

Chapter 1 - Matter

A. Objective Questions

1. Write true or false for each statement

(a) The temperature of a substance remains unaffected during its change of state.

Solution: True.

(b) Ice melts at 100°C .

Solution: False.

(c) Water at 100°C has more heat than the steam at 100°C .

Solution: False.

(d) Evaporation of a liquid causes cooling.

Solution: True.

(e) Water evaporates only at 100°C .

Solution: False.

(f) Boiling takes place at all temperatures.

Solution: False.

(g) Evaporation takes place over the entire mass of the liquid.

Solution: False.

(h) The process of a gas converting directly into gas is called vaporisation.

Solution: False.

(i) At high altitudes, water boils above 100°C .

Solution: False.

(j) The melting point of ice is 0°C .

Solution: True.

2. Fill in the blanks

(a) Evaporation takes place at all temperature.

(b) **Freezing** process is just the reverse of melting.

(c) **Sublimation** is a process that involves the direct conversion of a solid into its vapour on heating.

(d) The temperature at which a solid convert into a liquid is called it's **melting point**.

(e) The smallest unit of matter that exists freely in nature is called **molecule**.

(f) Molecules of a substance are always in a state of **motion**, and so they possess **kinetic energy**.

(g) Intermolecular space is maximum in **gases** less in **liquids** and the least in **solids**.

(h) The intermolecular force of attraction is maximum in **solids**, less in **liquids** and the least in **gases**.

3. Match the following:

Column A

(a) Molecules

(b) 100°C

(c) 0°C

(d) At all temperatures

Column B

(i) water boils

(ii) evaporation

(iii) changes from solid to gas

(iv) matter

(e) Camphor (v) water freezes

Solution:

Column A

Column B

(a) Molecules

(iv) matter

(b) 100°C

(i) water boils

(c) 0°C

(v) water freezes

(d) At all temperatures (ii) evaporation

(e) Camphor

(iii) changes from solid to gas

4. Select the correct alternative

(a) The inter-molecular force is maximum in

1. Solids
2. Gases
3. Liquids
4. none of the above

Solution: 1. Solids

(b) The inter-molecular space is maximum in

1. liquids
2. solids
3. gases
4. none of the above

Solution: 3. Gases

(c) The molecules can move freely anywhere in

1. gases
2. liquids
3. solids
4. none of the above

Solution: 1. Gases

(d) The molecules move only within the boundary of

1. liquids
2. gases
3. solids
4. none of the above

Solution: 1. Liquids

(e) The temperature at which a liquid gets converted into its vapour state is called its

1. melting point
2. boiling point
3. dewpoint
4. Freezing point.

Solution: 2. Boiling point

(f) Rapid conversion of water into steam is an example of

1. evaporation
2. freezing
3. melting
4. vapourization

Solution: 4. Vapourization

(g) Evaporation takes place from the

1. surface of liquid
2. throughout the liquid
3. mid-portion of the liquid
- 4 bottom of liquid.

Solution: 1. surface of liquid

(h) Boiling takes place from the

1. the surface of the liquid
2. throughout the liquid
3. mid-portion of liquid
4. none of the above.

Solution: 2. throughout the liquid