



## CHEMISTRY

### BOOKS - MBD CHEMISTRY (ODIA ENGLISH)

### S- BLOCK ELEMENTS [ALKALI AND ALKALINE EARTH METALS]

#### Question Type

1. What is the composition of Borax ?



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2. Give two uses of sodium ?



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3. Oxide of alkali metal is \_\_\_\_\_.

(amphorteic, acidic, basic )



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4. Between lithium and sodium, which is more electropositive ?

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5. Write the formula of Borax.

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6. Which is the most electropositive element among group- IA elements ?

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7. What is the composition of Epsom salt ?



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8. Which one of the following is an ore of magnesium ?

(Bauxite, Carnallite, Malachite, Magnesite )



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9. What is the composition of Gypsum ?



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**10.** Which of the following is an ore of calcium ?

(Bauxite, Gypsum, Carnallite, Magnesite )



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**11.** Give one use of anhydrous calcium chloride ?



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**12.** What is plaster of paris ?



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13. Name the alkaline earth metal which is ratio active.



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14. Write the chemical formula of chile salt petre.



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15. How does very dilute  $HNO_3$  react with Mg ?  
Give equation only.



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16. What is the composition of carnallite ?

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17. Write the chemical formula of Glauber's salt.

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18. What happens when sodium metal is heated with  $NH_3$  gas ?

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19. What happens when sodium reacts with water ?

Give equation



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20. Why alkali metals used as reducing agents ?



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21. How is Glauber's salt prepared ?



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**22.** Give the principle of preparation of sodium hydroxide.



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**23.** Give the principle of extraction of sodium by electrolytic method.



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**24.** How can you prepare anhydrous magnesium chloride ?



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25. What is the composition of plaster of paris ?

What happens when it is heated ?



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26. What happens when calcium nitrate is heated ?



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27. Give method of preparation of calcium nitrate.

Give equation.



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28. Give method of preparation of calcium nitrate.

Give equation.



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29. Why is magnesium less electropositive than calcium ?



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**30.** Explain about the reaction when excess of  $CO_2$  gas is passed through lime water.



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**31.** What is plaster of paris ? Mention two of its uses.



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**32.** Why alkali metals act as strong reducing agents

?



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**33.** Give a comparative account of properties of alkali metals of group 1.



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**34.** Give a comparative account of properties of alkaline metals of group 2.





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**35.** Give preparation, properties and uses of the Caustic Soda



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**36.** Give preparation, properties and uses of the Caustic Soda



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**37.** Give preparation, properties and uses of the Baking Soda



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**38.** Give preparation, properties and uses of the Plaster of Paris



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**39.** Give preparation, properties and uses of the Slaked lime



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**40.** Give preparation, properties and uses of the Quick lime

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**41.** Compared with alkaline earth metals, the alkali metals exhibit.

- A. Smaller ionic radii
- B. Higher boiling points
- C. Greater hardness



D. Lower ionisation energies

**Answer: D**



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**42. Which has the maximum  $K_{sp}$  value ?**

A. KOH

B. RbOH

C. LiOH

D. NaOH

**Answer: B**



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**43.** Which has the least anion to cation size ratio ?

A. LiF

B. NaF

C. CsF

D. CsF

**Answer: D**



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44. Which of the following is the strongest base ?

A. LiOH

B. NaOH

C. KOH

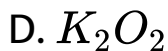
D. CsOH

**Answer: D**



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45. Which is formed when potassium is burnt in excess of air ?

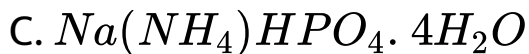


**Answer: C**



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46. Micro-cosmic salt is



D. None of these

Answer: C



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47. Which is maximum basic in the following ?

A.  $Na_2O$

B. CsF

C. NaF

D. KF

**Answer: A**



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**48.** Alkali metal that reacts with nitrogen directly to form nitride is:

A. Li

B. Na

C. K

D. Rb

**Answer: A**



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**49.** Which has the maximum lattice energy ?

A. RbF

B. CsF

C. NaF

D. KF

**Answer: C**



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**50.** Fire which results from the combustion of alkali metals can be extinguished by

A.  $CCl_4$

B. Sand

C. Water

D. kerosene



**Answer: A**



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**51.** The affinity of sodium with water is used in

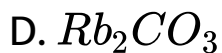
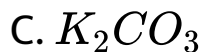
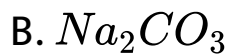
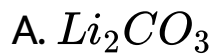
- A. drying of alcohols
- B. drying of ammonia
- C. drying benzene
- D. drying most of the compounds

**Answer: C**



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52. Which is least thermally stable ?



**Answer: A**



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53. Which statement is false in case of alkali metals ?

- A. Lithium is the strongest reducing agent
- B. Sodium is amphoteric in nature
- C.  $Li^+$  ion is exceptionally small
- D. All alkali metals give blue colour in liquid ammonia.

**Answer: B**



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54. Lithium show diagonal relationship with ?

A. Magnesium

B. Beryllium

C. Aluminium

D. Boron

**Answer: A**



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55. Which is maximum reactive towards water ?

A. Li

B. K

C. Na

D. Rb

**Answer: D**



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**56.** Alkali metals are generally extracted by

A. Reduction methods

B. Double decomposition methods

C. Displacement methods

D. Electryoltic methods

**Answer: D**



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57. Which is correct statement for  $CsBr_3$  ?

A. It is a covalent compound

B. It contains  $Cs^+$  and  $Br^-$  molecule

C. It contains  $Cs^+$  and  $Br_3^-$  molecule

D. It contains  $Cs^+$ ,  $Br^-$  and  $Br_2$  molecule.

**Answer: D**



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**58.**  $Cs^+$  ion imparts violet colour to the flame. This is due to the fact that the emitted radiations have:

- A. High energy
- B. Low energy
- C. Longer wavelength
- D. None of three

**Answer: B**



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59. The electronic configuration of a metal M is  $1s^2 2s^2 2p^6 3s^1$ . The formula of its oxide would be:

A. MO

B.  $M_2O$

C.  $M_2O_3$

D.  $MO_2$

**Answer: B**



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60. Which has the maximum m.p. ?

A. NaCl

B. NaF

C. NaBr

D. NaI

**Answer: B**



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61. Sodium nitrate decomposes above  $800^{\circ}\text{C}$  to give

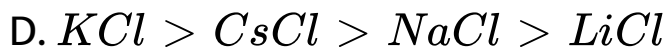
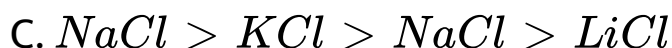
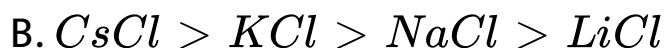
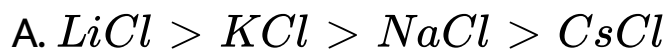


**Answer: B**



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62. The stability of the alkali metal chlorides listed below follows the order :



Answer: D



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63. Which has the maximum electropositive character ?

A. Cu

B. Cs

C. Ba

D. Cr

**Answer: B**



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64. Which is formed with lithium is heated in air?

A. Only  $Li_2O$

B. Only  $Li_3N$

C. Both  $Li_2O$  and  $Li_3N$

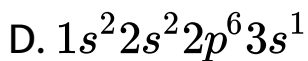
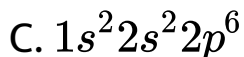
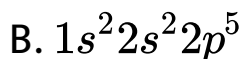
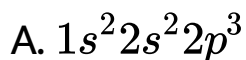
D. Both  $Li_2O_2$  and  $Li_3N$

**Answer: C**



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65. Which of the following electronic configurations has the lowest ionisation energy ?



**Answer: D**



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**66.** Lithium is the strongest reducing agent among the alkali metals due to the following factor.

A. Ionisation energy

B. Electron affinity

C. Hydration energy

D. Lattice energy

**Answer: D**



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67. Which alkali metal ion has lowest mobility in aqueous solution ?



**Answer: C**



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68. In NaCl, the  $Cl^-$  ions occupy the place in a fashion of:

A. fcc

B. bcc

C. Both

D. None

**Answer: A**



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69. When sodium metal heated in dry ammonia, the compound formed is:

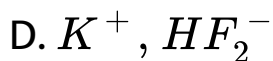
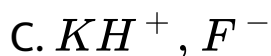
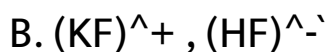
- A. Sodium amide
- B. Sodium azide
- C. Sodium nitride
- D. Sodium hydride

**Answer: A**



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70. What types of ions are present in anhydrous mixture of KF and Hf ?



**Answer: D**



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71.  $KO_2$  is used in oxygen cylinders in space and submarines because it

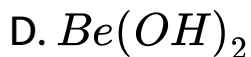
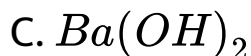
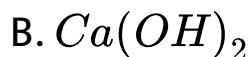
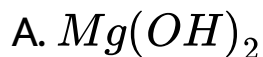
- A. absorbs  $CO_2$  and increases  $O_2$  content
- B. eliminates moisture
- C. absorbs  $CO_2$
- D. produce Ozone

**Answer: A**



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72. The hydroxide with least  $K_{sp}$  value at room temperature is:

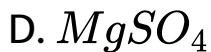


**Answer: D**



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73. Which sulphate has the highest solubility in water ?

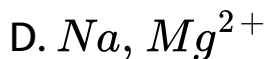
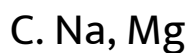
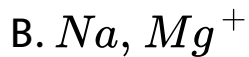
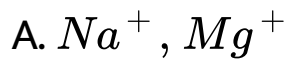


**Answer: C**



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74. Which pairs represent isoelectronic species ?



**Answer: B**



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75. Which of the following represents an alkaline earth metal on the basis of atomic nos.(Z) listed ?

A. 10

B. 20

C. 30

D. 40

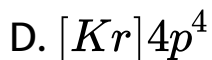
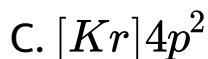
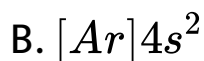
**Answer: B**



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76. The electronic configuration of calcium is represented as:

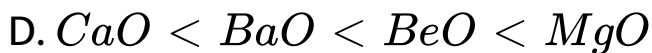
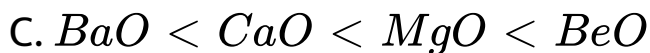
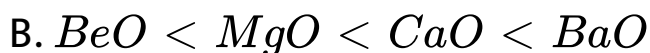
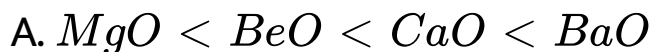


**Answer: B**



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77. Which is the correct order of increasing basic strength ?



**Answer: B**



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78. The decreasing order of  $IE_2$  values in K, Ca and Ba is:

A.  $K > Ca > Ba$

B.  $Ca > Ba > K$

C.  $Ba > K > Ca$

D.  $K > Ba > Ca$

**Answer: A**



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**79.** The most electropositive among the following is:

A. Beryllium

B. Magnesium

C. Calcium

D. Barium

**Answer: D**



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80. Which of the following is present in chlorophyll ?

