

## Chemistry - 12th Class Chemistry Chapter 2 Short Questions Preparation

Q1. Give reactions of BeO with a) NaOH b) H<sub>2</sub>SO<sub>4</sub>.

**Ans 1:** a) **Reactions of BeO with NaOH:**  $\text{BeO} + 2\text{NaOH} \longrightarrow \text{Na}_2\text{BeO}_2 + \text{H}_2\text{O}$

b) **Reactions of BeO with H<sub>2</sub>SO<sub>4</sub>:**  $\text{BeO} + \text{H}_2\text{SO}_4 \longrightarrow \text{BeSO}_4 + \text{H}_2\text{O}$

Q2. Give reason that alkali metals are strong reducing agents?

**Ans 1:** The reducing property of an element depends on the magnitude of its ionization energy. Reducing agent is a substance which can lose electron. Since alkali metals have got low ionization energies, so they are strong reducing agents. They are highly electropositive. They react readily with halogens giving alkali metal halides.

Q3. What are main uses of Plaster of Paris?

**Ans 1:** 1) Plaster of Paris is used for making plaster walls, casts of statuary, coins, etc.  
 2) It is used in surgery, Plaster of Paris bandages are used for holding in place fractured bones after they have been set.  
 3) It is also used in cement Plaster in which usually glue or other oils have been added as retarders to prolong the time of setting.

Q4. Why lithium carbonate decomposes on heating while other alkali metal carbonates remain unaffected?

**Ans 1:** Lithium has low electropositive character, thus its carbonate and nitrate are not so stable and therefore decompose giving lithium oxide. Carbonates of other alkali metals do not decompose.

Q5. What is the function of calcium in plant growth.

**Ans 1: Function of calcium in plant growth:** The presence of calcium is essential for the normal development of plants. The quantity of calcium required by different plants varies considerably. An adequate supply of calcium appears to stimulate the development of roots hairs and, in fact, the entire root system.  
 Calcium is also necessary for the normal leaf development and tends to accumulate in leaves as well as in bark, an adequate supply of calcium is also essential for the optimum activity of microorganisms that produce nitrates. The effect of calcium on the supply of available phosphorus in the soil is of special significance. Soils containing sufficient calcium are slightly alkaline in nature.

Q6. Alkali and alkaline earth metals are reactive elements of periodic table. Justify it.

**Ans 1:** Alkali and alkaline earth metals are reactive elements of periodic table because, these elements are most electropositive elements. Alkali metals have only one electron in their valence shell. Ionization energy values of alkali metals are very low.

**Ans 2:** Alkaline earth metals have two electrons in their valence shell. These also have very low ionization values. So both alkali and alkaline earth metals are reactive.

Q7. Why is  $\text{CaCl}_2$  added in molten  $\text{NaCl}$  in Down's cell?

**Ans 1:  $\text{CaCl}_2$  added in molten  $\text{NaCl}$  in Down's cell:** Sodium chloride is used as raw material in Down's cell. The melting point of sodium chloride is  $801^\circ\text{C}$ . Some calcium chloride is added to lower the melting point of sodium chloride. Calcium chloride permits the furnace to operate at about  $600^\circ\text{C}$ .

Q8. When sodium reacts with water, hydrogen which evolves catches fire, Why?

**Ans 1:** A small piece of sodium floated on water reacts vigorously to liberate hydrogen and produce metal hydroxide. The reaction is highly exothermic. The energy produced by the reaction may even ignite the hydrogen.

$$2\text{Na} + 2\text{H}_2\text{O} \longrightarrow 2\text{NaOH} + \text{H}_2$$

Q9. What is cement plaster and Hard finish plaster?

**Ans 1: Cement Plaster:** It is Plaster of Paris to which usually glue or other oils have been added as retarders to prolong the time of setting.

**Ans 2: Hard finish plaster:** These are made by the calcination of anhydrous sulphate with alum or borax. These plaster are set very slowly but give a hard finish.

Q10. Complete the reactions: i)  $\text{Mg}_3\text{N}_2 + \text{H}_2\text{O} \longrightarrow ?$  ii)  $\text{K}_2\text{O} + \text{CO}_2 \longrightarrow ?$

**Ans 1:** i)  $\text{Mg}_3\text{N}_2 + 6\text{H}_2\text{O} \longrightarrow 2\text{NH}_3 + 3\text{Mg}(\text{OH})_2$   
ii)  $2\text{K}_2\text{O} + 2\text{CO}_2 \longrightarrow 2\text{K}_2\text{CO}_3 + \text{O}_2$