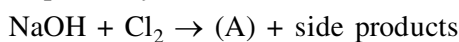
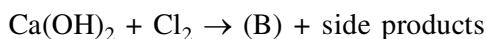


COMPLETE S-BLOCK

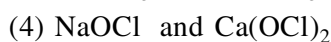
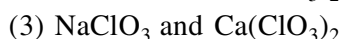
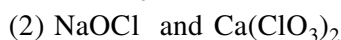
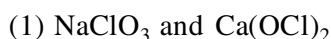
1. In the following reactions products (A) and (B), respectively, are :



(hot and conc.)

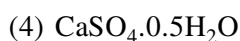
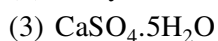
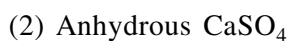


(dry)

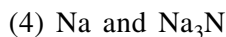
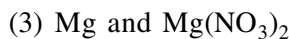
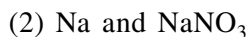
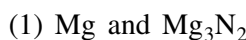


2. When gypsum is heated to 393 K, it forms :

(1) Dead burnt plaster



3. A metal (A) on heating in nitrogen gas gives compound B. B on treatment with H_2O gives a colourless gas which when passed through CuSO_4 solution gives a dark blue-violet coloured solution. A and B respectively, are :



4. Among the statements (a)-(d) the correct ones are:

(a) Lithium has the highest hydration enthalpy among the alkali metals.

(b) Lithium chloride is insoluble in pyridine.

(c) Lithium cannot form ethynide upon its reaction with ethyne.

(d) Both lithium and magnesium react slowly with H_2O .

(1) (a), (b) and (d) only

(2) (b) and (c) only

(3) (a), (c) and (d) only

(4) (a) and (d) only

5. Match the following compounds (Column-I) with their uses (Column-II) :

S.No.	Column - I	S.No.	Column - II
(I)	$\text{Ca}(\text{OH})_2$	(A)	casts of statues
(II)	NaCl	(B)	white wash
(III)	$\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$	(C)	antacid
(IV)	CaCO_3	(D)	washing soda preparation

(1) (I)-(D), (II)-(A), (III)-(C), (IV)-(B)

(2) (I)-(B), (II)-(C), (III)-(D), (IV)-(A)

(3) (I)-(C), (II)-(D), (III)-(B), (IV)-(A)

(4) (I)-(B), (II)-(D), (III)-(A), (IV)-(C)

6. An alkaline earth metal 'M' readily forms water soluble sulphate and water insoluble hydroxide. Its oxide MO is very stable to heat and does not have rock-salt structure. M is :-

(1) Ca (2) Be (3) Mg (4) Sr

7. On combustion Li, Na and K in excess of air, the major oxides formed, respectively, are :

(1) Li_2O , Na_2O and K_2O_2

(2) Li_2O , Na_2O_2 and K_2O

(3) Li_2O , Na_2O_2 and KO_2

(4) Li_2O_2 , Na_2O_2 and K_2O_2

8. If you spill a chemical toilet cleaning liquid on your hand, your first aid would be :

(1) aqueous NH_3 (2) vinegar

(3) aqueous NaHCO_3 (4) aqueous NaOH

9. The metal mainly used in devising photoelectric cells is:

(1) Na (2) Rb (3) Li (4) Cs

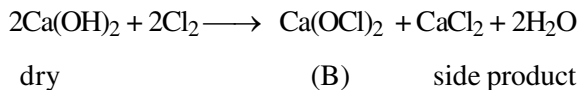
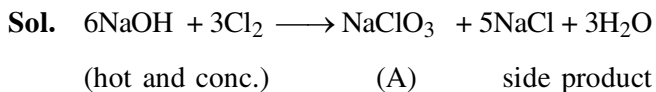
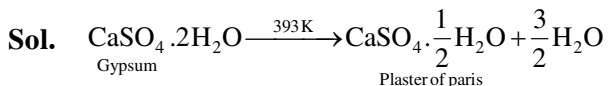
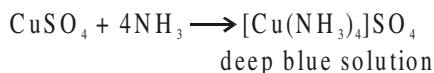
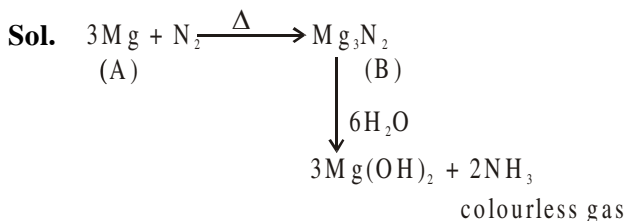
10. Two elements A and B have similar chemical properties. They don't form solid hydrogencarbonates, but react with nitrogen to form nitrides. A and B, respectively, are :

(1) Na and C

(2) Li and Mg

(3) Cs and Ba

(4) Na and Rb

SOLUTION**1. NTA Ans. (1)****2. NTA Ans. (4)****3. NTA Ans. (1)****4. NTA Ans. (3)**

Sol. Lithium has highest hydration enthalpy among alkali metals due to its small size.

LiCl is soluble in pyridine because LiCl have more covalent character.

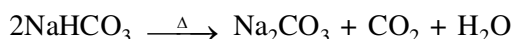
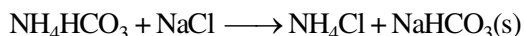
Li does not form ethynide with ethyne.

Both Li and Mg reacts slowly with H_2O

5. Official Ans. by NTA (4)

Sol. (I) Ca(OH)_2 is used in white wash

(II) NaCl is used in preparation of washing soda



(III) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ (Plaster of Paris) is used for

making casts of statues

(IV) CaCO_3 is used as an antacid

6. Official Ans. by NTA (2)**Sol.** [Be]

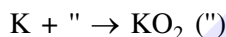
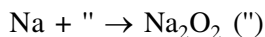
BeSO_4 is water soluble

Be(OH)_2 is water insoluble

BeO is stable to heat

7. Official Ans. by NTA (3)

Sol. $\text{Li} + \text{O}_2 \rightarrow \text{Li}_2\text{O}$ (Major Oxides)
excess

**8. Official Ans. by NTA (3)**

Sol. Toilet cleaning liquid has about 10.5% w/v HCl; to neutralise its affect aqueous NaHCO_3 is used while NaOH is avoid for this purpose because its highly corosive in nature and can burn body.

9. Official Ans. by NTA (4)

Sol. Cs used in photoelectric cell as it has least ionisation energy.

10. Official Ans. by NTA (2)

Sol. Both Li and Mg form nitride when reacts directly with nitrogen.

The hydrogen carbonate of both Li and Mg does not exist in solid state.

All alkali metal hydrogen carbonate exist in solid state except LiHCO_3 .