

**CHAP-1 –MATTER AROUND US**

1. What is dry ice? What happens when the pressure under which it is stored is decreased to 1 atm ?
2. (a) Define evaporation.  
(b) Explain how the following factors affect the rate of evaporation of a liquid:
  - (i) Temperature of the liquid.
  - (ii) Area of the exposed surface.
  - (iii) Moisture in the surrounding air.
  - (iv) Increase in wind speed.
3. Give reasons for the following
  - (a) For any physical state of a substance, the temperature remains constant during its change of state.
  - (b) Water kept in an earthen pot becomes cool in summer.
  - (c) We are able to sip hot tea from a saucer rather than from a cup.
  - (d) Water droplets appear on the outer surface of a tumbler containing ice cold water.
  - (e) The rate of diffusion of gases is faster in gases
  - (f) Doctors advise to put strips of wet cloth on the forehead of a person having high temperature.
  - (g) People prefer to wear cotton clothes in summer.
  - (h) On a hot sunny day people sprinkle water on the roof or open ground.
  - (i) Ice at 0°C is more effective in cooling than water at 0°C.
4. What happens when you pour some hand sanitizer on your palm?
5. Carbon dioxide is a gas. Write its any two gaseous properties to justify it.
6. (a) Express the following temperatures in Kelvin scale.
  - (i) 50°C
  - (ii) 373°C
  - (iii) - 25°C.  
(b) Express the following temperatures in Celsius scale.
  - (i) 387 K
  - (ii) 290 K
  - (iii) 250 K
7. (i) List three characteristics of particles of matter. Describe one example for each characteristic to illustrate it.  
(ii) Name the characteristics which are responsible for (a) spreading of smell of scent in a room and (b) water taking shape of the vessel in which poured.

8. Alka was making tea in a kettle. Suddenly she felt intense heat from the puff to steam gushing out of the spout of the kettle. She wondered whether the temperature of the steam was higher than that of the water boiling in the kettle. Comment.

9. State two differences between evaporation and boiling.

10. Direction for (i) and (ii) : In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

(a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.

(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.

(c) Assertion is true but the Reason is false.

(d) The statement of the Assertion is false but the reason is true.

(i) Assertion: Molten ionic solid conducts electricity

Reason: On melting ions become free to move.

(ii) Assertion: In pressure cooker temperature of water becomes more than  $100^{\circ}\text{C}$ .

Reason: Boiling point is directly proportional to pressure acting on liquid.

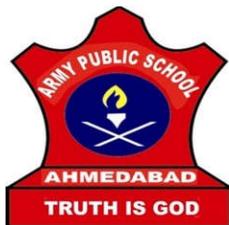
(iii) Assertion: Dry ice is solid  $\text{CO}_2$ .

Reason: Dry ice is same as ice.

(iv) Assertion: Ice mixed with common salt is freezing mixture having temperature below  $0^{\circ}\text{C}$ .

Reason: It melts at  $0^{\circ}\text{C}$ .

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**CHAP-2 IS MATTER AROUND US PURE**

- 1) List in tabular form any two differences between element and compound.
- 2) (i) Name the process or the separation technique you would follow to separate :
  - (a) Mixture of petrol and water
  - (b) Iron filings & sand
  - (c) Nitrogen from air
  - (d) Sodium chloride from its solution in water
  - (e) Iron pins from sand
  - (f) Different pigments from an extract of leaves
- 3) State the principle used in separation by centrifugation.
- 4) What is distillation? List the two conditions essential for using this as a method of separation of components of a mixture.
- 5) What is chromatography? Mention its applications.
- 6) Mention four properties of a solution. How will you calculate the concentration in terms of mass by volume percentage of a solution?
- 7) Draw a labeled diagram of the experimental set up used for fractional distillation. How is this set up different from simple distillation?
- 8) (a) A solution contains 40g of common salt in 320g of water. Calculate the concentration in terms of mass by mass percentage of the solution.
  - (b) Identify solute and solvent in “tincture of iodine”
  - (c) Why Tyndall effect is not seen in true solution?
- 9) (a) A solution contains 20g of common salt in 120g of water. Calculate the concentration in terms of mass-by-mass percentage of the solution.
  - (b) Calculate the amount of glucose required to prepare 250g of 5% solution of Glucose by mass.
  - (c) 65 g of glucose is dissolved in 435 g of water. Calculate the concentration of the solution in terms of mass by mass percentage.
- 10) (a) What is the effect of temperature on the solubility of a gas in liquid ?
  - (b) Why is it possible to distinguish the particles of solute from those of solvent in a suspension ?
- 11) How do we test purity of a substance?

- 12) Draw a labeled diagram to show the process of separation of  
(i) immiscible Liquids. (ii) two miscible liquids by distillation.
- 13) Identify the dispersed phase and dispersing medium in the following colloids  
(a) Fog (b) Cheese (c) Coloured gem stone
- 14) (a) A solution is prepared by dissolving 15g of sodium chloride in 200g of H<sub>2</sub>O. What is the mass by mass percent age of NaCl in this solution?  
(b) What is solute and solvent in aerated drinks?  
(c) Classify the following as element and compound.  
(i) Silver (ii) Methane (iii) Water (iv) Mercury  
(d) Justify that melting of wax is a physical change.
- 15) Direction for (i) and (ii) : In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:
- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.  
(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.  
(c) Assertion is true but the Reason is false.  
(d) The statement of the Assertion is false but the reason is true.
- (i) Assertion: Dust particle in air form aerosol.  
Reason: Dust particles form dispersion medium and air is dispersed phase.  
(ii) Assertion: Silver bromide compound is made of silver and bromine elements.  
Reason: Silver bromide is a pure substance.  
(iii) Assertion: A saturated solution becomes super saturated on cooling.  
Reason: It is because solubility decreases with decrease in temperature.

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