

Chapter-1

Worksheet-2

Q.1. 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)

Q.2 When a gas jar full of air is placed upside down on a gas jar full of bromine vapours, the red-brown vapours of bromine from the lower jar go upward into the jar containing air. In this experiment:

- (a) Air is heavier than bromine
- (b) Both air and bromine have the same density
- (c) Bromine is heavier than air
- (d) Bromine cannot be heavier than air because it is going upwards against gravity

Q.3. 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

Q.4. 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

Q.5. 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.

Q.6. 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 $3.34 \times 10^5 \text{ J/kg}$ of heat

Q.7. 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

- Q.8. 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

- Q.9. On converting 308 K, 329 K and 391 K to Celsius scale, the correct sequence of temperatures will be:
- (a) 33°C, 56°C and 118°C
 - (b) 35°C, 56°C and 119°C
 - (c) 35°C, 56°C and 118°C
 - (d) 56°, 119°C and 35° C

- Q.10. Which of the following phenomena always results in the cooling effect?
- (a) Condensation
 - (b) Evaporation
 - (c) Sublimation
 - (d) None of these

Que-11 Explain why; diffusion occurs more quickly in a gas than in a liquid.

Que-12 When a crystal of potassium permanganate is placed at the bottom of water in a beaker, the water in the whole beaker turns purple on its own, even without stirring. This is an example of:

(a) distribution

(b) intrusion

Que-13 What do you understand by the term 'latent heat'? What are the two types of latent heat?

Que-14 Why is heat energy needed to melt a solid? What is this heat energy called?

Que-15 Why is solid carbon dioxide known as dry ice?

Que-16 Why does the temperature remain constant during the melting of ice even though heat is supplied continuously?

Que-17 Why does the temperature remain constant during the boiling of water even though heat is supplied continuously?

Que-18 Which contains more heat, 1 kg of ice of 0°C or 1 kg of water at 0°C ? Give reason for your answer.

Que-19 Why does the temperature of a substance remain constant during the change of state?

Que-20 Why does all the water of the earth not get evaporated during hot summer days?