



# **CHEMISTRY**

**BOOKS - JEEVITH PUBLICATIONS**  
**CHEMISTRY (KANNADA ENGLISH)**

**SUPPLEMENTARY EXAMINATION**  
**QUESTION PAPER (WITH ANSWERS)**  
**JUNE 2016**

**Part A**

1. What are ideal solutions?



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2. What is the effect of rise in temperature on the solubility of gases in liquids?



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3. Write Nernst equation for Daniell cell.



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4. Rate constant of a reaction is

$$K = 3.4 \times 10^{-4} \text{mol}^{-1} \text{LS}^{-1}$$

What is the order of the reaction ?



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5. Which is the dispersed phase in Emulsion ?



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6. Write the principle involved in zone refining

.



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7. Name the nobles gas obtained as decay product of  ${}_{226}\text{Ra}$ .



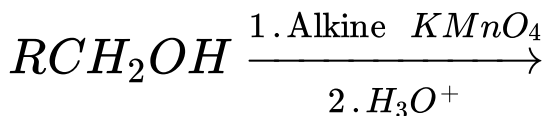
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8. Write the IUPAC name of



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9. Complete the following chemical reaction



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1. Which Vitamin deficiency casuses the disease 'Rickets'?



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2. What type of stoichiometric defect is shown by the followign solid ?



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3. What is a secondary cell? Write the equation for the cathodic reaction of lead storage battery ?



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4. 75% of the first order reaction is completed in 30 minutes. Calculate rate constant of the reaction.



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5. What is lanthanoid contraction? Write the general oxidation state of actinoids.



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6. Explain Reimer-Tiemann reaction with an example.



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7. Aldehydes are generally more reactive than ketones towards nucleophilic addition reactions .any two reasons.



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8. (i) What are tranquilizers?

.(ii)Name the first popular artificial sweetening agent .



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1. Why soaps do not work in hard water ?



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2. With a neat labelled diagram, describe the extraction of aluminium by Hall - Haroult process.



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3. Write the balanced chemical equation with condition involved in the manufacture of nitric acid by Ostwal's process .



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4. (a) Write any two anomalous behaviour of oxygen.

(b) Write the structure of Sulphuric acid .



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5. (a) How does hot concentrated sodium hydroxide reacts with chlorine ? Write equation .

(b) How does electronegativity of Halogens vary down the group ?



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6. (a)  $\text{Cu}^{2+}$  ions are coloured but  $\text{Zn}^{2+}$  ions are colourless . Give reason .

(b) Write the formula to calculate spin only magnetic moment .



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7. How potassium permanganate is prepared from  $MnO_2$ .



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8. Using VBT, explain the geometry and magnetic property of  $[CO(NH_3)_6]^{+3}$ .



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## Part D

1. (a) Explain ionization isomerism with an example .



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2. Calculate the number of particles per unit cell of FCC .



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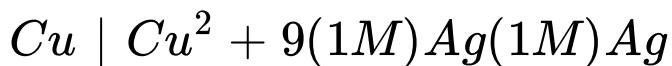
3.  $300\text{cm}^3$  of an aqueous solution of a protein contains 2.12 g of the protein, the protein, osmotic pressure of such a solution at 300 K is found to be  $3.89 \times 10^{-3}$  bar. Calculate the molar mass of the protein.

$$\left( R = 0.0823 \text{ L bar mol}^{-1} \text{K}^{-1} \right)$$

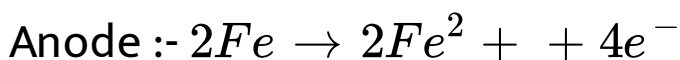


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4. (a) Find the value of  $\delta G^\circ$  at  $25^\circ$  for the following electrochemical cell.



Write the equation of anodic and cathodic reaction occur during rusting of iron. (i) At



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5. Write the energy distribution curve showing temperature dependence of rate of a reaction.



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6. (a) Write any two application of adsorption .

(b) (i) What is 'Tyndall effect' ?

(ii) In the coagulation of negative sol, arrange the following ions in ascending order of their flocculating power .  $Ba^{2+} + Na + Al^{3+} +$

c) What is Heterogeneous catalysis ?





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7. p-dichlorobenzene has higher melting point than those of ortho and meta isomers. Give reason.



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8. (a) (i) Identify 'A' and 'B' in the following equation.

(ii) What is Lucas reagent ? (b) Explain Williamson Ehter synthesis .



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9. (a) (i) How does benzaldehyde react with acetophenone in the presence of a dilute alkali ?

(b) Among formic acid and acetic acid, which is more acidic ? Give reason ?



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10. (a) (i) Explain the reduction of nitrocompounds to amines

with an example .

(ii) Why aromatic primary amines cannot be prepared by Gabriel synthesis ?

(b) How is aniline converted into phenyl isocyanide? Write the equation .



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11. What are fibrous proteins Give an example .



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12. (a) Name the monomers used in the preparation of Nylon 6,6.

(b) Explain Vulcanization of rubber.

c) Give an example for biodegradable polymer.



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