

8. ALKALINE EARTH METALS (IIA)

PREVIOUS EAMCET BITS

1. Among the following which is water insoluble (2007 E)

- 1) Sodium fluoride 2) potassium fluoride 3) Beryllium fluoride 4) Magnesium fluoride

Ans: 4.

Sol: Magnesium fluoride is insoluble in water.

2. What are the metal ions present in carnalite (2006 E)

- 1) Mg, K 2) Al, Na 3) Na, Mg 4) Zn, Mg

Ans: 1

Sol: Carnalite is $KCl \cdot MgCl_2 \cdot 6H_2O$

3. Which of the following does not give flame coloration (2006 M)

- 1) Mg 2) Ca 3) Sr 4) Ba

Ans: 1

Sol: In IIA group Be, Mg do not give flame colour due to their high excitation energy values.

4. In which of the following reactions MgO is not formed (2005 E)

- 1) $Mg + CO_2 \longrightarrow$ 2) $Mg + dil.HNO_3 \longrightarrow$
3) $Mg + NO \xrightarrow{\Delta}$ 4) $Mg + B_2O_3 \longrightarrow$

Ans: 2

Sol: $4Mg + 10HNO_3 \longrightarrow 4Mg(NO_3)_2 + NH_4NO_3 + 3H_2O$

5. In the hardening stage of plaster of Paris, the compound formed is (2004 E)

1. $CaSO_4$ 2. Orthorhombic $CaSO_4 \cdot 2H_2O$
3. $CaSO_4 \cdot H_2O$ 4. Monoclinic $CaSO_4 \cdot 2H_2O$

Ans: 4

Sol: $CaSO_4 \cdot \frac{1}{2}H_2O \xrightarrow{\text{setting}} CaSO_4 \cdot 2H_2O \xrightarrow{\text{Hardening}} CaSO_4 \cdot 2H_2O$
orthorhombic gypsum Monoclinic gypsum

6. In the Castner Process for the extraction of sodium, the anode is made ofmetal (2002 M)

1. Copper 2. Iron 3. Sodium 4. Nickel

Ans: 4

Sol: In Castner's process anode is nickel

7. The compound formed when gypsum is dissolved in aqueous ammonium sulphate solution is (2002 E)

1. $CaSO_4 \cdot NH_4Cl \cdot H_2O$ 2. $CaCl_2 \cdot (NH_4)_2SO_4 \cdot H_2O$
3. $CaSO_4 \cdot (NH_4)_2SO_4 \cdot H_2O$ 4. $CaCl_2 \cdot NH_4Cl \cdot 2H_2O$

Ans: 3

Sol: Gypsum is dissolved in ammonium sulphate gives $CaSO_4 \cdot (NH_4)_2SO_4 \cdot H_2O$

8. The element with atomic number 12 belongs to group and period (2001E)

1. IA, third 2. IIIA, third 3. IIA, third 4. IIA, second

Ans: 3

Sol: $12 = 1s^2 2s^2 2p^6 3s^2$

2 valence electrons are present therefore group is IIA and period is third (due to $3s^2$ configuration).

9. The molecular formula of Gypsum is (2000 E)

1. $\text{CaSO}_4 \cdot \text{H}_2\text{O}$ 2. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ 3. $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$ 4. $\text{CaSO}_4 \cdot 3\text{H}_2\text{O}$

Ans: 2

Sol. Molecular formula of gypsum is $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

10. A burning strip of Magnesium is introduced into a Jar containing a gas. After sometime the walls of the container are coated with carbon. The gas in the container is. (1999 E)

1. O_2 2. N_2 3. CO_2 4. H_2O

Ans: 3

Sol. Mg decomposes CO_2 to carbon

11. Aqueous solution of carnallite gives positive test for (1999 E)

1. Chloride only 2. Potassium ion only
3. Potassium and chloride ions only 4. Potassium, Magnesium and Chloride ions only

Ans: 4

Sol. Formula of carnallite is $\text{KCl} \cdot \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$, \therefore If given positive for K^+ , Cl^- , Mg^{+2} ions.

12. Mortar is a mixture of (1998 & 1996 E)

1. Plaster of Paris + Silica 2. Slaked lime + Plaster of Paris + H_2O
3. CaCO_3 + Silica + H_2O 4. Slaked lime + sand + H_2O

Ans: 4

Sol. Mortar is a mixture of 3 parts of SiO_2 and one part of slaked lime along with H_2O .

13. 'Magnalium' is an alloy of (1996 E)

1. Mg + Zn 2. Mg + Al 3. Cu + Zn 4. Mg + Cu

Ans: 2

Sol. Magnalium is 2- 15% Mg and 85 – 98% Al

14. The final product of setting of Plaster of Paris is (1995 E)

1. Gypsum 2. Anhydrite 3. Cement 4. Mortar

Ans: 1

Sol. In setting of plaster of Paris final product is gypsum.

15. The formula of Dolomite is (1994 E)

1. $\text{MgCO}_3 \cdot \text{CaCl}_2$ 2. $\text{MgCO}_3 \cdot \text{CaCO}_3$ 3. $\text{MgCO}_3 \cdot \text{CaSO}_4$ 4. $\text{MgCl}_2 \cdot \text{CaCO}_3$

Ans: 2

Sol. Dolomite is $\text{MgCO}_3 \cdot \text{CaCO}_3$

16. The Plaster of Paris is (1993 E)

1. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ 2. CaSO_4 3. $2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ 4. $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$

Ans: 4

Sol. Plaster of paris is $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ (or) $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$



నాస్తి