INDIAN SCHOOL MUSCAT
DEPARTMENT OF CHEMISTRY

CLASS 11 , WORKSHEET-10
THE S -BLOCK ELEMENTS

1 Explain giving reasons:

a) Alkali metals are not found free in nature.

b) Group I elements are not obtained by chemical reduction of their salts.

c) Lithium is not used in photoelectric cells.

d) Magnesium does not impart colour to flame.

e) Potassium carbonate cannot be prepared by Solvay process.

f) Lithium carbonate is stored in an atmosphere of CO_2.

g) Solubility of group II sulphates decrease down the group.

h) Stability of group II carbonates increase down the group.

i) LiCl is hydrated while NaCl is not.

j) LiF is insoluble in water.

k) Aqueous solution of Na_2CO_3 is alkaline to litmus.

l) The E^0 value of Li is the most negative among alkali metals.

m) BeO is insoluble in water, while BaO is soluble.

n) $BeSO_4$ is soluble in water, while $BaSO_4$ is not.

o) Li resembles Mg in some of its properties

p) Be differs in some of its properties from group II metals.

q) Be forms covalent compounds.

r) The maximum co-ordination number of Be is 4.

s) Mobilities of alkali metal cations increase down the group.

t) Sodium does not form superoxide.

u) Be is kinetically inert to oxygen and water.

v) Plaster of Paris is used to set fractures bones.

w) Gypsum is added to cement.

x) CsI is insoluble in water.

2 Compare group I and group II metals in the following respect with reasons.

a) basic nature of oxides b) solubility of hydroxides c) complex formation

d) melting point e) ionization enthalpy

3 Draw the structures of $BeCl_2$ in the vapour state below 1200 K and in the solid state.

4 What happens when (give balanced equations)

a) CO_2 is passed through limewater; in excess.

b) Calcium nitrate is heated

c) Sodium nitrate is heated

d) Chlorine reacts with slaked lime

e) $BeCl_2$ is reacted with lithium aluminium hydride.

f) Hydrated magnesium chloride is heated.

5 Illustrate the anomalous behaviour of Li and Be.

6 Illustrate the diagonal relationship between Li-Mg and Be-Al.