Chemistry - 11th Class Chemistry Short Questions Chapter 4 Preparation

Q1. **Why the melting boiling points of halogens increase down the group?**

Ans 1: The atomic sizes increase from fluorine to iodine. The number of shells increase, polarizability increase and the overlapping of the orbitals increase. This makes the melting and boiling points high down the group.

Q2. **Define boiling point. Is it related with the external pressure?**

Ans 1: Boiling point is that temperature of the liquid at which the vapour pressure of the liquid is equal to the external pressure. If the external pressure is higher, then the boiling point of the liquid is increased. If the external presser is decreased, then the boding point decreases. The boiling of water is low at mountains. Due to the change in external pressure.

Q3. **Why the metals are malleable and ductile?**

Ans 1: In the metallic crystals the lattice points are occupied by positively charged ions and free electrons are responsible to hold them together. When stress is applied on the metals then the layers slide past over one another. The layers are bounded by the free electrons and they play the role of glue. Due to this reason metals are malleable and ductile.

Q4. **Amorphous solid like glass is also called super cooled liquid. Why?**

Ans 1: Amorphous solids like glass have random structures and their particles are disarranged just like liquids. So the amorphous solids are no doubt hard and rigid but look like liquids. That is why glass is called a super cooled liquid.

Q5. **How is that some of crystalline solid substances show anisotropy?**

Ans 1: The variation of a certain physical property in different direction is known as anisotropy. Some of the crystalline - substances are anisotropic for certain properties. Like electrical conductivity, thermal conductivity, passage of light and cleavage.

Q6. **Why the heat of sublimation of a substance is greater than that of heat of vaporization?**

Ans 1: During sublimation two stages are crossed in a single step i.e., conversion of solid to liquid and liquid to vapours. In vaporization, liquid changes into vapours. Therefore, heat required for sublimation is greater than for vaporization.

Q7. **The boiling point of water is different at Murree Hills and at mount Everest. Justify it.**

Ans 1: Boiling point of a liquid changes as the external pressure changes. At murree Hills, atmospheric pressure is less than standard pressure (760 torr). So water boils at 98°C instead of 100°C. At mount Everest atmospheric pressure is further reduced .So water boils at 69° C.

Q8. **Why dipole-dipole forces are much stronger than dipole-induced dipole forces?**

Ans 1: In dipole-dipole forces, the atoms have sufficient partial positive and partial negative charges to attract each other. Where as in cuse of Londonforces no +ve or - ye change present apparently.

Q9. **Define polymorphism and isomorphism? Give on example of each.**

Ans 1: Isomorphism is the phenomenon in which two different substances exist in the same crystalline form, e.g; NaNO3, KNO3, KNO_3 are rhombonedral enystalline form. When a compound exists in more than one crystalline shape. Then the phenomenon is called polymorphism. $AgNO_3$ rhombohedral crystals and orthorhombic crystalline form.

Q10. **Why the melting and boiling points of alkanes increase with increase in molar masses?**

Ans 1: Alkanes are saturated hydrocarbons. Greater the length of carbon chain, greater the interaction of one molecule with the other. Higher alkanes are zig-zag in structure and they are tailed macromolecules as well. These features are responsible for the forces of interactions and cause the increase of M.P. and B.P. of alkanes.
