



1. Name the phenomenon which causes one crystal of potassium permanganate to turn a beaker of water purple. [1]  
a) centrifugation  
b) filtration  
c) diffusion  
d) sedimentation
2. When water boils its temperature [1]  
a) keeps on increasing as long as heating is continued.  
b) may decreases or increases depending on the place where the experiment is being carried out.  
c) remains constant  
d) keeps decreases then increases.
3. The melting point of a substance is defined as the constant temperature at atmospheric pressure when: [1]  
a) both the solid & liquid exist together.  
b) the solid start melting.  
c) the solid is completely changed into a liquid.  
d) only liquid is present.
4. Almirah is solid because: [1]  
a. It is hard and rigid.  
b. Its shape doesn't change when pressed.  
c. Its density is very high.  
Which is the correct reason?  
a) (a), (b) and (c)  
b) (c)  
c) (a)  
d) (b)
5. Which of the two statements is true [1]  
**Statement A:** Petrol, ether, acetone, water,  $\text{CCl}_4$  are volatile liquid  
**Statement B:** Naphthalene, Camphor, iodine,  $\text{NH}_4\text{Cl}$  undergo sublimation.  
a) Neither statement A or B.  
b) Statement A  
c) Both statement A and B  
d) Statement B

- 6 **Assertion (A):** During evaporation of liquids, the temperature remains unaffected. [1]  
**Reason (R):** Kinetic energy of the molecules is inversely proportional to absolute temperature.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
c) A is true but R is false.      d) A is false but R is true.
- 7 **Assertion (A):** Gaseous state of ammonia is not regarded as vapours. [1]  
**Reason (R):** As the volume of a substance increases, its density increases.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
c) A is true but R is false.      d) A is false but R is true.
- 8 **Assertion (A):** The diffusion rate of oxygen is smaller than nitrogen. [1]  
**Reason (R):** Molecular size of nitrogen is smaller than oxygen.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
c) A is true but R is false.      d) A is false but R is true.
- 9 **Assertion (A):** Ice floats on the surface of water. [1]  
**Reason (R):** The density of both water and ice is same.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
c) A is true but R is false.      d) A is false but R is true.
- 10 **Assertion (A):** Solids have fixed shape but rubber band being solid can change its shape. [1]  
**Reason (R):** When force is applied, then the rubber band changes its shape and regain its shape.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
c) A is true but R is false.      d) A is false but R is true.

**Question no 11 to 15 are based on the given text. Read the text carefully and answer the following:**

Matter around us exists in three different states—solid, liquid and gas. These states of matter arise due to the variation in the characteristics of the particles of matter. Solids have a tendency to maintain their shape when subjected to outside force. Solids may break under force but it is difficult to change their shape, so they are rigid. The difference in various states of matter is due to the difference in the distances between the constituent particles. Pressure and temperature determine the state of a substance, whether it will be solid, liquid or gas.

