CHAPTER-3
MATTER

Write true or false for each statement:

1. The temperature of a substance remains unaffected during its change of state.
2. Ice melts at hundred degrees Celsius.
3. Water at hundred degrees Celsius has more heat than steam at hundred degrees Celsius.
4. Evaporation of a liquid causes cooling.
5. Water evaporates at hundred degrees Celsius.
6. Boiling takes place at all temperatures.
7. Evaporation takes place over the entire mass of the liquid.
8. The process of gas converting directly into solid is called vaporization.
9. At Higher altitudes water boils at 100 degree Celsius.
10. The melting point of ice is zero degree Celsius

Fill in the blanks:

1. Evaporation takes place at _____temperatures.
2. _____ Process is just the reverse of melting.
3. _____ is a process that involves direct conversion of solid into its vapour on heating.
4. The temperature at which solid converts into liquid is called its _____.
5. (e) The smallest unit of matter that exists freely in nature is called _____.
6. (f) Molecules of a substance are always in a state of _____ and so they possess _____.
7. (g) Intermolecular space is maximum in _____ less in _____ and the least in _____.
8. (h) Intermolecular force of attraction is maximum in _____, less in _____ and the least _____.

Q3) Select the correct alternative:

(a) The inter-molecular force is maximum in
solids
gases
liquids
none of the above
(b) The inter-molecular space is maximum in
liquids
solids

gases
none of the above
(c) The molecules can move freely anywhere in
solids
gases
liquids
none of the above
(d) The molecules move only within the boundary of
liquids
solids
gases
none of the above
(e) The temperature at which a liquid gets converted into its vapour state is called its
melting point
boiling point
dewpoint
freezing point
(f) Rapid conversion of water into steam is an example of
evaporation
freezing
melting
vapourization
(g) Evaporation takes place from the
surface of liquid
throughout the liquid
mid-portion of the liquid
bottom of liquid
(h) Boiling takes place from the
the surface of the liquid
throughout the liquid
mid-portion of liquid
none of the above

Q4) Match the columns:

(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

1. Define:
(a) Matter
(b) An intermolecular force of attraction
2. What are the three states of matter? Define each of them with two examples.
3. Define interconversion of states of matter. What are the two factors responsible for the change of states of matter?
4. State the main postulates of the kinetic theory of matter.
5. What happens to water if
(a) It is kept in a deep freezer
(b) It is heated
Explain the phenomenon of change of state of water.
6. (a) State the law of conversation of mass.
(b) What do you observe when barium chloride solution is mixed with a sodium sulphate solution?
7. Give reasons:
(a) A gas can fill the whole vessel in which it is enclosed.
(b) Solids cannot be compressed.
(c) Liquids can flow.
(d) When magnesium is burnt in air, there is an increase in mass after the reaction.
8. Give two examples for each of the following:
(a) The substances which sublime.
(b) The substances which do not change their state on heating.

SHORT QUESTIONS

Q1) Define the term matter. What is it composed of ?
Q2) State three properties of molecules of a matter.
Q3) What do you mean by the inter- molecular spaces? How do they vary in different states of matter?
Q4) What is meant by the intermolecular forces of attraction?
Q5) Which of the following are correct?
(a) Solids have definite shape and definite volume.
(b) Liquid have definite volume but do not have definite shape.
(c) Gases have definite volume but no definite shape.
(d) Liquids have definite shape and definite volume.

Q6) Discuss the three states of matter solid,liquids and gas on the basis of molecular model.
Q7) What do you mean by the change of state? Write the flowchart showing the complete cycle of change of state.
Q8) Differentiate between melting point and boiling point, giving at least one example of each.
Q9) Describe the process of condensation and sublimation with examples.
Q10) Explain the term melting and melting point.
Q11) Describe an experiment to demonstrate that a substance absorbs heat during melting without change in its temperature.
Q12) Explain the terms vaporization and boiling point.
Q13) A liquid can change into vapours state
(a) At a fixed temperature, and
(b) At all temperatures
Name the process involved in two cases.
Q14) Some ice is taken in temperature is recorded after each one minute. The observations are listed below:

Time (in minute)	Temperature (in °C)
0	0
1	0
2	0
3	0
4	0
5	0
6	3.8
7	7.6
8	11.4

From the above observations what conclusion do you draw about the melting point of ice?
Q15) Describe an experiment to demonstrate that water absorbs heat during boiling at a constant temperature.

Q16) State (a) the melting point of ice, and (b) the boiling point of water.
Q17) what is evaporation?
Q18) State three factors which affect the rate of evaporation of a liquid.
Q19) Wet clothes dry more quickly on a warm day than on a cold humid day. Explain.
Q20) Water in a dish evaporates faster than in a bottle. Give reason
Q21) Why are volatile liquids such as alcohol and spirit stored in tightly closed bottles?
Q22) A certain quantity of water is heated from 20°C TO 100°C. Its temperature is recorded after 1 minutes each. The observations are

Time (in minute)	Temperature (in °C)
0	20
1	30
2	40
3	50
4	60
5	70
6	80
7	90
8	100
9	100
10	100
11	100
12	100

What conclusion do you draw from the above table about the boiling point of water? Explain.
Q23) Why is cooling produced on evaporation of a liquid?
Q24) Explain with an example to demonstrate that when a liquid evaporates, it takes heat from its surroundings.
Q25) Give two applications of evaporation.
Q26) Explain why on hot summer days water remains cool in earthen pots.
Q27) A patient suffering from high fever is advised to put wet cloth strips on his forehead. Why?
Q28) What do you mean by sublimation? Explain with an example
Q29) Why does the size of naphthalene balls decrease when left open?
Q30) Describe an experiment to demonstrate the process of sublimation.