

**CBSE TEST PAPER 03**  
**CLASS XI CHEMISTRY (The s-Block Elements)**

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**General Instruction:**

- All questions are compulsory.
  - Marks are given along with each question.
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1. Name the process by which sodium carbonate is generally prepared? [1]
2. Give the important uses of sodium carbonate. [2]
3. What is sodium amalgam? [1]
4. Why is sodium hydrogen carbonate known as baking powder? [1]
5. Why does table salt get wet in rainy season? [1]
6. What is the difference between baking soda and baking powder? [2]
7. Discuss the various reactions that occur in the solvay process. [3]
8. What is the formula of soda ash? [1]
9. Give any two uses of sodium hydroxide? [2]
10. Solution of  $\text{Na}_2\text{CO}_3$  is alkaline. Give reason. [2]

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**[ANSWERS]**

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Ans 1. Sodium carbonate is generally prepared by Solvay process.

Ans 2. (i) It is used in water softening laundering and cleaning.

(ii) It is used in the manufacture of glass, soap, borax and caustic soda.

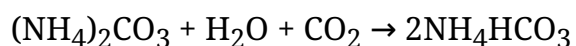
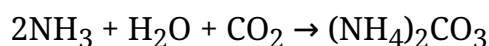
Ans 3. Sodium amalgam is an alloy of sodium and mercury.

Ans 4. Sodium hydrogen carbonate is known as baking soda because it decomposes on heating to generate bubbles of  $\text{CO}_2$  which leaves holes in cakes and bread and make them light and fluffy.

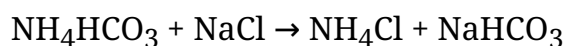
Ans 5. Table salt contains  $\text{CaCl}_2$  and  $\text{MgCl}_2$  as impurities which being deliquescent compounds absorb moisture from the air in rainy season.

Ans 6. Baking soda is sodium hydrogencarbonate ( $\text{NaHCO}_3$ ) While baking powder is a mixture of sodium hydrogencarbonate and potassium hydrogen tartrate.

Ans 7. In Solvay process,  $\text{CO}_2$  gas is passed to a concentrated solution of sodium chloride saturated with ammonia, where ammonium carbonate followed by ammonium hydrogencarbonate are formed.



In the reaction of sodium chloride with ammonium hydrogencarbonate, sodium hydrogencarbonate gets precipitated



Sodium hydrogencarbonate is heated to give sodium carbonate.

Ans 8.  $\text{Na}_2\text{CO}_3$

Ans 9. (i) It is used in the manufacture of soap, paper, artificial silk etc.

(ii) It is used in textile industry and also in petroleum refining.

Ans 10. The solution of  $\text{Na}_2\text{CO}_3$  is alkaline in nature because carbonate part of sodium carbonate gets hydrolysed to form an alkaline solution.

