



# CHEMISTRY

## BOOKS - MODERN PUBLICATION CHEMISTRY (KANNADA ENGLISH)

### MOCK TEST PAPER -2

#### Mcqs

1. Which of the following statement is not correct ?

- A. The coagulation of lyophilic sol is reversible while that of a lyophobic sol is irreversible in nature.
- B. Metal hydroxides in water are examples of lyophobic sol.
- C. The extent of chemisorption initially decreases with increase in temperature.
- D. The efficiency of solid catalyst depends upon its surface area.

**Answer: D**



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2.  $P_4O_6$  and  $P_4O_{10}$  are anhydrides of :

A.  $H_3PO_3$  and  $H_3PO_4$

B.  $H_3PO_4$  and  $H_4P_2O_7$

C.  $H_3PO_3$  and  $H_4P_2O_7$

D.  $H_3PO_2$  and  $H_3PO_3$  respectively

**Answer: A**



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3. Which of the following has the highest mass ?

A. 40 g of sulphur

B. 8 mol of carbon dioxide

C.  $24 \times 10^{24}$  atoms of hydrogen

D. 22.4 L of helium at N.T.P.

**Answer: B**



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4. Of the following transitions in hydrogen atom, the one which gives an absorption line of lowest frequency is :

A.  $n = 1$  to  $n = 2$

B.  $n = 3$  to  $n = 8$

C.  $n = 2$  to  $n = 1$

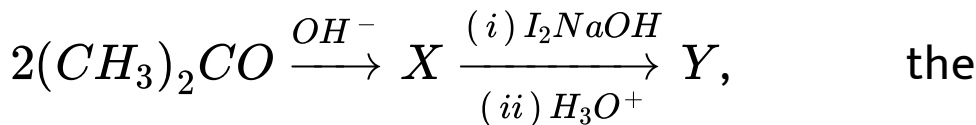
D.  $n = 8$  to  $n = 3$

**Answer: B**

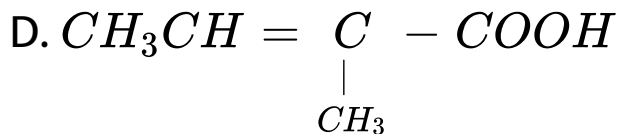
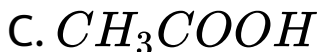
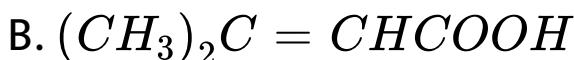
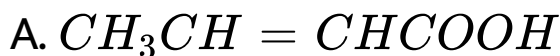


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5. In the reaction



product Y is :

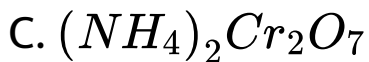


**Answer: B**



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6. Which of the following does not give oxygen on heating ?



**Answer: C**



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7. Element with atomic number 49 belongs to the period .....and the group .....

A. 4<sup>th</sup>, 12<sup>th</sup>

B. 4<sup>th</sup>, 11<sup>th</sup>

C. 5<sup>th</sup>, 12<sup>th</sup>

D. 5<sup>th</sup>, 13<sup>th</sup>

**Answer: D**



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8. The molecule which has pyramidal shape is :



**Answer: A**



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9. Which of the following is most acidic ?

A. Phenol

B. p-Cresol

C. Cyclohexanal

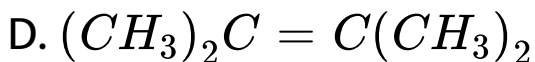
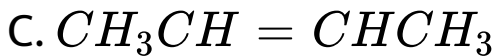
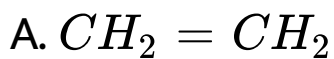
D. p-Nitrophenol

**Answer: D**



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**10.** Which of the following will react with  $Br_2$  most readily ?