A. Mg

B. Be

C. Ca

D. None of these

**Answer: A**



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81. The compounds with maximum and least ionic characters among the following are:

A.  $LiCl$  and  $RbCl$

B.  $RbCl$  and  $BeCl_2$

C.  $RbCl$  and  $MgCl_2$

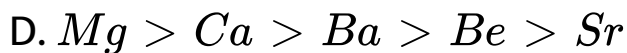
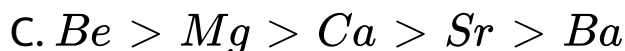
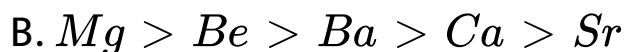
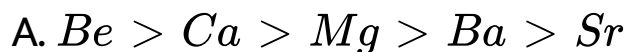
D.  $MgCl_2$  and  $BeCl_2$

**Answer: B**



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82. The correct order of solubility of the sulphates of alkaline earth metals in water is:



**Answer: C**



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83. Which imparts brick red colour to the flame ?

A. Be

B. Mg

C. Ca

D. Sr

**Answer: C**



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84. All the following substances react with water.

The pair which gives the same gaseous product is:

A. K and  $KO_2$

B. Na and  $Na_2O_2$

C. Ca and  $CaH_2$

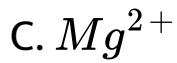
D. Ba and  $BaO_2$

**Answer: C**



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85. Which are involved in muscle contraction?



**Answer: D**



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**86.** Which will liberate hydrogen on reacting with hydrochloric acid ?

A. Copper

B. Phosphorus

C. Mercury

D. Magnesium

**Answer: D**



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87. To the clear solution of compound (X) a solution of barium chloride ( $BaCl_2$ ) is added to give a white precipitate which does not dissolve in dilute HCl. The compound (X) is:

A. A nitrate

B. A bromide

C. A sulphate

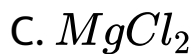
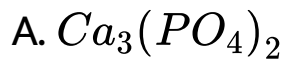
D. A carbonate

**Answer: C**



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88. Which constitutes the enamel of our teeth ?



**Answer: A**



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89. Which of the following does not impart colour to the flame ?

A. LiCl

B. KCl

C.  $MgCl_2$

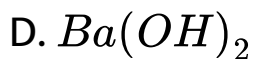
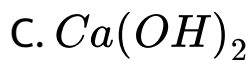
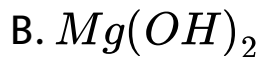
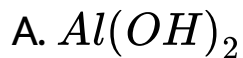
D.  $CaCl_2$

**Answer: C**



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90. The strongest base in the following is:



**Answer: D**



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91. The correct order of increasing thermal stabilities of the compound is (i)  $K_2CO_3$ , (ii)  $MgCO_3$ , (iii)  $CaCO_3$  and (iv)  $BeCO_3$  is:

A. II<III<IV<I

B. IV<III<II<I

C. IV<III<I<II

D. III<IV<II<I

**Answer: B**



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92. A metal is burnt in air and the ash on moistening smells of ammonia. The metal is:

A. Na

B. Fe

C. Mg

D. Al

**Answer: C**



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93. Which out of the following does not dissolve in dilute HCl ?

A. ZnS

B. MnS

C.  $BaCO_3$

D.  $BaSO_4$

**Answer: D**



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94. A chloride dissolves appreciably in cold water when placed on the tip of platinum wire and heated in the bunsen flame, no distinctive colour is obtained. Which cation could be present ?

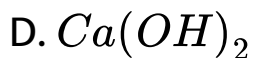
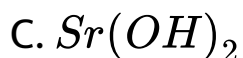
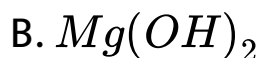
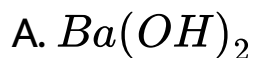


**Answer: A**



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95. The hydroxide which is max. soluble in water is ?



**Answer: A**



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96. The elements forming predominantly covalent bonds in the following is:

A. *Ca*

B. Sr

C. Ba

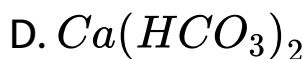
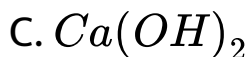
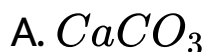
D. Be

**Answer: D**



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97. Chemicals compound 'A' is used to remove temporary hardness from water. It reacts with  $Na_2CO_3$  to generate caustic soda. When  $CO_2$  is bubbled through 'A'. It turns cloudy. What is the chemical formula of 'A' ?

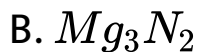
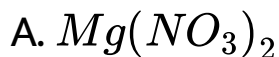


**Answer: D**



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98. The metal 'X' on heating with nitrogen gives compound 'Y' which dissolves in water to evolve a colourless gas. The gas on passing through  $CuSO_4$  solution gives a blue colour. The compound 'Y' is



**Answer: B**



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99. Ba, Sr, Ca and Mg may be arranged in order of decreasing first ionisation energy ( $IE_1$ ) as:

A. Mg, Ca, Sr, Ba

B. Ca, Sr, Ba, Mg

C. Sr, Ba, Mg, Ca

D. Ba, Mg, Ca, Sr

**Answer: A**



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**100.** Halides of alkaline earth elements generally form hydrates. This shows that the halides of these elements are:

- A. hygroscopic in nature
- B. acts as dehydrating agents
- C. can absorb moisture from air
- D. all the above are correct

**Answer: D**



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101. The set representing the correct first ionisation energies ( $IE_1$ ) is:

A.  $K > Na > Li$

B.  $Be > Mg > Ca$

C.  $B > C > N$

D.  $Ge > Si > C$

**Answer: B**



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102. Identify the least stable among the following

A.  $Li^-$

B.  $Bc^-$

C.  $B^-$

D.  $C^-$

**Answer: B**



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**103.** Which of the following process is used in the extraction of metallurgy of magnesium ?

A. fused salt electrolysis

B. salt reduction

C. aqueous solution electrolysis

D. thermite reduction

**Answer: A**



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**104.** The substance not likely to contain  $CaCO_3$  is:

A. dolomite

B. a marble statue

C. calcined gypsum

D. seashells

**Answer: C**

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**105.** Why is magnesium less electropositive than calcium ?

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**106.** What is the formula of gypsum ?

 [Watch Video Solution](#)

**107.** How does very dilute  $HNO_3$  react with Mg ?

Give equation only.

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**108.** Between lithium and sodium, which is more electropositive ?

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**109.** Which is more electropositive between Lithium and Sodium ?



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**110.** Name the alkaline earth metal which is ratio active.



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**111.** What is the composition of carnallite ?



**Watch Video Solution**

**112.** What is plaster of paris ?

 [Watch Video Solution](#)

**113.** Write down the electronic configuration of potassium ?

 [Watch Video Solution](#)

**114.** What is the composition of Gypsum ?

 [Watch Video Solution](#)



115. Between sodium and potassium, which is more electropositive ?



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116. Oxide of alkali metal is \_\_\_\_\_.

(amphorteic, acidic, basic )



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117. Write one use of  $KClO_3$





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**118.** Mention any two uses of potassium cyanide.



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**119.** Mention any two uses of potassium cyanide.



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**120.** What is the composition of Epsom salt ?



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**121.** Which is the most electropositive element among group- IA elements ?



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**122.** What solid compound is formed on heating sodium bicarbonate ?



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**123.** What substance is used for dyeing ammonia gas ?



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124. During electrolytic method of extraction \_\_\_ is liberated at the cathode.



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125. Why alkali metals used as reducing agents ?



[Watch Video Solution](#)

**126.** Write down the electronic configuration of potassium ?



**Watch Video Solution**

**127.** Give one use of anhydrous calcium chloride ?



**Watch Video Solution**

**128.** Name one ore of magnesium.



**Watch Video Solution**

**129.** During electrolytic method of extraction sodium is liberated at the\_\_\_\_\_.

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**130.** Composition of cryolite is\_\_\_\_\_.

 [Watch Video Solution](#)

**131.** Name of the metal which present in chlorophyll.

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**132.** Which colours can Li and Na impart to the flame ?



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**133.** What happens when alkali metals dissolve in liquid ammonia ?



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**134.** Write one use of sodium oxide.





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**135.** What happens when  $\text{NaOH}$  reacts with amphoteric metals ?



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**136.** Sodium sulphate is otherwise known as \_\_\_\_ and its composition is \_\_\_\_.



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**137.** Sodium nitrate occurs as \_\_\_\_\_.



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**138.** Solvay's process is employed for the manufacture of \_\_\_\_\_.



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**139.** Between lithium and sodium, which is more electropositive ?



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140. Sodium is stored under\_\_\_\_\_



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141. What is baking soda ?



[Watch Video Solution](#)

142. How is potassium extracted ?



[Watch Video Solution](#)

143. Squashes are stored by adding\_\_\_\_\_.



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144. The alkali metals dissolve in liquid ammonia to give solutions which are blue in colour if dilute. The blue colour is believed to be due to\_\_\_\_\_.



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145. What happens when acetic acid is treated with  $Na_2CO_3$  ?



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**146.** What happens when  $CO_2$  is passed through aqueous solution of sodium carbonate ?

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**147.** What are the uses of sodium chloride ?

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**148.** Sodalime is a mixture of \_\_\_\_ and \_\_\_\_.

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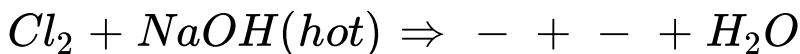
149. What is the difference between soda ash and washing soda ?

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150. Dolomite is an ore of \_\_\_\_\_ metal.

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151. Complete and balance the reaction:





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**152.** What happens when chlorine gas is passed through cold caustic soda ?



[Watch Video Solution](#)

**153.** Name the products when caustic soda reacts with phosphorus ?



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154. What is the composition of sorel cement ?

 [Watch Video Solution](#)

155. What is the composition of Norwegian salt petre ?

 [Watch Video Solution](#)

156. In the extraction of calcium from  $CaCl_2$ , the compound used to reduce its fusion temp. is \_\_\_\_.

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157. Two soft metals are \_\_\_\_\_ and \_\_\_\_\_.



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158. Phosphorite is the ore of \_\_\_\_\_ and has composition of \_\_\_\_\_.



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159. For making cotton shrinkable, the compound used is \_\_\_\_\_.







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**160.** What is the composition of Cryolite ?



[Watch Video Solution](#)

**161.** What happens when sodium reacts with ammonia ?



[Watch Video Solution](#)

**162.** Why alkali metals act as strong reducing agents ?



**Watch Video Solution**

**163.** Give the principle of preparation of sodium hydroxide.



**Watch Video Solution**

**164.** Write the chemical formula for Chile salt peter and Brown-ring produced during test for nitrate.



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**165.** What happens when sodium reacts with water ?

Give equation



[Watch Video Solution](#)

**166.** What is plaster of paris ? Mention two of its uses.



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**167.** What is 'Bleaching powder' ? Mention one method of its preparation.



