



# CHEMISTRY

BOOKS - JEEVITH PUBLICATIONS

CHEMISTRY (KANNADA ENGLISH)

## S-Block Elements

One Marks Questions And Answers

1. Alkali metals are strongly electropositive or metallic in character. Why ?



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2. Write the electronic configuration of Na and K.



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3. Name radioactive alkali and alkaline earth metals.



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4. Write the general electronic configuration of S-block elements.



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5. Write any two uses of  $Na_2CO_3$  (sodium carbonate)



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6. Name the source of sodium chloride.





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7. Give any two uses of sodium chloride.



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8. Write the alkali metals in the increasing order of hydrogen energy.



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**9.** Why are group 1 elements called alkali metals?



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**10.** Why do alkali metals have low ionisation energy ?



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**11.** What is sodalime?



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**12.** Why does ionisation energy of alkali metals decreases with the increase in atomic number?



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**13.** What is slaked lime?



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**14.** Why is potassium more reactive than sodium?



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**15.** why are alkali metals strong reducing agents?



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**16.** What happens when calcium oxide is heated with a ammonium chloride?



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**17.** Give any two uses of calcium oxide.



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**18.** What happens when calcium oxide is treated with carbon dioxide?





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**19.** How does calcium carbonate occurs in nature?



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**20.** Why do alkali metals not occur in free state?



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21. Why is second ionisation energy of alkali metals higher than alkaline earth metals?



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22. which out of K, Mg, Ca and Al form amphoteric oxide?



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**23.** Which out of Na, K, Mg occurs as oxide in nature?



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**24.** why do alkali metals give characteristic flame colouration?



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**25.** Give two uses of calcium carbonate.



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**26.** What is quick lime? How is it prepared?



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**27.** Sodium is stored under kerosene. Give reason.



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**28.** Write the formula of plaster of Paris.



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**29.** One reason on heating in excess supply of air K, Rb and Cs form superoxide on preference to oxide and peroxides?



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**30.** Name the elements (alkali metals) which form superoxide when heated in excess of air.



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**31.** Why is oxidation state of Na K always + 1?



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**32.** What is meant by dead burnt plaster?



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**33.** What is the reason that sodium reacts with water more vigorously than lithium?



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**34.** Why is sodium thiosulphate used in photography?



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1. Lithium shows diagonal relationship with Magnesium. Give reason.



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2. What is the action of alkali metals with oxygen (air) ?



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3. What is the action of alkali metals with water?



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4. Give one important uses of following compounds. (i)  $NaHCO_3$  (ii) Slaked lime (iii) NaOH



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5. what is effect of heat on the following compounds? (Give equations for the reactions)

(i)  $CaCO_3$  (ii)  $CaSO_4 \cdot 2H_2O$



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6. What is the action of alkali metals with hydrogen?



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7. What happens when alkali metals react with halogens?



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8. What happens when sodium carbonate undergoes hydrolysis?



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**9.** Describe in brief the manufacture of caustic soda using the castner-kellner cell.



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**10.** Compare four properties of alkali metals and alkali earth metals.



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**11.** Sodium hydroxide is a deliquescent in nature. Why?



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**12.** How to prepare sodium bicarbonate (baking soda) from sodium carbonate?



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**13.** What is dead burnt plaster? How is it obtained from gypsum?



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**14.** What is used for drying alcohol and non-acidic gases and why?



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15. what are the biological importance of sodium and potassium.



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16. How to prepare calcium oixde (CaO)?



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17. What are the properties of calcium oxide?



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**18.** Which metals is present in chlorophyll?

How does this metals react with  $N_2$  ?



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**19.** Name an alkali metal carbonate which is thermally unstable and why? Give its decomposition reaction.



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20. Why are ionic hydrides of only alkali metals and alkaline earth metals are known ? Give two examples.



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21. Which one of the alkaline earth metals carbonate is thermally most and last stable. Why?



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22. Which out of Li, Na, K, Be, Mg, Ca has lowest ionization enthalpy and why?



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23. Which alkali metal ion forms largest hydrate ion in aqueous solution and why?



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24. What is responsible for the blue colour of the solution of alkali metals in liquid

ammonia? Give chemical equation also.



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25. Heat of Hydration of  $Na^+$  (size 102 Pm) = -397 J  $Kj\ mol^{-1}$  whereas  $Ca^{2+}$  (size 100 Pm) = -1650  $kJ\ mol^{-1}$ . Explain the difference.



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26. Discuss the diagonal relationship of Be and Al with regard to (i) action of alkali and (ii) the

structure of their chloride.



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27. How to prepare calcium carbonate (Lime stone) from slaked lime ?



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28. Explain the biological importance of magnesium and calcium.



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**29.** Lithium is kept wrapped in parafin wax not stored in kerosene oil. Why?



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**30.** When lithium is heated in air mainly forms the monoxide and not peroxide. Why?



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**31.** What is the colour imparts when calcium, Barium and strontium undergoes flame test?



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**32.** What is the formula of gypsum? What happens when it is heated?



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**33.** Beryllium and magnesium do not impart colour to bunsen flame. Why?



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**34.** Which colour is imparted when Lithium, sodium, potassium and Rubidium undergoes flame test?



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**35.** The ionic compounds of alkali metals are colourless. Why?



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**36.** Alkali metals are good conductors of electricity. Why?



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**Three Marks Questions And Answers**



1. What are alkali metals?



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2. Write the general properties of alkali metals.



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3. Explain anomalous property of Lithium.



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4. What are the similar properties of Li and Mg.



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5. Write the equations during the preparation of sodium carbonate by solvay process.



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6. Explain anomalous behaviour of Beryllium.





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7. What are the similar properties in Beryllium and Aluminium?



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8. What is plaster of paris? How is it prepared? Give its any two important uses.



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