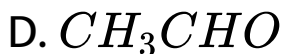
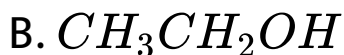
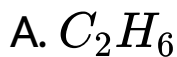


**Answer: D**



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11.  $CH_3COOH$  is reduced with  $LiAlH_4$  to give :



**Answer: B**



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**12.** 50 mL of a gas A diffuse through a membrane in the same time as for the diffusion of 40 mL of gas B under identical

conditions of pressure and temperature. If the molecular mass of A is 128, that of B would be :

A. 200

B. 500

C. 400

D. 160

**Answer: A**



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13. Liquefied petroleum gas (LPG) is used as a household fuel. During liquefaction of a gas, its entropy :

A. decreases

B. increases

C. does not change

D. sometimes increases, sometimes decreases.

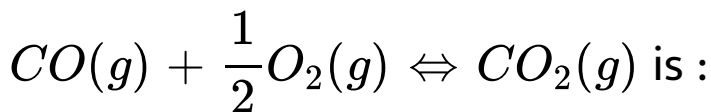
**Answer: A**





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14. The ratio of  $K_p / K_c$  for the reaction :



A. 1

B.  $RT$

C.  $(RT)^{1/2}$

D.  $\frac{1}{\sqrt{RT}}$

**Answer: D**



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15. When phenol is distilled with Zn dust it gives

- A. Benzene
- B. Benzoic acid
- C. Diphenyl ether
- D. Toluene.

**Answer: A**



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16. Three moles of  $PCl_5$  , three moles of  $PCl_3$  and two moles of  $Cl_2$  are taken in a closed vessel . If at equilibrium the vessel has 1.5 moles of  $PCl_5$  , the number of moles of  $PCl_3$  present in it is

A. 6

B. 4.5

C. 5

D. 3

**Answer: B**



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17. Oxidation states of carbon atoms in methane and ethane are :

A. +2, +4

B. +4, +2

C. -4, 4

D. zero, zero

**Answer: D**



**18.** Bakelite is obtained by the condensation of phenol with :

- A. acetaldehyde
- B. formaldehyde
- C. benzaldehyde
- D. hexamethylene diamine.

**Answer: B**



19. The pH of a 0.02 M  $Ca(OH)_2$  solution of  $25^\circ C$  is :

A. 12.6

B. 8.5

C. 13.6

D. 11.6

**Answer: A**



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20. The number of tetrahedral voids in the unit cell of a face centred cubic lattice of similar atoms is

A. 2

B. 4

C. 8

D. 12

**Answer: C**



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21. What is the mass of hydrogen peroxide in 1 L of 2 M solution ?

A. 10.2 g

B. 102 g

C. 11.3 g

D. 68 g

**Answer: D**



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22. The ionic conductance in aqueous medium is least for :



**Answer: D**



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23. Electrolysis of dilute aqueous sodium chloride solution was carried out by passing 10 milliampere current. The time required to liberate 0.01 mol of  $H_2$  gas at the cathode is (1 Faraday =  $96500\text{ C mol}^{-1}$ ).

A.  $9.65 \times 10^4\text{ s}$

B.  $19.3 \times 10^4\text{ s}$

C.  $28.95 \times 10^4\text{ s}$

D.  $38.6 \times 10^4\text{ s}$

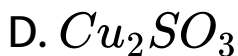
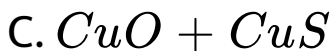
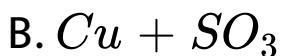
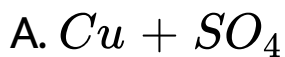
**Answer: B**





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24. Heating  $Cu_2O$  and  $Cu_2S$  will give :

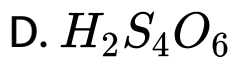
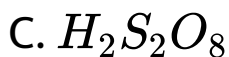
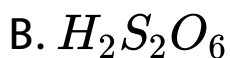
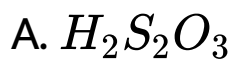


**Answer: A**



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25. The acid having O - O bond is :

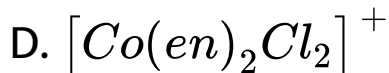
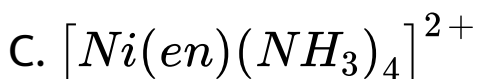
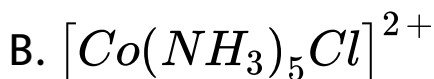
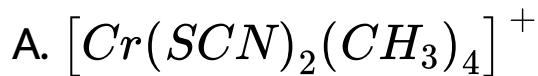


**Answer: C**



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26. Which one of the following has largest number of isomers ?



