

TEST YOURSELF

A. Objective Questions :

1. Write **true** or **false** for each statement :

- (a) The temperature of a substance remains unaffected during its change of state.
- (b) Ice melts at 100°C .
- (c) Water at 100°C has more heat than steam at 100°C .
- (d) Evaporation of a liquid causes cooling.
- (e) Water evaporates only at 100°C .
- (f) Boiling takes place at all temperatures.
- (g) Evaporation takes place over the entire mass of the liquid.
- (h) The process of a gas converting directly into solid is called vaporization.

- (i) At high altitudes, water boils above 100°C .
- (j) The melting point of ice is 0°C .

Ans: True—(a), (d), (j)

False—(b), (c), (e), (f), (g), (h), (i)

2. Fill in the blanks :

- (a) Evaporation takes place at temperatures.
- (b) process is just the reverse of melting.
- (c) is a process that involves direct conversion of a solid into its vapour on heating.
- (d) The temperature at which a solid converts into a liquid is called its

- (e) The smallest unit of matter that exists freely in nature is called
- (f) Molecules of a substance are always in a state of and so they possess
- (g) Inter-molecular space is maximum in less in and the least in
- (h) Inter-molecular force of attraction is maximum in, less in and the least in

Ans: (a) all (b) freezing (c) sublimation
(d) melting point (e) molecule
(f) motion, kinetic energy (g) gases, liquids, solids (h) solids, liquids, gases

3. Match the following :

Column A

Column B

- | | |
|-------------------------|---------------------------------|
| (a) Molecules | (i) water boils |
| (b) 100°C | (ii) evaporation |
| (c) 0°C | (iii) changes from solid to gas |
| (d) At all temperatures | (iv) matter |
| (e) Camphor | (v) water freezes |

Ans: (a)–(iv), (b)–(i), (c)–(v), (d)–(ii), (e)–(iii)

4. Select the correct alternative :

- (a) The inter-molecular force is maximum in :
- (i) solids (ii) gases
(iii) liquids (iv) none of the above.
- (b) The inter-molecular space is maximum in :
- (i) liquids (ii) solids
(iii) gases (iv) none of the above.
- (c) The molecules can move freely anywhere in :
- (i) gases (ii) liquids
(iii) solids (iv) none of the above.
- (d) The molecules move only within the boundary in :
- (i) liquids (ii) gases
(iii) solids (iv) none of the above.

- (e) The temperature at which a liquid gets converted into its vapour state is called its :
- (i) melting point (ii) boiling point
(iii) dew point (iv) freezing point.
- (f) Rapid conversion of water into steam is an example of :
- (i) evaporation (ii) freezing
(iii) melting (iv) vaporization.

(g) Evaporation takes place from the :

- (i) surface of liquid
(ii) throughout the liquid
(iii) mid-portion of the liquid
(iv) bottom of liquid.

(h) Boiling takes place from :

- (i) the surface of the liquid
(ii) throughout the liquid
(iii) mid-portion of liquid
(iv) none of the above.

Ans: (a)–(i), (b)–(iii), (c)–(i), (d)–(i), (e)–(ii), (f)–(iv), (g)–(i), (h)–(ii)

B. Short/Long Answer Questions :

- Define the term matter. What is it composed of ?
- State three properties of molecules of matter.
- What do you mean by inter-molecular spaces ? How do they vary in different states of matter ?
- What is meant by inter-molecular forces of attraction ? How do they vary in solids, liquids and gases ?
- Which of the following are correct ?
 - Solids have definite shape and definite volume.
 - Liquids have definite volume but no definite shape.
 - Gases have definite volume but no definite shape.
 - Liquids have both definite shape and definite volume.

Ans: Correct : (a) and (b)

- Discuss the three states of matter : solid, liquid and gas on the basis of molecular model.