

(c) condensation (d) sublimation

Ans: (d)

Solution: The process in which a solid is directly converted to a vapour state is called sublimation.

8. The solid which undergoes sublimation is ——————

(a) ice cube (b) naphthalene

(c) sodium chloride (d) potassium chloride

Ans: (b) naphthalene

Solution: Naphthalene is directly converted from a solid state to a gaseous one without forming any liquid.

9. Which of the following phenomena would increase on rising 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

Ans: (c)

Solution: With the rising temperature, the phenomena of evaporation, diffusion, and expansion of gases increase.

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

(a) High pressure, low temperature

(b) Low pressure, low temperature

(c) Low pressure, high temperature

(d) High pressure, high temperature

Ans: (a)

Solution: At high pressure and low-temperature gas is converted into liquid.