**Answer: A**



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27. Group 15 elements exhibit + 3 and + 5 oxidation states + 3 oxidation state is more stable than + 5 in case of :

A. N

B. P

C. As

D. Bi

**Answer: D**



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28. Which of the following parameter would be same for ethanol and methoxymethane ?

A. Boiling points

B. Vapour pressure at the same temperature

C. Heat of vaporization

D. Gaseous densities at the same temperature and pressure .

**Answer: D**



29. The  $K_{sp}$  of AgI at  $25^{\circ}C$  is  $1.0 \times 10^{-16} \text{ mol}^2 \text{ L}^{-2}$ . The solubility of AgI in  $10^{-14} \text{ N}$  solution of KI at  $25^{\circ}C$  is approximately (in  $\text{mol L}^{-1}$ ):

A.  $1.0 \times 10^{-16}$

B.  $1.0 \times 10^{-10}$

C.  $1.0 \times 10^{-12}$

D.  $1.0 \times 10^{-8}$

**Answer: C**



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**30.** A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives :

- A. sodium benzoate and methyl alcohol
- B. sodium benzoate and sodium formate
- C. benzyl alcohol and sodium formate
- D. benzyl alcohol and methyl alcohol

**Answer: C**



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**31.** Which of the following is most energetic conformation of cyclohexane?

A. chair conformation

B. boat conformation

C. cis conformation

D. E - Z form.



**Answer: B**



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**32.** The maximum prescribed concentration of cadmium in drinking water in ppm is

A. 0.05

B. 3

C. 2

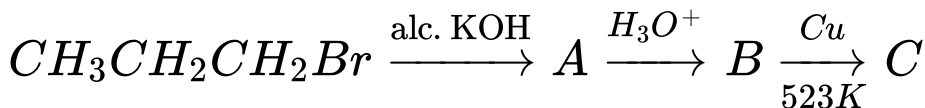
D. 0.005

**Answer: D**

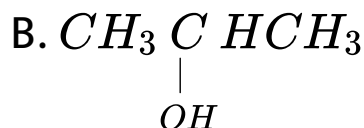


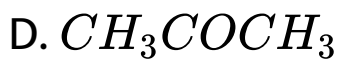
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**33.** In the reaction



the final product C is :





**Answer: D**



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**34.** A hydrocarbon  $C_6H_{12}$  on oxonolysis gives only one product which does not reduce Fehling solution. The hydrocarbon is :

A. 2 - Hexene

B. 3- Hexene

C. 3-Methylpentene

D. 2,3 - Dimethylpentene.

**Answer: D**



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**35.** The empty space in the body centred cubic lattice is :

A. 0.68

B. 0.524

C. 0.476

D. 0.32

**Answer: D**



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**36.** 1.5 g of a non-volatile, non-electrolyte is dissolved in 50 g benzene ( $K_b = 2.5 \text{ kg mol}^{-1}$ ). The elevation of the boiling point of the solution is 0.75 K. The molecular weight of the solute in  $\text{g mol}^{-1}$  is :

A. 200

B. 50

C. 75

D. 100

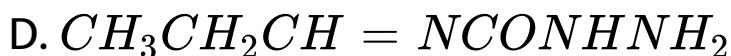
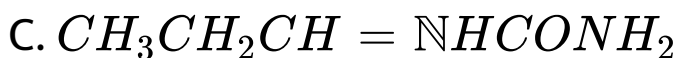
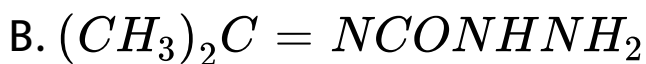
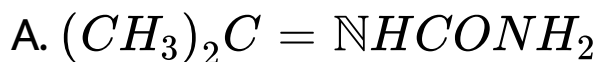
**Answer: D**



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**37.** Compound 'A' (molecular formula  $C_3H_8O$ ) is treated with acidified potassium dichromate to form a product 'B' (molecular

formula  $C_3H_6O$ ). 'B' forms a shining silver mirror on warming with ammoniacal silver nitrate. 'B' when treated with an aqueous solution of  $H_2NCONHNH_2$ ,  $HCl$  and sodium acetate gives a product 'C'. Identify the structure of C :



**Answer: C**



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38. Which of the following has highest freezing point ?