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**168.** Explain about the reaction when excess of  $CO_2$  gas is passed through lime water.



**Watch Video Solution**

**169.** How can borax be obtained from sodium metaborate ?



**Watch Video Solution**

**170.** What happens when dilute NaOH is added to a solution of aluminium chloride ? Give equations.



**Watch Video Solution**

**171.** What happens when Potassium iodide solution is added to an aqueous solution of copper sulphate. Give equation.



**Watch Video Solution**

172. What is plaster of paris ? How is it prepared ?

 [Watch Video Solution](#)

173. Why  $CaCl_2$  is used along with NaCl in the extraction of sodium ?

 [Watch Video Solution](#)

174. What happens when sodium reacts with ammonia ?

 [Watch Video Solution](#)

**175.** Give two uses of sodium ?

 [Watch Video Solution](#)

**176.** How can caustic soda is prepared ?

 [Watch Video Solution](#)

**177.** What happens when cold  $\text{NaOH}$  reacts with halogens ?

 [Watch Video Solution](#)

**178.** What happens when hot NaOH is passed through halogens ?



**Watch Video Solution**

**179.** Why alkali metals act as strong reducing agents ?



**Watch Video Solution**



**180.** Name first four elements of group IA of the periodic table ?



**Watch Video Solution**

**181.** Why sodium catches fire when dropped in water ?



**Watch Video Solution**

**182.** Give the principle of preparation of sodium hydroxide.



[Watch Video Solution](#)

**183.** Give method of preparation of calcium nitrate.

Give equation.



[Watch Video Solution](#)

**184.** How magnesium sulphate is prepared ?



[Watch Video Solution](#)

**185.** What is slag ? Give an example of it.





[Watch Video Solution](#)

**186.** What happens when gypsum is heated ?



[Watch Video Solution](#)

**187.** Why alkali metals act as strong reducing agents ?



[Watch Video Solution](#)

**188.** Name first four elements of group IA of the periodic table ?



**Watch Video Solution**

**189.** Give one method of preparation and two uses of milk of magnesia.



**Watch Video Solution**

**190.** What is milk of magnesia ? Give its preparation and uses.





[Watch Video Solution](#)

**191.** What is plaster of paris ? Give its preparation and uses.



[Watch Video Solution](#)

**192.** Except Beryllium and Magnesium, other elements of Gr. IIA give characteristic colour in flame. Explain why ?



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**193.** A solution of KOH in water is called :

- A. Potash lye
- B. soda lye
- C. Salt cake
- D. None of these

**Answer: A**



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**194.** Which one of the following is formed on dissolving  $I_2$  in aqueous solution of KI ?

A.  $KIO_4$

B. KIO

C.  $KI_3$

D.  $KIO_3$

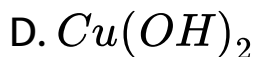
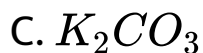
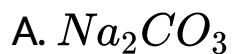
**Answer: C**



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**195.** A colourless salt gives violet colour to Bunsen flame and also turns moistened litmus paper blue.

It is:

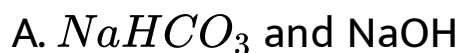


**Answer: C**



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**196.** The pair of compounds which cannot exist together in solution is:





B.  $Na_2CO_3$  and  $NaHCO_3$

C.  $NaH_2PO_2$  and NaOH

D.  $NaHCO_3$  and NaCl

**Answer: A**



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**197.** Which element of 1A group is most abundantly found in combined state:

A. Li

B. Na

C. Cs

D. K

**Answer: B**



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**198.**  $NO_2$  is obtained by heating:

A.  $CsNO_3$

B.  $KNO_3$

C.  $LiNO_3$

D.  $NaNO_3$

**Answer: C**



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**199.** How many elements are included in group 1:

A. 4

B. 5

C. 6

D. 7

**Answer: C**



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200. The most dangerous method of preparing hydrogen would be by the action of HCl and :

A. Zn

B. Fe

C. K

D. Al

**Answer: C**



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201. Gun powder is:



D. None of these

**Answer: A**



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202. Which halide has the highest melting point

A. NaCl

B. NaBr

C. NaF

D. NaI

**Answer: C**



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**203.** Which alkali metal reacts directly with nitrogen to form nitride?

A. Li

B. Na

C. Cs

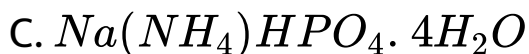
D. None of these

**Answer: A**



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**204.** Which one is called Microcosmic salt?



D. None of these

**Answer: C**



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**205.** The main reason for not using a mercury electrolytic cell in NaOH manufacture is that:

A. Hg is toxic

B.  $Na^+$  is discharged at cathode

C. Hg has a high vapour pressure

D. Hg is a good conductor of electricity



**Answer: B**



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**206.** The raw materials is Solvay process are:

- A.  $\text{NaOH}$ ,  $\text{CaO}$  and  $\text{NH}_3$
- B.  $\text{Na}_2\text{CO}_3$ ,  $\text{CaCO}_3$  and  $\text{NH}_3$
- C.  $\text{Na}_2\text{SO}_4$ ,  $\text{CaCO}_3$  and  $\text{NH}_3$
- D.  $\text{NaCl}$ ,  $\text{NH}_3$ ,  $\text{CaCO}_3$

**Answer: D**



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207. Which substances gives a different flames colouration from the other?

- A. Nitre
- B. Caustic potash
- C. Potassium Chloride
- D. Table salt

**Answer: D**



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208. What would you observe if excess of dilute NaOH solution is added and shaken with an aqueous solution of aluminium chloride?

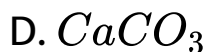
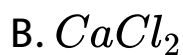
- A. A permanent white precipitate is formed immediately
- B. No change at first but a white precipitate is formed on standing
- C. A white precipitate is formed which later dissolves
- D. A green precipitate which turns red on standing in air

**Answer: C**



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**209.** The byproduct of Solvay used in photography is:

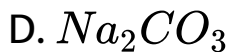
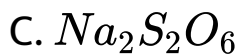
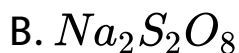
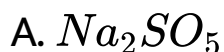


**Answer: B**



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210. The compound of Solvay process is



Answer: D



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**211.** Manufacture of NaOH is done by:

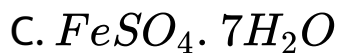
- A. Caster-kellner process
- B. Solvay process
- C. Brine process
- D. Mond process

**Answer: A**



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**212.** Molecular formula of Glauber's salt is:



**Answer: D**



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**213.** An ore of potassium is:

A. Carnallite

B. Cryolite

C. Bauxite

D. Dolomite

**Answer: A**



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**214.** Alkali metals are good reducing agents because they easily:

A. Gain electrons

B. Lose electrons

C. Complete the octet



D. React with water

**Answer: B**



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**215.** When chlorine is passes through concentrated solution KOH, the compound formed is:

A.  $KClO$

B.  $KClO_2$

C.  $KClO_3$

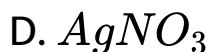
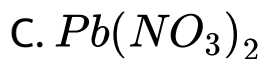
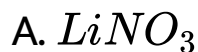
D.  $KClO_4$

**Answer: C**



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**216.** The salt on heating does not give brown coloured gas is:



**Answer: B**



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217. Sodium carbonate is:

- A. Efflorescent
- B. Deliquescent
- C. Hygroscopic
- D. Oxidant

**Answer: A**



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**218.** The reaction of sodium with water is highly exothermic. The rate of reaction is lowered by:

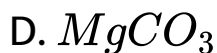
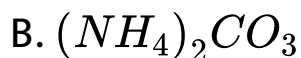
- A. Lowering the temperature
- B. Mixing with alcohol
- C. Mixing with acetic acid
- D. Making an amalgam

**Answer: D**



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219. When ammonical solution of common salt is saturated with carbon dioxide we get:



**Answer: C**



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**220.** The outermost electron is most loosely held  
in:

A. Li

B. Na

C. K

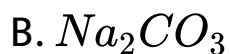
D. Cs

**Answer: D**



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221. Sodium peroxide in contact with moist air turns white due to the formation of:



**Answer: D**



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222. Which of the following alkali metal ion in aqueous solution is the best conductor of electricity?



**Answer: C**



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**223.** Alkali metal chloride soluble in pyridine is:

A. LiCl

B. CsCl

C. NaCl

D. KCl

**Answer: A**



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**224.** The chloride ion is isoelectronic with potassium. The size of chloride ion is:

- A. Larger than  $K^+$  ion
- B. Smaller than  $K^+$  ion
- C. Same as that of  $K^+$  ion
- D. None of the above

**Answer: A**



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**225.** Elements of group 1 react violently with water and the solution becomes:

- A. Acidic

B. Basic

C. Neutral

D. Amphoteric

**Answer: B**



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**226.** Which does not form peroxide on heating in air?

A. Na

B. Be

C. Ca

D. Li

**Answer: D**



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**227.** Which shows the highest lattice energy?

A. NaBr

B. NaF

C. NaCl

D. NaI

**Answer: B**



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**228.** Sodium chloride is known as:

A. Rock salt

B. Common salt

C. Table salt

D. All of these

**Answer: D**



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**229.** Hypo is used in:

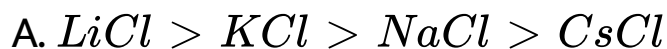
- A. Iodimetric titrations
- B. Iodometric titrations
- C. Photography
- D. All of these

**Answer: D**



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**230.** The stability of the alkali metal chlorides listed below follows the order :



**Answer: D**



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231. Nitrates of group '1' (except  $LiNO_3$ ) on heating give:

A.  $O_2$

B.  $N_2$

C. NO

D.  $NO_2$

**Answer: A**



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232. When  $CO_2$  is bubbled into an aqueous solution of  $Na_2CO_3$  the following is formed:

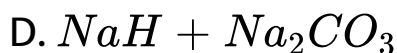
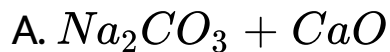


**Answer: C**



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233. Soda lime is:



Answer: C



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234. Which possesses highest lattice energy?

A. NaCl

B. LiF

C. CsI

D. KF

**Answer: B**

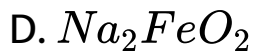
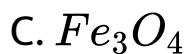


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**235.**  $Na_2CO_3 + Fe_2O_3 \rightarrow A + CO_2$ , *A* is:

A.  $NaFeO_2$

B.  $Na_3FeO_3$



**Answer: A**



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**236.** Sodium carbonate solution in water is alkaline due to :

A. Hydrolysis of  $Na^+$

B. Hydrolysis of  $CO_3^{2-}$

C. Hydrolysis of both  $Na^+$  and  $CO_3^{2-}$  ions

D. None of the above

**Answer: B**



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**237.** Magnesium has polarizing power closer to that of:

A. Lithium

B. Sodium

C. Potassium

D. Caesium

**Answer: A**



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**238.** The ion having maximum value of hydration energy is :



**Answer: A**



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239.  $LiAlH_4$  is used as :

- A. An oxidising agent
- B. A reducing agent
- C. A mordant
- D. A water softener

**Answer: B**



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**240.** Caustic soda solution is an absorbent for:

A.  $NH_3$

B.  $CO_2$

C. CO

D.  $N_2O$

**Answer: B**



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**241.** The non-metal which is not affected by NaOH:



A. C

B. Si

C. P

D. S

**Answer: A**



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**242.** On prolonged exposure to air, sodium finally changes to:

A.  $Na_2CO_3$

B.  $Na_2O$

C. NaOH

D.  $NaHCO_3$

**Answer: A**



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**243.** Which on heating with NaOH solution gives inflammable gas?

