



Class: IX	DEPARTMENT OF SCIENCE -2022-23 SUBJECT: CHEMISTRY	DATE OF COMPLETION: 15.09.22
WORKSHEET NO:2 WITH ANSWERS	Chapter: MATTER IN OUR SURROUNDINGS	A4 FILE FORMAT (PORTFOLIO)
CLASS & SEC:	NAME OF THE STUDENT:	ROLL NO.

OBJECTIVE TYPE QUESTIONS
MULTIPLE CHOICE QUESTIONS

- The property of flow is unique to fluids. Which one of the following statements is correct?
 - Only gases behave like fluids
 - Gases and solids behave like fluids
 - Gases and liquids behave like fluids
 - Only liquids are fluids
- Gases can be liquefied under specific conditions of temperature and pressure. Identify the correct set of conditions.
 - Low temperature, low pressure
 - High temperature, low pressure
 - Low temperature, high pressure
 - High temperature, high pressure
- Which of the following phenomena would increase on raising the temperature?
 - Diffusion, evaporation, compression of gases
 - Evaporation, compression of gases, solubility
 - Evaporation, diffusion, expansion of gases
 - Evaporation, solubility, diffusion, compression of gases
- Choose the correct statement from the following:
 - Conversion of solid into vapour without passing through the liquid state is called vapourisation.
 - Conversion of vapour into solid without passing through the liquid state is called sublimation.
 - Conversion of vapour into solid without passing through the liquid state is called freezing.
 - Conversion of solid into liquid is called sublimation.
- Which condition out of the following will increase the evaporation of water?
 - Increase in temperature of water
 - Decrease in temperature of water
 - Less exposed surface area of water
 - Adding common salt to water
- Dry ice is
 - water in solid state
 - water in gaseous state
 - CO₂ in liquid state
 - CO₂ in solid state
- Solids and gases mix/dissolve in water
 - because water is a good solvent
 - because water has intermolecular space

- c. diffusion is faster in water
 - d. all of the above
8. During summer, water kept in an earthen pot becomes cool because of the phenomenon of
- a. diffusion
 - b. transpiration
 - c. osmosis
 - d. evaporation
9. A few substances are arranged in the increasing order of 'forces of attraction' between their particles. Which one of the following represents a correct arrangement?
- a. Water, air, wind
 - b. Salt, juice, air
 - c. Oxygen, water, sugar
 - b. Air, sugar, oil
10. On converting 25°C, 38°C and 66°C to Kelvin scale, the correct sequence of temperature will be
- a. 298 K, 311 K and 339 K
 - b. 298 K, 300 K and 338 K
 - c. 273 K, 278 K and 543 K
 - d. 298 K, 310 K and 338 K

ASSERTION -REASON TYPE QUESTIONS

Choose the correct options for the following questions.

- a. Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - b. Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 - c. Assertion is true but Reason is false.
 - d. Assertion is false but Reason is true
11. Assertion: Most of the solid, liquid and gases can diffuse into liquids.
Reason: Liquids cannot change its shape
12. Assertion: Naphthalene does not leave any residue when kept open for sometime
Reason: The conversion of a solid directly into gas is called Condensation.
13. Assertion: During evaporation of liquids, the temperature remains unaffected.
Reason: Kinetic energy is directly proportional to absolute temperature.
14. Assertion: There is no change in the temperature of a substance when it undergoes a change of state though it is still being heated.
Reason: The heat supplied is absorbed either as latent heat of fusion or as latent heat of vapourisation.
15. Assertion: The intermolecular forces in solid state are stronger than in liquid state.
Reason: The space between the particles of matter is called intermolecular space.

CASE STUDY QUESTIONS

In an experimental activity, crushed ice was taken in a beaker. A thermometer is fitted in such a way that its bulb was thoroughly surrounded by ice. The beaker is now slowly heated and temperature was regularly noted. Temperature rises gradually as the heating is continued and becomes constant when ice starts changing into liquid. Select the correct answers for the following questions.