A. 0.01 M KCl

B. 0.01 M glucose

C. 0.01 M  $CaCl_2$

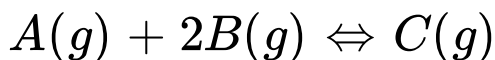
D. 0.01 M  $KNO_3$

**Answer: B**





39. In the system,



starting from 0.276M of A and 0.552M of B, the equilibrium is attained. If equilibrium concentration of B is found to be 0.12 M, then equilibrium constant for the equilibrium is :

A. 25

B. 1.46

C. 250

D.  $4 \times 10^{-2}$

**Answer: C**



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**40.** A conductivity cell has been calibrated with a 0.01 M 1 : 1 electrolyte solution (specific conductance,  $k = 1.25 \times 10^{-3} \text{Scm}^{-1}$ ) in the cell and the measured resistance was 800 ohms at  $25^\circ \text{C}$ . The cell constant will be :

A.  $1.02 \text{cm}^{-1}$

B.  $0.102\text{cm}^{-1}$

C.  $1.00\text{cm}^{-1}$

D.  $0.5\text{cm}^{-1}$

**Answer: C**



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**41.** For first order reaction, rate constant :

A. is directly proportional to concentration  
of the reactant

B. is proportional to square of concentration of reactant

C. is dependent on temperature

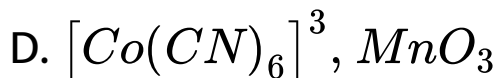
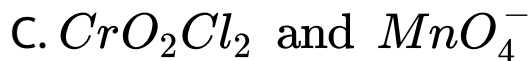
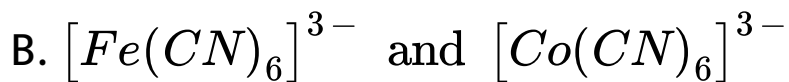
D. is independent of temperature

**Answer: C**



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**42.** The pair of compounds in which both the metals are in the highest possible oxidation state is :



**Answer: C**



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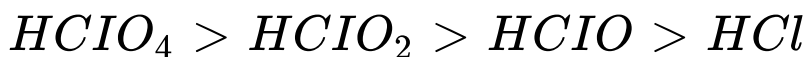
**43.** Which of the following statement is incorrect ?

A. Red phosphorus is less reactive than white phosphorus but its density and ignition temperature are more than that of white P.

B. Bond angle of  $PH_3$  is less than that of  $NH_3$  as well as  $PH_4^+$

C. The \_\_\_\_\_ molecules  $XeOF_2$ ,  $XeO_2F_2$  and  $XeOF_4$  involve same hybridisation of xenon.

D. The correct order of acidic character is



**Answer: C**



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**44.** Which of the following is a positively charged sol?

A. Haemoglobin (blood)

B.  $As_2S_3$

C. Clay

D. Gold sols.

**Answer: A**



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**45.** Which one of the following is an oxide ore

?

A. Malachite

B. Copper glance



C. Hematite

D. Zice blende.

**Answer: C**



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**46.** The vapour pressure of two liquids A and B in their pure states are in ratio of 1:2. A binary solution of A and B contains A and B in the mole proportion of 1:2. The mole fraction of A in the vapour phase of the solution will be

A. 0.33

B. 0.25

C. 0.52

D. 0.2

**Answer: D**



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**47.** A first order reaction takes 69.3 min for 50% completion. The time required for 80% completion of this reaction is :

A. 104 min

B. 161 min

C. 110.4 min

D. 182 min

**Answer: B**



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**48.** The hydrolysis of  $NCl_3$  by water produces :

A.  $NH_3$  and  $HOCl$

B.  $NH_2NH_2$  and  $HCl$

C.  $NH_4OH$  and  $HOCl$

D.  $NH_2Cl$  and  $HOCl$

**Answer: C**



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**49.** Which one of the following shows highest magnetic moment?