A. S

B. Zn



**Answer: B**



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**244.** Which of the following has the largest size ?



**Answer: D**



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**245.** Sodium thiosulphate is formed when:

- A. NaOH is neutralised by  $H_2SO_4$
- B.  $Na_2S$  is boiled with S
- C.  $Na_2SO_3$  is boiled with  $Na_2S$  and  $I_2$
- D.  $Na_2SO_4$  is boiled with  $Na_2S$

**Answer: C**



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**246.** Compared with alkaline earth metals, the alkali metals exhibit.

- A. Smaller ionic radii
- B. Greater hardness
- C. High boiling point
- D. Lower ionisation energies

**Answer: D**



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247. The water of crystallisation in 1 mole of washing soda crystal is:

A. 5

B. 7

C. 10

D. 2

**Answer: C**



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**248.** Which pair of elements would form the most ionic bond?

A. H,Cl

B. K,Cl

C. B,N

D. C,O

**Answer: B**



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**249.** Sodium and potassium occur:

- A. In native state
- B. In combined state
- C. In gaseous state
- D. All of these

**Answer: B**



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**250.** In the case of the alkali metals:



- A. The cation is less stable than the atom
- B. The cation is smaller than the atom
- C. The cation and the atom have about the same size
- D. The cation is larger than the atom

**Answer: B**



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**251.** Some large white transparent crystals are left out in bowel for several days. They are then

observed to have changed their form into white powder. The crystal may have been of:

A. Ammonium chloride

B. Sodium chloride

C. Sodium carbonate

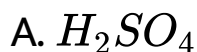
D. Calcium oxide

**Answer: C**



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252. The colour of iodine solution is discharged by shaking it with aqueous solution of:



B. Sodium sulphide

C. Sodium sulphate

D. Sodium thisulphate

**Answer: D**



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253. The reaction of sodium thiosulphate with  $I_2$  gives:

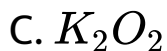
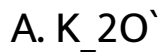
- A. Sodium sulphide
- B. Sodium sulphite
- C. Sodium sulphate
- D. Sodium tetrathionate

**Answer: D**



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254. Potassium when heated strongly in oxygen, it forms:



**Answer: B**



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255. The oxide of which metal is most stable to heat:

A. K

B. Ag

C. Hg

D. All of these

**Answer: A**



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256. Among the following, which has minimum solubility in water:

A. KOH

B. CsOH

C. LiOH

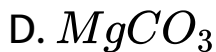
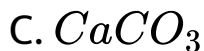
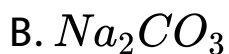
D. RbOH

**Answer: C**



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257. Zinc carbonate can be obtained from a solution of zinc chloride by adding:



**Answer: A**



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258. Hypo is used in photography for:

A. Fixing

B. Developing

C. Printing

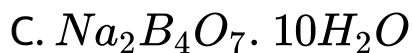
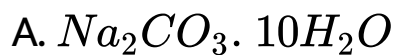
D. Toning

**Answer: B**



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259. Tincal is:



**Answer: C**



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**260.** Indian salpetre is:



C. NaCl

D.  $Na_2CO_3$

**Answer: A**



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**261.** Water glass is:

A. Another name for sodium silicate

B. A special form of glass to store water only

C. Hydrated form of glass

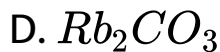
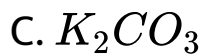
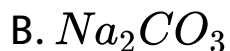
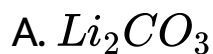
D. Hydrated silica

**Answer: A**



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**262.** Which has lowest thermal stability?



**Answer: A**



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**263.** A mixture of  $\text{Al}(\text{OH})_3$  and  $\text{Fe}(\text{OH})_3$  can be separated easily by treating it with:

A.  $\text{HCl}$

B.  $\text{NH}_4\text{OH}$

C.  $\text{HNO}_3$

D.  $\text{NaOH}$

**Answer: D**



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**264.** The process associated with the manufacture of sodium carbonate is known as:

A. Chamber

B. Haber

C. Le-Blanc

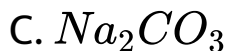
D. Castner

**Answer: C**



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265. In the manufacture of sodium hydroxide, by product obtained is:



**Answer: B**



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**266.** Alkali metals are powerful reducing agents because:

- A. They are metals
- B. These are monovalent
- C. Their ionic radii is large
- D. Of low ionisation enthalpy

**Answer: D**



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**267.** Strongest reducing agent among the following is:

A. K

B. Na

C. Al

D. Mg

**Answer: A**



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268. When a crystal of caustic soda is exposed to air, a liquid layer is deposited because:

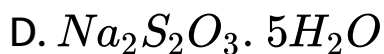
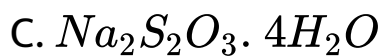
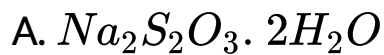
- A. Crystal melts
- B. Crystal loss water
- C. Crystal absorbs moisture and  $CO_2$
- D. Crystal sublimates

**Answer: C**



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269. Hypo is chemically

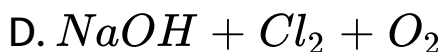
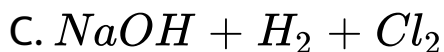
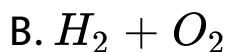
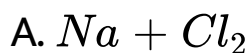


**Answer: D**



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270. The products of the electrolysis of concentrated aqueous solution of common salt are:



**Answer: C**



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271. Sodium carbonate on heating gives:

- A. Water vapours
- B. Carbon dioxide
- C. Carbon dioxide+ Water vapour
- D. None of the above

Answer: D



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272. Fire extinguishers contain  $H_2SO_4$  and,

- A.  $NaHCO_3$  and  $Na_2CO_3$

B.  $NaHCO_3$  solution

C.  $Na_2CO_3$

D.  $CaCO_3$

**Answer: A**

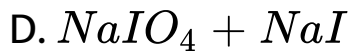
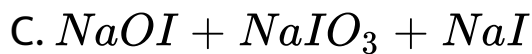


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**273.** The principal products obtained on heating iodine with concentrated caustic soda solution are:

A.  $NaOI + NaI$

B.  $NaIO_3 + NaI$



**Answer: B**



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**274.** Most reactive metal among the following is:

A. K

B. Li

C. Na

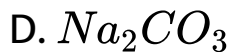
D. Mg

**Answer: A**



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**275.** Soda ash is chemically:



**Answer: D**



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**276.** Sodium bicarbonate is manufactured by:

- A. Cyanide process
- B. Thermite process
- C. Contact process
- D. Solvay process

**Answer: D**



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277. Sodium carbonate is manufactured by solvay process. The products those are recycled are:

A.  $CO_2$  and  $NH_3$

B.  $CO_2$  and  $NH_4Cl$

C. NaCl and CaO

D.  $CaCl_2$  and CaO

**Answer: A**



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278.  $Na_2CO_3$  can be manufactured by Solvay's process but  $K_2CO_3$  can not be prepared because

- A.  $K_2CO_3$  is more soluble
- B.  $K_2CO_3$  is less soluble
- C.  $KHCO_3$  is more soluble than  $NaHCO_3$
- D.  $KHCO_3$  is less soluble than  $NaHCO_3$

**Answer: C**



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**279.** Which is more basic in character?

A. RbOH

B. KOH

C. LiOH

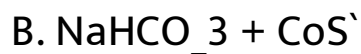
D. NaOH

**Answer: A**



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**280.** Black ash is:



**Answer: C**



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**281.** The electrolyte employed in the extraction of sodium by Down's electrolysis method is



B. Molten NaCl

C. Molten NaOH

D. A molten mixture of  $MgCl_2$  and  $NaCl$

**Answer: B**



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**282.** Which statement is false in case of alkali metals ?

A. Lithium is the strongest reducing agent

B. Sodium is amphoteric in nature

C.  $Li^+$  is exceptionally small

D. All alkali metals give blue colour in liquid ammonia.

**Answer: B**



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**283.** Baking soda or baking powder is :

A. Washing Soda

B. Caustic Soda

C. Soda ash

D. Sodium bicarbonate

**Answer: D**



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**284.** An atom of an element has electronic structure 2, 8, 1. Which statement is correct for it?

- A. The valency of element is 7
- B. It exists as a triatomic molecule
- C. The element is of a non-metallic nature
- D. It forms a basic oxide



**Answer: D**



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**285.** Sodium sulphate is soluble in water whereas barium sulphate is sparingly soluble because:

- A. The hydration energy of sodium sulphate is more than its lattice energy
- B. The lattice energy has no role to play in solubility

C. The hydration energy of sodium sulphate is less than its lattice energy

D. None of these

**Answer: A**



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**286.** Acidified solution of sodium thiosulphate are unstable because in thiosulphate:

A. The sulphur atoms are at unstable oxidation state of + 2

B. The two sulphur atoms are different oxidation states of +6 and -2

C. The S-S bond are unstable bonds

D. Thio compounds contain sulphur in zero oxidation state

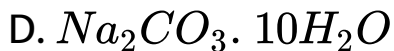
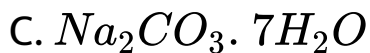
**Answer: B**



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**287.** Washing soda is:

A.  $Na_2CO_3$



**Answer: D**



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**288.** Common table salt becomes moist and does not pour easily in rainy seasons because:

A. It contains magnesium chloride

B. It contains magnesium carbonate

C. It melts slightly in rainy season

D. Sodium Chloride is hygroscopic

**Answer: A**



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**289.** Which alkali metal is most metallic in character

A. Li

B. Na

C. K

D. Cs

**Answer: D**



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**290.**  $Na_2CO_3$  and  $NaHCO_3$  may be distinguished by treating their aqueous solution with:

A. phenolphthalein

B. Dil. Acid

C. MgO

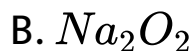
D. none

**Answer: D**



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**291.** Sodium burns in dry air to give



**Answer: B**



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**292.** Caesium oxide will be:

A. Strongly basic

B. Acidic

C. Weakly basic

D. Amphoteric

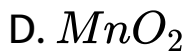
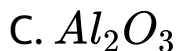
**Answer: A**



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293. An inorganic compound first melts then resolidifies and then liberates a gas. It may be:

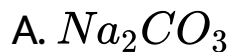


**Answer: A**



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294. Which is industrially prepared by the electrolysis of aqueous NaCl ?



**Answer: C**



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295. Which hydride is most stable ?