16. What name is associated with conversion of ice into water?
a. Evaporation b. Sublimation c. Freezing d. Fusion of Solid
17. What specific name is given to the constant temperature?
a. latent heat of fusion b. Boiling Point c. Melting Point d. Condensation point
18. The heat added to the system at constant temperature is called _____
a. specific heat b. latent heat c. residual heat d. none of the above
19. Where does the heat energy go when the temperature does not rise?
a. It makes the molecular motion of the liquid faster.
b. It raises the temperature of the beaker only.
c. It is utilised for bringing out the complete change of state

d. It slows down the molecular motion

ONE MARK QUESTIONS

20. When 50 g of sugar is dissolved in 100 mL of water, there is no increase in volume. What characteristic of matter is illustrated by this observation?
21. Name the process which occurs when a drop of Dettol is added to water.
22. Why do the gases exert more pressure on the walls of the container than the solids?

THREE MARKS QUESTIONS

23. Substance 'A' has high compressibility and can be easily liquefied. It can take up the shape of any container. Predict the nature of the substance. Enlist four properties of this state of matter.
24. Give reasons for the following statements.

- a. A small volume of water in a kettle can fill a kitchen with steam
- b. Evaporation causes cooling.
- c. Sponge though compressible is a solid.

25. You are given the following substances with their melting and boiling points.

Substance	Melting point (°C)	Boiling point (°C)
X	-219	-183
Y	119	445
Z	-15	78

Identify the physical states of X, Y and Z at room temperature (30°C).

PREVIOUS YEARS QUESTIONS

26. Match the following

Column A	Column B
a. 100 K	i. 311 K
b. 38 °C	ii. 86 °C
c. 359 K	iii. - 173 °C

27. Assertion: Rate of evaporation of an aqueous solution increases with increase in humidity.
Reason: When there is increase in humidity, atmosphere will not take water vapour easily which decreases the process of evaporation
28. The smell of perfume gradually spreads across a room due to _____.
a. Evaporation
b. Sublimation
c. Diffusion
d. Vapourisation.
29. The process of change of liquid state into gaseous state at constant temperature is known as-----
a. Boiling
b. Melting
c. Fusion
d. Evaporation
30. 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)

ANSWERS

	1. c. Gases and liquids behave like fluids
	2. c. Low temperature and high pressure
	3. c. Evaporation, diffusion, expansion of gases
	4. b. Conversion of vapour into solid without passing through the liquid state is called sublimation
	5. a. Increase in temperature of water
	6. d. CO ₂ in solid state
	7. d. all of the above
	8. d. evaporation
	9. c. Oxygen, water, sugar
	10. a. 298 K, 311 K and 339 K
	11. c. Assertion is true but Reason is false
	12. c. Assertion is true but Reason is false.
	13. d. Assertion is false but Reason is true
	14. a. Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
	15. b. Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
	16. d. Fusion of Solid
	17. c. Melting Point
	18. b. latent heat
	19. c. It is utilised for bringing out the complete change of state
	20. This observation indicates that particles of water have spaces between them into which sugar particles fit.
	21. When Dettol is added to water, diffusion takes place.
	22. In gases, the particles move randomly at high speed and they collide with each other and with the walls of the container.
	23. 'A' is a gas. Properties of gases <ul style="list-style-type: none"> • They do not have fixed shape and fixed volume. • They have large interparticle space. • They have least forces of attraction between the molecules. • They are highly compressible
	24. a. The liquid form of water converts into gaseous form in steam. Its particles move very rapidly in all the directions and fill the kitchen as gases completely fills the vessel. b. Evaporation produces cooling as the particles at the surface of the liquid gain energy from the surroundings and change into vapour, thereby producing a cooling effect. c. A sponge has minute holes in which air is trapped. Also, the material is not rigid. When we press it, the air is expelled out and we are able to compress it. But it is a solid because it has definite shape and volume and does not change its shape unless compressed.
	25. 'X' is gas at room temperature. 'Y' is solid at room temperature. 'Z' is liquid at room temperature.
	26. a - iii b - i c - ii
	27. d. Assertion is false but Reason is true
	28. c. Diffusion
	29. a. Boiling
	30 c. (ii) and (iii)

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