



**INDIAN SCHOOL SOHAR**  
**s- BLOCK ELEMENTS**  
**WORKSHEET**  
**CLASS : XI**

1. Account for the following:

- a) Be and Mg do not respond to flame colouration.
- b) Alkali metals when dissolved in liquid ammonia gives blue coloured solution.
- c) Lithium halides are covalent.
- d)  $\text{BeSO}_4$  and  $\text{MgSO}_4$  are soluble in water.
- e) 2-3% of gypsum is added to cement.
- f) Superoxides are paramagnetic in nature.
- g) Solvay process cannot be used for the manufacture of potassium carbonate.
- h) Li salts are hydrated but other alkali ions are anhydrous.
- i) LiF and CsI are insoluble in water.
- j) Li is a strong reducing agent in spite of its high ionization enthalpy.
- k) The mobility of alkali metal ions in aqueous solution increases in the following order:



2. Arrange the following in the increasing order of their property mentioned:

- a)  $\text{Be}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$  (Hydration enthalpy)
- b)  $\text{BeSO}_4$ ,  $\text{MgSO}_4$ ,  $\text{CaSO}_4$ ,  $\text{SrSO}_4$ ,  $\text{BaSO}_4$  (Solubility in water)
- c)  $\text{Be}(\text{OH})_2$ ,  $\text{Mg}(\text{OH})_2$ ,  $\text{Ca}(\text{OH})_2$ ,  $\text{Sr}(\text{OH})_2$ ,  $\text{Ba}(\text{OH})_2$  (Basic character)

3.a) What is anomalous behaviour of Li due to?

- b) Give two properties of Li which are different from rest of the elements in its group.

4. What is meant by diagonal relationship? Give three properties to show diagonal relationship of Be with Al.

5. Give the reactions taking place in Solvay process for the manufacture of sodium carbonate.

6. Draw the structure of  $\text{BeCl}_2$  in a) solid state b) vapour state

7. Explain, giving reactions, what happens when

- a) lithium nitrate is heated
- b)  $\text{BeCl}_2$  is reduced with  $\text{LiAlH}_4$ .
- c) Water is added to plaster of paris

8. How is  $\text{BeCl}_2$  prepared? Give the reaction involved.

9. Write the composition of cement.