A. CsH

B. NaH

C. KH

D. LiH

**Answer: D**



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296. When NaCl is dissolved in water, the sodium ions are:

- A. Oxidised
- B. Reduced
- C. Hydrolysed
- D. Hydrated

**Answer: D**



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297. A and B are two salts. A with dilute HCl and A and B with conc.  $H_2SO_4$  react to give reddish brown vapours, hence A and B respectively are:

A.  $NaBr, NaNO_3$

B.  $NaNO_3, NaBr$

C.  $NaBr, NaNO_2$

D.  $NaNO_2, NaBr$

**Answer: D**



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**298.** Molten NaCl conducts electricity due to the presence of:

A. Free molecules

B. Free electrons

C. Free ions

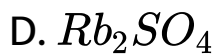
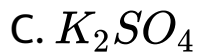
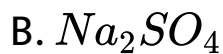
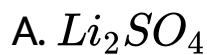
D. Atoms

**Answer: C**



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**299.** Which does not form double salt ?

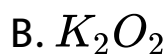
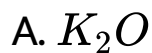


**Answer: A**



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**300.** Which of the following is not known ?



C.  $KO_4$

D.  $KO_3$

**Answer: C**



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**301.** When NaCl is heated with conc.  $H_2SO_4$  and solid  $K_2Cr_2O_7$ , we get:

A. Chromyl chloride

B. Chromous chloride

C. Chromic chloride



D. Chromic oxide

**Answer: A**



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**302.** In the Down's cell KCl is added in NaCl to:

- A. Lower its melting point
- B. Dissolve more of NaCl
- C. Increase conductivity
- D. Increase the dissociation

**Answer: A**



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**303.** Solubility of NaCl in heavy water is:

- A. More than ordinary water
- B. Less than ordinary water
- C. Same as in ordinary water
- D. None of these

**Answer: B**



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304. Which alkali metal bicarbonates does not exist as solid ?



**Answer: A**



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**305.** A solid (S) is a compound of group 1 element and gives violet colour in the flame test. (S) is:

A. NaCl

B. KCl

C.  $MgCl_2$

D. LiCl

**Answer: B**



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**306.** Which property increases in magnitude as the atomic number of alkali metals increases ?

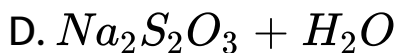
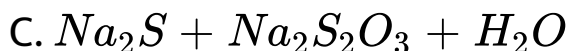
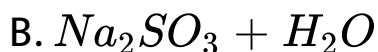
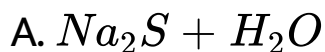
- A. Electronegativity
- B. First ionization energy
- C. Ionic radius
- D. Melting point

**Answer: C**



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307. When sulphur is heated with  $NaOH$  (aq) the compounds formed are:



**Answer: C**



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308. Pearl ash and caustic potash are chemically:

- A.  $K_2CO_3$  and NaOH
- B.  $KOH$  and  $K_2CO_3$
- C.  $Na_2CO_3$  and  $KOH$
- D.  $Na_2CO_3$  and  $NaOH$

**Answer: A**



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**309.** Which group of elements lose electrons more readily ?

A. Li, Na, K

B.  $F_2$ ,  $Cl_2$ ,  $Br_2$

C. N, P, As

D. O, S, Sc

**Answer: A**



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**310.** Lithium iodide is:

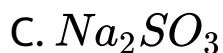
- A. Ionic
- B. Covalent
- C. Partially covalent
- D. None of these

**Answer: B**



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**311.** Sodium carbonate reacts with  $SO_2$  in aqueous solution to give:



**Answer: C**



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**312.** Which undergoes hydrolysis in hot water ?

A. NaCl

B. KCl

C. LiCl

D. All of these

**Answer: C**



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**313.** Which decomposes on heating ?

A. NaOH

B. KOH

C. LiOH

D. CsOH

**Answer: C**

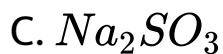


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**314.** Which liberates  $SO_2$  with dilute  $H_2SO_4$

A.  $Na_2SO_4$

B.  $NaHSO_4$



**Answer: C**



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**315.** A white solid reacts with dil. HCL to give colourless gas that decolourise aqueous bromine.

The solid is most likely to be:

A. Sodium carbonate

B. Sodium chloride

C. Sodium acetate

D. Sodium thiosulphate

**Answer: D**



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**316.** Which electronic configuration represents the configuration of the most electropositive element ?





**Answer: B**



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**317.** When aqueous solution of sodium hydroxide is electrolysed ?

A. Hydrogen is liberated at cathode

B. Hydrogen is liberated at anode

C. Sodium is liberated at anode

D. Hydrogen is not liberated

**Answer: A**



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**318.** The lightest metal among the following is:

A. Na

B. Ca

C. Li

D. Mg



**Answer: C**



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**319.** The ashes of plant contain alkali metals, 90 %  
of which is:

A. Li

B. K

C. Na

D. Rb

**Answer: B**



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**320.** The chloride that can be extracted with ether:

A. NaCl

B. LiCl

C.  $BaCl_2$

D.  $CaCl_2$

**Answer: B**



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**321.** Which of the following alkali metal does not form alum:

A. Cs

B. K

C. Na

D. Li

**Answer: D**



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**322.** The nitride ion in lithium nitride is composed of:

- A. 7 protons + 7 electrons
- B. 10 protons + 7 electrons
- C. 7 protons + 10 electrons
- D. 10 protons + 10 electrons

**Answer: C**



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**323.** The reaction of water with sodium and potassium is:

- A. Reversible
- B. Irreversible and endothermic
- C. Exothermic
- D. Endothermic

**Answer: C**



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**324.** Which ion forms a hydroxide highly soluble in water ?



**Answer: B**



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325. Which of the following has minimum values of cation-anion size ratio ?

A. NaCl

B. KCl

C.  $MgCl_2$

D.  $CaF_2$

**Answer: C**



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**326.** Which of the following statements is false regarding saline hydrides ?

- A. In the molten state they conduct electricity
- B. They dissolve in water giving off hydrogen
- C. They are used to reducing agents
- D. They are covalent in nature

**Answer: D**



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**327.** Sodium thiosulphate is used in photography because of its:

- A. Reducing nature
- B. Oxidising nature
- C. Complex forming nature
- D. Reaction with light

**Answer: C**



**Watch Video Solution**

328. Sodium thiosulphate,  $Na_2S_2O_{3.5}H_2O$  is used in photography to:

- A. Reduce the silver bromide grains to metallic silver
- B. Convert the metallic silver to silver salt
- C. Remove undecomposed AgBr as soluble silver thiosulphate complex
- D. Remove reduced silver

**Answer: C**



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**329.** When sodium is heated in flame it gives:

A. Golden yellow colour

B. Crimson red colour

C. Brick red colour

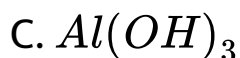
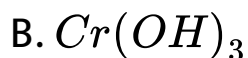
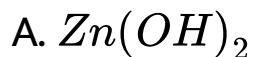
D. Violet colour

**Answer: A**



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**330.** Which of the following compounds on reaction with NaOH and  $H_2O_2$  gives yellow colour?



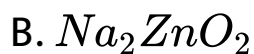
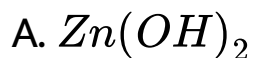
D. None of these

**Answer: B**



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**331.** Dissolving metallic zinc in excess of NaOH produces:



**Answer: B**



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**332.** When sodium metal is dissolved in liquid ammonia, a blue solution is formed. The blue colour is due to

A. Solvated  $Na^+$  ions

B. Solvated electrons

C. Solvated  $NH_2^-$

D. Solvated protons

**Answer: B**



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**333.** The chemistry of lithium is very much similar to that of magnesium even though they are placed in different groups. The reason is:

- A. Both have nearly the same size
- B. The ratio of their charge and size is nearly the same
- C. Both have similar electronic configuration
- D. Both are found together in nature

**Answer: B**



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**334.** Fusion of AgCl with  $Na_2CO_3$  gives:

A.  $Ag_2CO_3$

B. Silver carbide

C. Ag

D.  $Ag_2$

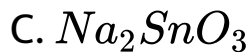
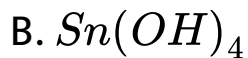
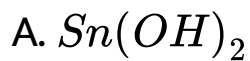
**Answer: C**



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**335.** Tin dissolve in boiling caustic soda solution because of the formation of soluble:





D. None of these

**Answer: C**



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**336.** Sodium metal cannot be stored under:

A. Benzene

B. Kerosene

C. Alcohol

D. Toluene

**Answer: C**



**Watch Video Solution**

**337.** NaOH is prepared by the electrolysis of:

A. Aqueous solution of sodium chloride with platinum electrode

B. Aqueous solution of sodium chloride with graphite anode and iron cathode

C. Sodium carbonate with platinum electrodes

D. Sodium carbonate with nickel electrodes

**Answer: B**



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**338.** When carbon monoxide is passed over solid caustic soda heated to  $200^{\circ}C$ , it forms:

A.  $Na_2CO_3$

B.  $NaHCO_3$

C.  $HCOONa$

D. None of these

**Answer: C**



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**339.** If NaOH is added to an aqueous solution of  $Zn^{2+}$  ions, a white precipitate appears and on adding excess NaOH, the precipitate dissolves. In this solution zinc exists in the:

A. Cationic part

B. Anionic part

C. Both in cationic and anionic parts

D. There is no zinc left in the solution

**Answer: B**



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**340.** Which is manufactured by electrolysis of fused NaCl ?

A. NaOH

B. NaClO

C.  $NaClO_3$

D. Na

**Answer: D**



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**341.** Chile saltpetre is the ore of:

A. Iodine

B. Bromine

C. Sodium

D. Magnesium

**Answer: C**



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**342.** Addition of excess of sodium hydroxide solution to a solution of nickel sulphate result in the formation of a:

A. Green precipitate

B. Pink colouration

C. Blue precipitate

D. Violet colouration

**Answer: A**



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**343.** The element which does not dissolve in caustic soda is:

A. Silicon

B. Aluminium

C. Zinc

D. Cadmium

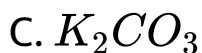
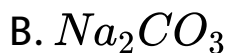
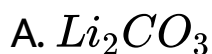
**Answer: D**





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344. The carbonate which decomposes into oxide on heating is :



**Answer: A**



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**345.** Sodium metal is obtained by:

- A. The electrolysis of concentrated NaCl (aq)
- B. Heating  $Na_2O$  with  $H_2$
- C. Heating fused sodium chloride
- D. Electrolysis of fused sodium chloride

**Answer: D**



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**346.** Caustic soda is:

- A. Efflorescent
- B. Deliquescent
- C. Hygroscopic
- D. Oxidant

**Answer: B**



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**347.** Brine is chemically:

- A. Conc. Solution of  $Na_2CO_3$
- B. Conc. Solution of  $Na_2SO_4$

C. Conc. Solution of NaCl

D. Conc. Solution of alum

**Answer: C**



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**348.** Which is known as crystal carbonate?

