CLASS – XI CHEMISTRY ASSIGNMENT NO. 14 TOPIC – THE S-BLOCK ELEMENTS

1. What are S-block elements? How many groups belong to this block?
2. Why are the elements of group 1 called the alkali metals?
3. Why are the elements of group II called the alkaline earth metals?
4. Discuss the general electronic configuration of S-Block elements.
5. Why are S-block elements most electropositive?
6. Why are S-Block elements never found in free state in nature?
7. Alkali metals have low ionization energies. Why is it so?
8. What is meant by diagonal relationship in the periodic table? What is it due to?
9. Account for (i) Na & K impart colour to the plane but Mg does not.
   (ii) Li is the only alkali metal to form a nitride directly. (iii) Alkali metals have low densities.
   (iv) Melting & boiling point of alkali metals are low.
10. Why does Li react less vigorously with water than Na?
11. All Alkali metals form ionic halides except Li which forms covalent halide. Why? Give reason for this behaviour.
12. Why are cesium & K used as electrodes in photoelectric cells?
13. Why Li on heating in air mainly forms monoxide?
14. Why do K, Rb, and Cs on heating in excess of air form super oxides in preference to oxides & peroxides?
15. Li has the highest reducing power. Why?
16. Why do alkali metals on dissolving in liquid ammonia give deep blue solution? Write the uses of alkali metals.
17. Why does Li show anomalous behaviour?
18. List the properties of Li in which it differs from rest of the alkali metals.
19. List the similarities between Li and Mg.
20. Discuss the electronic configuration of group II elements.
21. Compare the Atomic and ionic radii of group II elements with that of alkali metals.
22. The first ionization enthalpies of the II gp elements are higher than there of group I metals. Justify this statement.
23. Why are alkaline earth metals good reducing agents?
24. Give reasons for the following:-
   (i) Alkaline earth metals do not occur free in nature. (ii) Mg does not impart colour tot eh Plane while Ca does.
   (iii) Be & Mg are kinetically inert to O_2 & H_2O (iv) Mg ribbon burns in presence of O_2.
25. Discuss the diagonal relationship between Be & Al. Give the points of resemblance between Be & Al.