



# SHIKSHA CLASSES

Subject : Chemistry

## Question Paper

Total Marks :25

Class : XI

8 : Elements of Group 1 and Group 2

Time : 1 Hour

### SECTION A

**Q.1 : Choose the correct option :** 4

- i) Which of the following is Lewis acid ?  
a)  $\text{BaCl}_2$                       b)  $\text{KCl}$   
c)  $\text{BeCl}_2$                         d)  $\text{LiCl}$
- ii) What happens when crystalline  $\text{Na}_2\text{CO}_3$  is heated ?  
a) releases  $\text{CO}_2$               b) loses  $\text{H}_2\text{O}$   
c) decomposes into  $\text{NaHCO}_3$   
d) colour changes.
- iii) Identify the odd one :  
a) Rb                              b) Ra  
c) Sr d)                        Be
- iv) is an excellent absorbent of carbon dioxide.  
a)  $\text{KO}_2$                         b)  $\text{KCl}$   
c)  $\text{KOH}$                         d)  $\text{KHCO}_3$

**Q.2 : Answer the following :** 2

- i) What are isotopes.  
ii) What is hydrogenation.

### SECTION B

**: Answer the following : (ANY 3)** 6

**Q.3 :** Explain the following : Hydrogen shows similarity with alkali metals as well as halogens.

**Q.4 :** What is the action of dihydrogen on the following?

- i) Metals                        ii) Dioxygen.

**Q.5 :** Describe the physical properties of alkali and alkaline earth metals.

**Q.6 :**  $\text{NaCl}$  is an ionic compound but  $\text{LiCl}$  has some covalent character, explain.

**Q.7 :** Write balanced chemical equations for the following:

- i) Magnesium is heated in the air  
ii) Potassium is dropped in water.

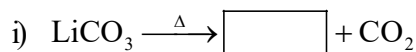
### SECTION C

**: Answer the following : (ANY 3)** 9

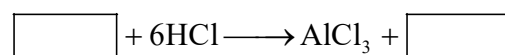
**Q.8 :** Explain Solvay process for manufacture of Sodium carbonate.

**Q.9 :** Calculate the volume strength of a 5% solution of hydrogen peroxide.

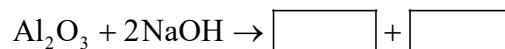
**Q.10 :** Complete the following chemical equations :



ii)

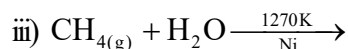
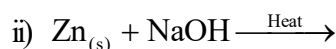
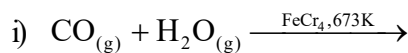


iii)



**Q.11 :** What happens when alkali metals react with hydrogen and halogens?

**Q.12 :** Complete the following chemical reactions :-



### SECTION D

: Answer the following : (ANY 1) 4

**Q.13 :** Explain the reactivity of alkaline earth metals towards :

- i) Water
- ii) Hydrogen
- iii) Halogens

**Q.14 :** Write balanced chemical equations for the following:

- i) A 50% solution of sulphuric acid is subjected to electrolytic and the product is hydrolysed.
- ii) Calcium carbonate is treated with dilute hydrochloric acid.
- iii) Carbon dioxide gas is bubbled through solution of slaked lime.
- iv) Hydrated barium peroxide is treated with ice-cold dil. HCl.

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