A.  $Na_2CO_3$

B.  $Na_2CO_3 \cdot H_2O$

C.  $Na_2CO_3 \cdot 10H_2O$

D. None of these

**Answer: B**



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**349.** When sodium metal heated in dry ammonia, the compound formed is:

- A. Sodium nitrate
- B. Sodium hydride
- C. Sodium amide
- D. Sodium azide

**Answer: C**



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**350.** Sodium reacts with water less vigorously than potassium because:

- A. It has higher atomic weight
- B. It is less electropositive
- C. It is more electronegative
- D. It is a metal

**Answer: B**



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**351.** The most soluble compound in water is:

A. CuS

B. MnS

C.  $K_2S$

D. ZnS

**Answer: C**



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**352.** Alkali metals are characterised by:

- A. Good conductor of heat and electricity
- B. High melting points
- C. Low oxidation potentials
- D. High ionisation enthalpies

**Answer: A**



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**353.** The most basic oxide among the following is:





C.  $As_2O_3$

D.  $Al_2O_3$

**Answer: A**



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**354.** Melting point is higher for:

A. Be

B. Mg

C. Sr

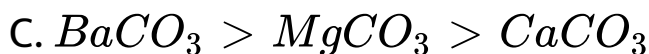
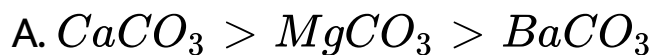
D. Ca

**Answer: A**



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**355.** The order for thermal stability of  $BaCO_3$ ,  $CaCO_3$  and  $MgCO_3$  is:



**Answer: D**



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356. The metal present in Grignard reagent is:

A. Ca

B. Mg

C. Zn

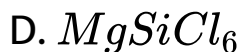
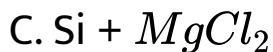
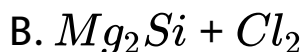
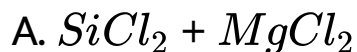
D. Fe

**Answer: B**



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357. When  $SiCl_4$  vapours are passed over hot Mg, the products formed are:

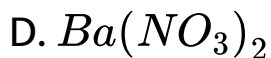
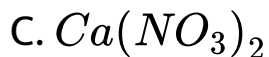
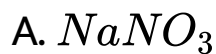


**Answer: C**



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358. The formula of Noeweyn saltpetre is:



**Answer: C**



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**359.** The most soluble halide in water is:



C.  $CaBr_2$

D.  $CaI_2$

**Answer: D**



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**360.** Element found in plant systems which forms an important constituent of photosynthesis is:

A. Fe

B. Cu

C. Na

D. Mg

Answer: D



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361. The correct order of hydration energy of alkaline earth metal ions is:



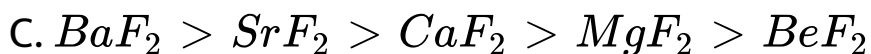
D. None of these

**Answer: A**



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**362.** The correct order of solubility of fluorides of alkaline earth metals:



D. None of these

**Answer: B**





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363. What is plaster of paris ?



Answer: D



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**364.** Epsom salt or epsomite ore is:



**Answer: A**



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**365.** Mortar is a mixture of :

A.  $CaCO_3$  and CaO

B. Slaked lime and water

C. Slaked lime ,sand and water

D. None of these

**Answer: C**



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**366.** The weakest base among the following is:

A. NaOH

B.  $Ca(OH)_2$

C. KOH

D.  $Be(OH)_2$

**Answer: B**



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**367.** Gypsum on heating at  $120 - 130^\circ C$  gives:

A. Hemihydrate

B. Monohydrate

C. Dihydrates

D. Anhydrous salt

**Answer: A**



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**368.** Gypsum is added to clinker during manufacture of cement in order to:

- A. Decrease the rate of setting of cement
- B. Make the cement impervious
- C. Bind the particles of calcium silicate
- D. To facilitate the formation of colloidal gel

**Answer: A**



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369. Hensenclever's process is a method for the manufacture of:

A. NaOH

B.  $HNO_3$

C.  $H_2SO_4$

D. Bleaching powder

Answer: D



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**370.** Which gives least basic oxide?

A. Mg

B. Ba

C. Be

D. Ra

**Answer: C**



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**371.** The elements of group 2 are called:

- A. Alkali metals
- B. Rare earths
- C. Transition elements
- D. Alkaline earth metals

**Answer: D**



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**372.** Bleaching powder is obtained by interaction of  $Cl_2$  and:

- A. Dil.  $Ca(OH)_2(aq)$



B. Dry CaO

C. Conc.  $Ca(OH)_2(aq)$

D. Dry slaked lime

**Answer: A**



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**373.** Which represents nitrolime?

A.  $CaCN_2 + C$

B.  $CaC_2 + N_2$

C.  $Ca(CN)_2 + Ca(NO_3)_2$

D. None of these

**Answer: A**



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**374.** Be resembles very much in its properties with:

A. Zn

B. Ra

C. Al

D. Hg

**Answer: C**



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**375.** Which on mixing with water gives a hissing sound and becomes very hard:

- A. Slaked lime
- B. Quick lime
- C. Limestone
- D. Superphosphate of lime

**Answer: B**



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**376.** Chlorophyll contains

A. Na

B. K

C. Mg

D. Mn

**Answer: C**



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377. The activity of alkaline earth metals as reducing agents:

A. Increases from Be to Ca and decreases from

Ca to Ba

B. Increases from Be to Ba

C. Decreases from Be to Ba

D. Decreases from Be to Ca and increases from

Ca to Ba

**Answer: B**



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**378.** Which removes temporary hardness of water and is used in the manufacture of bleaching powder?

A. Slaked lime  $Ca(OH)_2$

B. Plaster of paris

C. Epsom

D. Hydrolith

**Answer: A**



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**379.** Important ore of Mg is:

A. Dolomite

B. Sylvine

C. Amblygonite

D. Triphylite

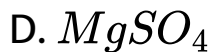
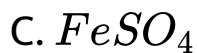
**Answer: A**



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**380.** Magnesia is:

A. MgO

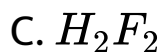


**Answer: A**



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**381.** Fluorspar is :





D.  $\text{CaCO}_3$

**Answer: A**



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**382.** Which salt will not impact colour to flame?

A.  $\text{LiCl}$

B.  $\text{MgCl}_2$

C.  $\text{CaCl}_2$

D.  $\text{KI}$

**Answer: B**



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**383.** Calcium is extracted by the electrolysis of:

A. Fused mixture of  $CaCl_2$  and  $CaF_2$

B.  $CaCl_2$  solution

C. Fused mixture of  $CaCl_2$  and NaF

D.  $Ca(PO_4)_2$  solution

**Answer: A**



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**384.** A substance which gives a brick red flame and breaks down on heating giving oxygen and a brown gas is,

- A. Calcium carbonate
- B. Magnesium nitrate
- C. Magnesium carbonate
- D. Calcium nitrate

**Answer: D**



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**385.** Which is used in preparation of portland cement:

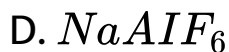
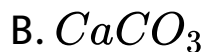
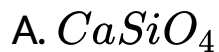
- A. Limestone, clay and sand
- B. Limestone ,Gypsum and sand
- C. Limestone, gypsum and alumina
- D. Limestone, clay and gypsum

**Answer: D**



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**386.** Iceland spar is:



**Answer: B**



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**387.** Concrete is a mixture of:

- A. Cement, lime and water
- B. Cement, sand and water
- C. Cement, sand, gravel and water
- D. Cement, slaked lime and water

**Answer: C**



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**388.** Ordinary blackboard chalk is made up of:

A.  $CaCO_3$

B. Gypsum

C. Fluorspar

D.  $Ca_3(PO_4)_2$

**Answer: B**



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**389.** The main constituent of bones is:

A.  $CaCO_3$

B.  $CaF_2$

C.  $CaSO_4$

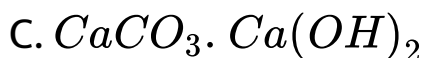
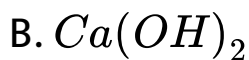
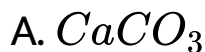
D.  $Ca_3(PO_4)_2$

**Answer: D**



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**390.** Ca on exposure in moist air forms a layer on surface of:



**Answer: C**





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**391.** If  $CO_2$  is passed in excess into lime water, the milkiness first formed disappears due to:

- A. Reversal of original reaction
- B. Formation of volatile calcium derivative
- C. Formation of soluble calcium bicarbonate
- D. Formation of soluble magnesium hydroxide

**Answer: C**



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392. Which is used to remove  $N_2$  from air:

A. Mg

B. P

C.  $H_2SO_4$

D.  $CaCl_2$

**Answer: A**



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393. Which metal does not form ionic hydride?

A. Ba

B. Mg

C. Ca

D. Sr

**Answer: B**



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**394.** Calcium cyanamide reacts with steam to form ammonia and.....

A.  $Ca(OH)_2$

B. CaO

C.  $Ca(HCO_3)_2$

D.  $CaCO_3$

**Answer: D**



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**395.** The compound which is insoluble in dil. HCl is:

A.  $BaSO_4$

B. MnS

C. ZnS

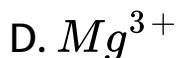


**Answer: A**



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**396.** The hydration energy of  $Mg^{2+}$  ions is larger than that of:



**Answer: B**



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**397.** When hydrated  $MgCl_{2.6}H_2O$  is strongly heated:

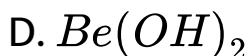
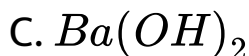
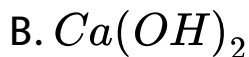
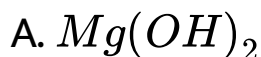
- A. MgO is formed
- B.  $Mg(OH)_2$  is formed
- C. Mg(OH)Cl is formed
- D. Anhydrous  $MgCl_2$  is formed

**Answer: A**



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398. Among the following hydroxides, one which has the lowest value of  $K_{sp}$  is:

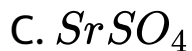
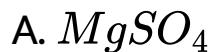


Answer: D



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399. Which of the following is most soluble in water?



**Answer: A**



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400. Which chloride is covalent and soluble in ether?



**Answer: A**



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401. Beryllium shows diagonal relationship with aluminium. Which of the following similarity is incorrect?

