CBSE Test Paper 05

Chapter 01 Matter in Our Surrounding

1. The melting points of two solids [A] and [B] are 300 K and 350 K respectively. Which has stronger inter-particle forces? **(1)**

   a. Both have the same inter-particle forces.
   b. Both have the greater inter-particle forces.
   c. Solid [B]
   d. Solid [A]

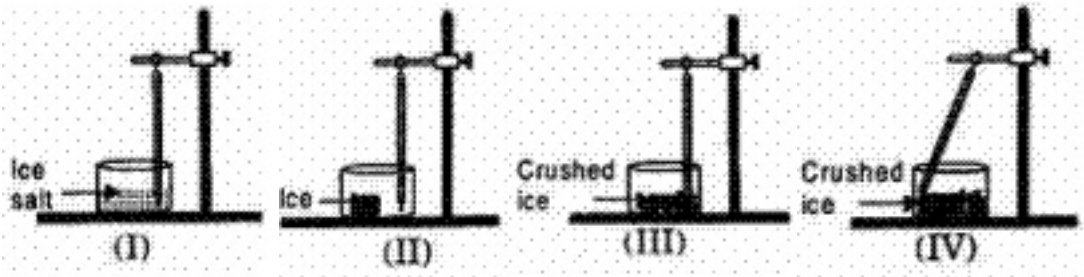
2. Which one of the following decreases the extent of evaporation of water? **(1)**

   a. Large surface area
   b. High temperature
   c. High wind speed
   d. Large humidity.

3. Which of the following energy is absorbed during change of state of a substance? **(1)**

   a. Latent heat
   b. Hydro energy
   c. Heat of solution
   d. specific heat

4. Which one of the following is the correct set up to determine the melting point of ice? **(1)**



   a. I
   b. III
   c. IV

d. II

5. What is the physical state of water at $100^{o}C$? **(1)**

    1. Gaseous
    2. Solid
    3. Liquid
    4. All of these

6. Suggest a method to liquefy atmospheric gases. **(1)**

7. What is the pressure at sea level? **(1)**

8. What is dry ice? Write its chemical formula. **(1)**

9. What is the physical state of water at:

    a. 250°C
    b. 100°C

10. In which of the following the particles have highest forces of attraction? Water, NaCl (solid), ice or, wax. **(1)**

11. You are given the following substances: Ethyl alcohol, glycerol, diethyl ether and water.
    Arrange these compounds in increasing order of their rate of evaporation. **(3)**

12. The body temperature of a normal and healthy person is $98.4^{o}F$. What is the temperature on the Celsius scale? **(3)**

13. Differentiate between physical and chemical change? **(3)**

14. What type of clothes should we wear in summer? **(3)**
15. Describe the continuous motion of particles of matter with the help of an activity. **(5)**

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Answers

1. c. Solid [B]

   Explanation: The melting point of a solid is an indication of the strength of the force of attraction between its particles. So, solid B has more intermolecular force of attraction.

2. d. Large humidity.

   Explanation: Evaporation of water increase with the increase in temperature, surface area and wind speed but decrease with increase in humidity. So, the larger humidity will decrease the rate of evaporation.

3. a. Latent heat

   Explanation: During the change of state of a substance, latent heat is absorbed. The latent heat does not increase the kinetic energy of the particles of the substance.

4. b. III

   Explanation: The bulb of the thermometer should be dipped in crushed ice to determine the melting point of ice.

5. a. Gaseous

   Explanation: The boiling point of pure water is $100^{o}C$ or 373 K (100 ^{o}C = 273 + 100 = 373 K). Boiling is a bulk phenomenon. At this temperature, particles from the bulk of the liquid gain enough energy to change into the vapour state. Therefore, the physical state of water at $100^{o}C$ is water vapour (gaseous state of matter).

6. The atmospheric gases can be liquefied either by increasing pressure or by decreasing temperature.
7. The pressure at sea level is regarded as 1 atmosphere or 760 mm.
8. Dry ice is solid carbon dioxide. Its chemical formula is CO_2.
9. 100°C is the boiling point of water hence at both the temperatures water is in gaseous state i.e. water vapour.

10. NaCl (solid) has particles with the highest forces of attraction.
11. Glycerol < water < ethyl alcohol < diethyl ether
12. $9/5\ (^{o}C) = {}^{o}F - 32^{o} = (98.4 - 32) = 66.4^{o}$

    or $(^{o}C) = 66.4 \times 5/9 = 36.89^{o}$ C
13.

	Physical Changes	Chemical Change
1.	It is not permanent and can easily be reversed.	It is permanent and cannot be easily reversed.
2.	It does not lead to formation of new substances.	It leads to the formation of new substances.
3.	No change in mass is noticed.	There is a change in mass of reactants and products.
4.	The energy changes observed are small.	Large energy changes are observed.

14. Cotton is a good absorbant of water, hence it absorbs sweat quite well. The pores in the fabric expose that sweat to easy evaporation, hence we should prefer wearing cotton clothes in summer.
15. To demonstrate motion of particles in air:
    a. Place few lighted incense sticks in a corner of a room.
    b. Move about the room and smell the fragrance of the incense sticks.
       The fragrance produced due to burning of incense sticks is due to movement of gaseous vapours produced rapidly in all directions.

    To demonstrate motion of particles of solid matter:
    a. Drop a crystal of copper sulphate or potassium permanganate into a glass of hot water.
    b. Do not stir the solution and allow the crystals to settle at the bottom.
    c. The colour of the solid is seen spreading slowly. This is because the solid particles diffuse in the water.