A.  $Fe^{2+}$

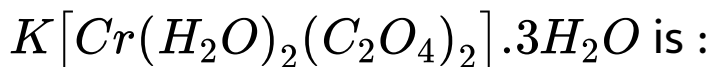


**Answer: A**



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**50.** The magnetic moment of the complex :



A. 3.87 BM

B. 1.732 BM

C. 5.92 BM

D. 0

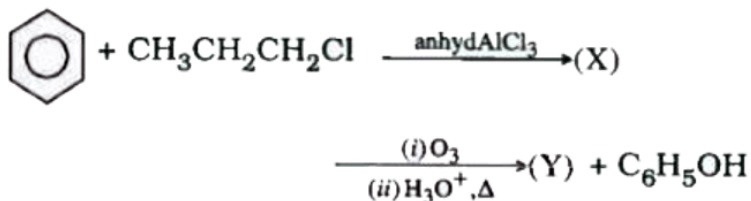
**Answer: A**

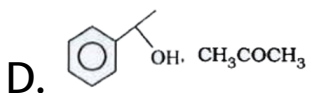
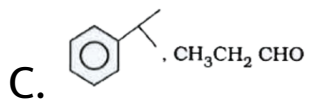
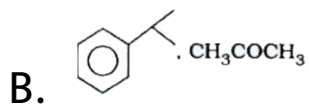
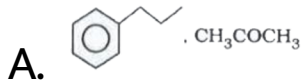


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**51.** The major products X and Y in the reaction

:





**Answer: B**



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52. IUPAC name of the complex  $K_3[Fe(CN)_6]$

is :

- A. potassium ferricyanide
- B. potassium hexacyanoiron (III)
- C. potassium hexacyanoferrate (III)
- D. potassium ferrate (III) hexacyano.

**Answer: C**



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**53.** How many chiral compounds are possible on monochlorination of 2-methyl butane ?



A. 2

B. 4

C. 6

D. 8

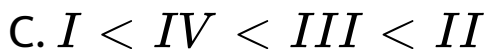
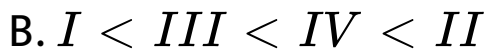
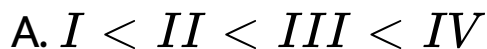
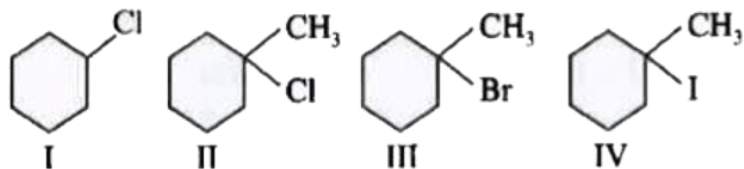
**Answer: A**



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**54.** The correct order of reactivity of the following compounds towards  $S_N1$

mechanism is :

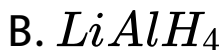


**Answer: A**



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55. Which of the following can reduce aldehydes to hydrocarbons ?



**Answer: C**



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56. 5-oxohexanal is obtained by ozonolysis of :

A. 

B. 

C. 

D. 

**Answer: B**



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57. Which of the following will not give a primary amine ?



**Answer: B**



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58. Nylon is an example of :

A. Polymide

B. Polythene

C. Polyester

D. Polysaccharide

**Answer: C**



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**59.** Antiseptics and disinfectants either kill or prevent the growth of micro-organisms. Identify which of the following statement is not true?

A. Dilute solutions of boric acid and hydrogen peroxide are strong antiseptics.

B. Disinfectants harm the living tissues.

C. A 0.2% solution of phenol is an antiseptic while 1% solution acts as a

disinfectant.

D. Chlorine and iodine are used as strong disinfectants.

**Answer: D**



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**60.** Deficiency of vitamin B, causes the disease :

A. convulsions

B. beri-beri



C. cheilosis

D. sterility.

**Answer: B**



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