A.  $BeCl_2$  like  $AlCl_3$  yields methane on hydrolysis

B. Be like Al is rendered passive by  $HNO_3$

C.  $Be(OH)_2$  like  $Al(OH)_3$  is basic

D. Be forms beryllates and Al forms aluminates

Answer: C



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402. When HCl gas is passed through saturated solution of  $BaCl_2$  a white ppt. is obtained. This is due to:

- A. Impurities in  $BaCl_2$
- B. Impurities in HCl
- C. Precipitation of  $BaCl_2$
- D. Formation of complex

**Answer: B**



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**403.** Barium is extracted with its ore:

A. Dolomite

B. Witherite

C. Carnallite

D. Gypsum

**Answer: B**



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**404.** Milk of magnesia is:

A.  $Mg(OH)_2$

B.  $Ca(OH)_2$

C.  $Ba(OH)_2$

D. None of these

**Answer: A**



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**405.** Setting of cement is an:

A. Exothermic process

B. Endothermic process

C. Neither endothermic nor exothermic

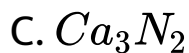
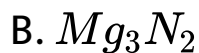
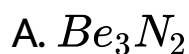
D. None of these

**Answer: A**



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**406.** Which alkaline earth metals nitride is volatile:



D. None

**Answer: A**



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**407.** Which will react with acid and bases both (i.e., amphoteric):

A.  $\text{MgO}$

B.  $\text{CaO}$

C.  $\text{BaO}$

D.  $\text{BeO}$

**Answer: D**



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408. Anhydrous magnesium chloride can be prepared by heating  $MgCl_{2.6}H_2O$

- A. In a current of dry HCl gas
- B. with carbon
- C. Until it fuses
- D. With lime

**Answer: A**



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**409.** The alkaline earth metals forming predominantly covalent compounds is:

A. Barium

B. Strontium

C. Calcium

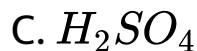
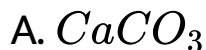
D. Beryllium

**Answer: D**



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**410.** Substance which absorbs  $CO_2$  and violently reacts with  $H_2O$  with sound is:

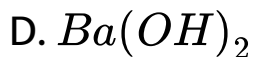
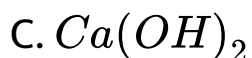
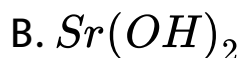
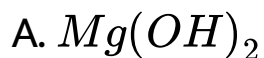


**Answer: B**



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411. Which of the following is most soluble in water?



**Answer: D**



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**412.** The mineral of magnesium is :

A. Bauxite

B. Malachite

C. Carnallite

D. Haematite

**Answer: C**



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**413.** Salt used as a purgative is:

A. NaCl

B.  $MgSO_{4.7}H_2O$

C.  $Ca_3Al_2O_6$

D.  $MgCl_{2.6}H_2O$

**Answer: B**

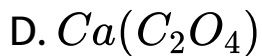
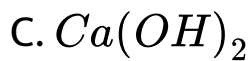


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**414.** Slaked lime is:

A.  $CaCO_3$

B. CaO



**Answer: C**



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**415.** The most relative element with water among the following is:

A. Mg

B. Ca

C. Sr

D. Ba

**Answer: D**



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**416.** Dolomite is a carbonate ore of:

A. Ca

B. Mg

C. Both Ca and Mg

D. Neither Ca nor Mg

**Answer: C**



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**417.** The alkaline earth metals are:

- A. Na and K
- B. Mg and Ca
- C. Cu and Ag
- D. Al and Fe

**Answer: B**



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**418.** The correct order of increasing thermal stabilities of the compound is  
(i)  $K_2CO_3$ , (ii)  $MgCO_3$ , (iii)  $CaCO_3$  and (iv)  $BeCO_3$   
is:

A. II<III<IV<I

B. IV<III<II<I

C. IV<II<III<I

D. III<IV<II<I

**Answer: B**



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419. Setting of plaster of paris involves:

- A. Oxidation with atmospheric oxygen
- B. Combination with atmospheric  $CO_2$
- C. Dehydration
- D. Hydration to yield another hydrate

**Answer: D**



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**420.** The setting of cement under water is essentially a/an:

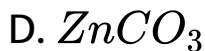
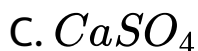
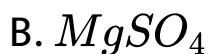
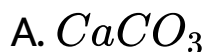
- A. Oxidation process
- B. Reduction process
- C. Double decomposition process
- D. Hydration process

**Answer: D**



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421. Which salt forms plaster of paris on being appropriately hydrated ?



**Answer: C**



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422. At high temperature nitrogen combines with  $CaC_2$  to give:

- A. Calcium cyanide
- B. Calcium cyanamide
- C. Calcium carbonate
- D. Calcium nitride

**Answer: B**



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**423.** Lithopone is a mixture of:

- A. Barium sulphate and zinc sulphide
- B. Barium sulphide and zinc sulphide
- C. Calcium sulphate and zinc sulphide
- D. Calcium sulphide and zinc sulphide

**Answer: A**



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**424.** Baryta water is:

A.  $BaO$

B.  $Ca(OH)_2$

C.  $Ba(OH)_2$

D.  $BaSO_4$

**Answer: C**



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**425.** Magnesium wire burns in the atmosphere of  $CO_2$  because:

A. Magnesium acts as an oxidising agent

B. Magnesium has two electrons in the outermost orbit

C. Magnesium acts as a reducing agent and removes oxygen from  $CO_2$

D. None of these

**Answer: C**



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**426.** On strong heating  $CaO$  and  $C$  the products formed are:



A. Ca and CO

B.  $CaC_2$  and CO

C.  $Ca(OH)_2$

D.  $CaC_2$  and  $CO_2$

**Answer: B**



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**427.** Magnesium has polarizing power closer to that of:

A. Li

B. Na

C. K

D. Cs

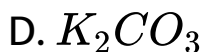
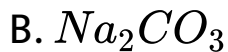
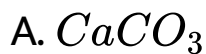
**Answer: A**



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**428.** The compound X on heating gives a colourless gas. The residue is dissolved in water to obtain Y. Excess  $CO_2$  is bubbled through aqueous solution of Y, Z is formed. Z on gentle heating gives back X.

The compound X is:



**Answer: A**



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**429.** Plaster of paris in contact with water sets into a hard mass. The composition of hard mass is:



B.  $CaC_2$  and  $CO$

C.  $CaSO_4 \cdot 2H_2O$

D.  $CaC_2$  and  $CO_2$

**Answer: C**



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**430.** The metal X is prepared by the electrolysis of fused chloride. It reacts with hydrogen to form a colourless solid from which hydrogen is released on treatment with water. The metal is:

A. Al

B. Ca

C. Cu

D. Zn

**Answer: B**

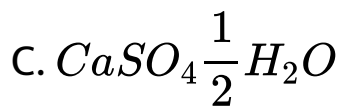


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**431.** The main constituent of egg-shells is:

A.  $CaCO_3$

B.  $CaSiO_3$



**Answer: A**



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**432.** The compound insoluble in acetic acid is:

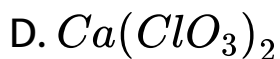
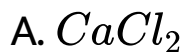
- A. Calcium oxide
- B. Calcium carbonate
- C. Calcium hydroxide
- D. Calcium oxalate

**Answer: D**



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**433.** The bleaching action of bleaching powder is due to the formation of:



**Answer: C**



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**434.** Alkaline earth metals are not found free in nature because of their:

- A. Low melting point
- B. High boiling point
- C. Thermal instability
- D. Great chemical activity

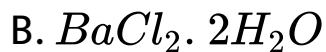
**Answer: D**



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435. Beryl is:



Answer: C



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436. Least abundant metal in group 2 is:

A. Sr

B. Ca

C. Ra

D. Be

**Answer: C**



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**437.** Alkaline earth metal compounds are less soluble in water than corresponding alkali metal compounds because former have:

- A. Lower lattice energy
- B. Higher I.P.
- C. Higher covalent character
- D. Lower covalent character

**Answer: C**



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**438.** Which gives apple green colour in fireworks ?

- A. Na
- B. K

C. Ba

D. Ca

**Answer: C**



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**439.** Alkaline earth metal salts are:

A. Paramagnetic

B. Diamagnetic

C. Ferromagnetic

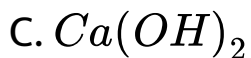
D. All of these

**Answer: B**



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**440.** Milk of lime is:



**Answer: C**



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**441.** One of the important use of quick lime is:

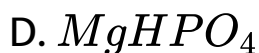
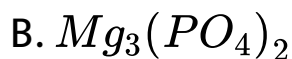
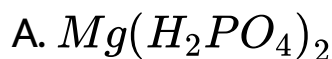
- A. As a purgative
- B. In bleaching silk
- C. In drying gases and alcohol
- D. In dyeing cotton

**Answer: C**



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**442.** Disodium hydrogen phosphate in presence of  $NH_4Cl$  and  $NH_4OH$  gives a white ppt. with a solution of  $Mg^{2+}$  ion. The precipitate is:

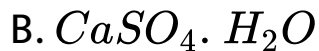


**Answer: C**



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443. Gypsum is:



Answer: C



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444. Oxygen is obtained from bleaching powder  
by:



- A. The action of dilute acid
- B. The action of alkali
- C. Heating it with lime
- D. Heating it with cobalt salt

**Answer: A**



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**445.** Which has the maximum electropositive character ?

A. Mg

B. Al

C. Be

D. S

**Answer: A**

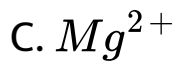


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**446.** Which ion forms a hydroxide highly soluble in water ?

A.  $Zn^{2+}$

B.  $Ba^{2+}$



**Answer: B**



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**447.** The compound which is insoluble in hot water and  $NH_3$  is:



D. None of these

**Answer: C**



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**448.** Portland cement is:

A. Calcium alumino silicate

B. Calcium aluminate + Calcium silicate

C. A mixture of calcium oxide, aluminium oxide  
and silica

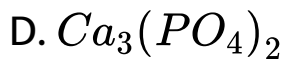
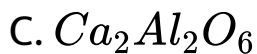
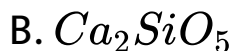
D. Calcium silicate + gypsum

**Answer: B**



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**449.** Portland cement does not contain:



**Answer: D**



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**450.** A firework gave bright crimson light. It is probably a salt of:

A. Ca

B. Sr

C. Ba

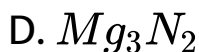
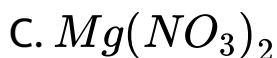
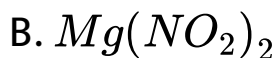
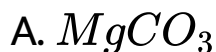
D. Mg

**Answer: B**



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451. When magnesium is burnt in air, compounds of magnesium formed are magnesium oxide and:



**Answer: D**



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452. Slaked lime is used in the manufacture of:

A. Cement

B. Fire-bricks

C. Pigment

D. White wash

**Answer: D**



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**453.** The metal that is extracted from sea-water is:

A. Cl

B. Ca



C. Mg

D. Br

**Answer: C**



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**454.** An aqueous solution of KI does not give a precipitate with :

A.  $Mg^{2+}$

B.  $Pb^{2+}$

C.  $Hg^{2+}$

D.  $Cu^{2+}$

**Answer: A**



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**455.** Property of the alkaline earth metals that increases with their atomic number is:

- A. Ionisation enthalpy
- B. Solubility of their hydroxides
- C. Solubility of their sulphates
- D. Electronegativity

**Answer: B**



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**456.** Plaster of paris is hardened by:

- A. Giving off  $CO_2$
- B. Changing into  $CaCO_3$
- C. Uniting with water
- D. Giving out water

**Answer: C**



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**457.** Alloys of which metal are light and strong and are used in the manufacture of aeroplane parts:

A. Cr

B. Sn

C. Fe

D. Mg

**Answer: D**



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**458.** A piece of magnesium ribbon was heated to redness in an atmosphere of nitrogen and then treated with *water*, the gas evolved is:

A. Ammonia

B. Hydrogen

C. Nitrogen

D. Oxygen

**Answer: A**



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**459.** Flash bulbs contain wire or foil of Mg packed in an atmosphere of:

A.  $SO_3$

B.  $O_2$

C. Air

D.  $N_2$

**Answer: B**



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**460.** Sodium bicarbonate solution on adding to magnesium sulphate solution forms:

- A. Magnesium bicarbonate
- B. Magnesium hydroxide
- C. Basic magnesium carbonate
- D. Magnesium carbonate

**Answer: D**



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**461.** Commonly used laboratory desiccant is:

- A. Calcium chloride
- B. Sodium carbonate
- C. Sodium chloride
- D. Potassium nitrate

**Answer: A**



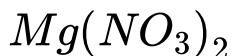
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**462.** Magnesium metal is prepared by:



A. Reduction of MgO by coke

B. Electrolysis of aqueous solution of



C. Displacement of Mg by iron from magnesium sulphate solution

D. Electrolysis of molten magnesium chloride

**Answer: D**



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**463.**  $BaSO_4$  on fusing with  $Na_2CO_3$  gives:

A.  $BaO$

B.  $BaCO_3$

C.  $BaHCO_3$

D.  $CO_2$

**Answer: B**



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**464.** Dead burnt is:

A.  $CaSO_4$

B.  $Na_2CO_3$

C. Anhydrous  $Na_2SO_4$

D. Anhydrous  $CuSO_4$

**Answer: A**

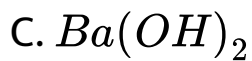


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**465.** Which reagent would enable you to remove  $SO_4^{2-}$  ions from solution containing both  $SO_4^{2-}$  and  $Cl^-$  ions?

A. NaOH

B.  $Pb^{2+}$

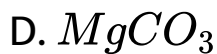
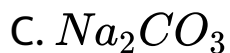
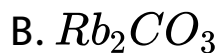
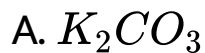


**Answer: C**



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**466.** Which decomposes on heating ?



**Answer: D**



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**467.** Mixture of  $MgCl_2$  and  $MgO$  is called :

A. Portland cement

B. Sorel's cement

C. Double salt

D. None of these

**Answer: B**



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**468.** Alkaline earth metals are:

A. Reducing agent

B. Oxidizing agent

C. Amphoteric

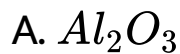
D. Acidic

**Answer: A**



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**469.** The major constituent of cement is:



**Answer: D**



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470. A gas reacts with  $\text{CaO}$  and not with  $\text{NaHCO}_3$

is:

A.  $\text{CO}_2$

B.  $\text{Cl}_2$

C.  $\text{O}_2$

D.  $\text{N}_2$

**Answer: A**



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471. The decreasing order of second ionisation enthalpy of K, Ca and Ba is:

A.  $Ca > Ba > K$

B.  $Ba > K > Ca$

C.  $K > Ca > Ba$

D.  $K > Ba > Ca$

**Answer: C**



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472. Mg burns in:

A.  $N_2$

B. CO

C.  $NO_2$

D. None of these

**Answer: A**



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**473.** Which alkaline earth metal shows some anomalous behaviour and has the same electronegativity as aluminium ?

A. Ba

B. Sr

C. Ca

D. Be

**Answer: D**



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474. The weakest base among NaOH,

$Ca(OH)_2$ ,  $KOH$  and  $Zn(OH)_2$

A. NaOH

B.  $Ca(OH)_2$

C. KOH

D.  $Zn(OH)_2$

**Answer: D**



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475. Electrolysis of fused  $KCl \cdot MgCl_2 \cdot 6H_2O$  gives:

- A. Potassium only
- B. Magnesium only
- C. Magnesium and chloride
- D. Potassium, magnesium and chlorine

**Answer: D**



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**476.** A metal carbonate is sparingly soluble in water and evolves  $CO_2$  on heating. The metal is:

- A. An alkali metal
- B. A noble metal
- C. An alkaline earth metal
- D. None of the above

**Answer: C**



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477. Hydrogen combines directly with:

A. Calcium

B. Copper

C. Zinc

D. Iron

**Answer: A**



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478. The cation which forms a yellow precipitate with potassium chromate in acetic acid is:



**Answer: B**



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**479.** Which alkaline earth metal forms complex salts ?

A. Be

B. Mg

C. Ca

D. Ba

**Answer: A**



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**480.** The low solubility of  $BaSO_4$  in water is due to:

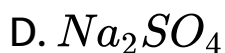
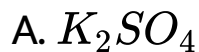
- A. Ionic bond in  $BaSO_4$
- B. Low lattice energy of  $BaSO_4$
- C. High lattice energy of  $BaSO_4$
- D. Dissociation energy of  $BaSO_4$

**Answer: C**



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**481.** Which is insoluble in water ?



**Answer: B**



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**482.** Beryllium hydride is obtained by:

- A. Heating Be in atmosphere of  $H_2$
- B. The action of  $BeCl_2$  with  $LiAlH_4$
- C. The action of Be with  $CaH_2$
- D. None of the above

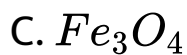
**Answer: B**



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**483.** Oxygen can be obtained by heating:

- A.  $Na_2O$
- B.  $Fe_2O_3$

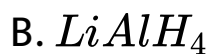
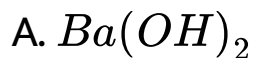


**Answer: D**



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**484.** For industrial purposes hydrogen is obtained by:



D.  $CaH_2$

**Answer: D**



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**485.** Which substance is used in the laboratory for a fast drying of neutral gases ?

A. Phosphorus pentoxide

B. Active charcoal

C. Anhydrous calcium chloride

D.  $Na_3PO_4$

**Answer: C**



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**486.** The ionic carbide is:

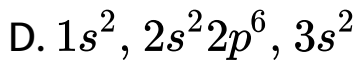
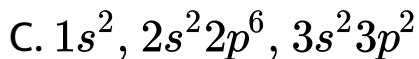
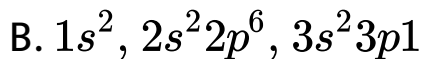
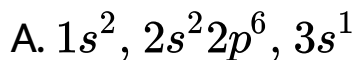


**Answer: A**



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**487.** A sudden large jump between the values of second and third ionisation enthalpies of an element would be associated with the electronic configuration:



**Answer: D**



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488. Magnesium burns in  $CO_2$  to form:

A. MgO and CO

B.  $MgCO_3$

C. MgO and C

D.  $MgO_2$

**Answer: C**



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**489.** Which alkaline earth metal does not impart the flame colour ?

A. Sr

B. Be

C. Ra

D. Ca

**Answer: B**



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**490.** Which alkaline earth metal forms peroxide on burning in air ?

A. Be

B. Ca

C. Sr

D. Ba

**Answer: D**



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**491.** Which metal dissolves in NaOH with the evolution of  $H_2$  ?

A. Be

B. Ca

C. Mg

D. Sr

**Answer: A**



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**492.** The correct order of solubility of the sulphates of alkaline earth metals in water is:

A.  $Be > Ca > Mg > Ba > Sr$

B. MggtBegtBagtCagtSr

C. BegtMgggtCagtSrgtBa

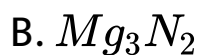
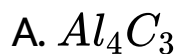
D. MggtCagtBagtBegtSr

**Answer: C**



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493. Which compound gives acetylene on reaction with water ?



**Answer: C**



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**494.** At high temperature nitrogen can combine directly with:

A. Fe

B. Zn

C. Mg

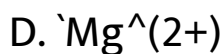
D. Cr

**Answer: C**



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**495.** The biggest ion is:



**Answer: B**



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**496.** A linear molecule is:



A.  $Cl_2O$

B.  $H_2O$

C.  $ClO_2$

D.  $BeCl_2$

**Answer: D**



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**497.** Celestine is an ore of:

A. Ba

B. Ca

C. Sr

D. Mg

**Answer: C**



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**498.** The wire of flash bulbs are made up of:

A. Mg

B. Ba

C. Cu

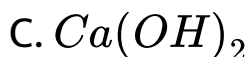
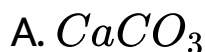
D. Ag

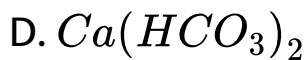
**Answer: A**



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**499.** Chemical A is used for water softening to remove temporary hardness. A reacts with sodium carbonate to generate caustic soda. When  $CO_2$  is bubbled through A, it turns cloudy. What is the chemical formula of A ?





**Answer: C**



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**500.** When zeolite, (hydrated sodium aluminium silicate), is treated with hard water, the sodium ions are exchanged with:

A.  $H^+$  ions

B.  $Ca^{2+}$  ions

C.  $SO_4^{2-}$  ions

D.  $OH^-$  ions

**Answer: B**



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**501.** Scarlet flame colour of bunsen flame is characteristic of :

A. Sn

B. K

C. Sb

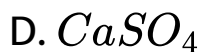
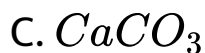
D. Sr

**Answer: D**



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**502.** The calcium salt used as manure is:



**Answer: B**



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**503.** Which category of salts of alkaline earth metals is not found in solid state, but found in solution state ?

A. Carbohydrates

B. Bicarbonates

C. Hydroxides

D. Sulphates

**Answer: B**



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504.  $Ba(OH)_2$  is used to estimate the amt. of :

A.  $N_2$

B.  $CO_2$

C. CO

D.  $N_2O$

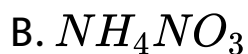
**Answer: B**



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505. Thermal decomposition of which compound yields a basic and acidic oxide simultaneously:



D.

**Answer: D**



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**506.** Mg burns with a brilliant flame. This property is used in:

- A. Fireworks
- B. Military signals
- C. Photographic flash bulbs
- D. All of the above

**Answer: D**



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507. The action of dil.  $HNO_3$  on magnesium gives:

A. NO

B.  $H_2$

C.  $NO_2$

D.  $NH_4NO_3$

**Answer: B**



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**508.** Which alkaline earth metal is the most abundant in the earth's crust?

A. Mg

B. Ca

C. Sr

D. Ba

**Answer: B**



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**509.** In between the metals A and B, both form oxide but B also form nitride, when both burns in the air. So A and B are:

A. Cs, K

B. Mg, Ca

C. Li, Na

D. K, Mg

**Answer: D**



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510. The correct order regarding the solubility of alkaline earth metals halides in water is:

A.



B.



C.



D.



**Answer: D**



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511. Magnesium can displace:

A. Cs

B. Cu

C. Rb

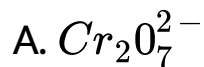
D. K

**Answer: B**



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512. Which reaction involves oxidation nor reduction ?



**Answer: C**



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