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 $K = 3.4 \times 10^{-4} mol^{-1} LS^{-1}$ 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 obtaind as decay product of $_{226}Ra$.

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8. Write the IUPAC name of

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9. Comlete the following chemical reaction

$$RCH_2OH \xrightarrow[2.H_3O^+]{1.\text{Alkine}\ \ KMnO_4}$$

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Part B

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 us lanthod contraction ? Write the general oxidation state of actinoids.

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6. Explain Rcimer - 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 tranquililzers?

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

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Part C

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) Cu^2+ ions are coloured but 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 $\left[CO(NH_3)_6\right]^{+3}$.

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Part D

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

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

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3. $300cm^3$ 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 3.89×10^{-3} bar. Calculate the molar mass of the protein. $\left(\mathrm{R} = 0.0823\ \mathrm{L\ bar\ mol^{-1} K^{-1}}\right)$

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4. (a) Find the value of δG° at 25° for the following electrochemical cell.

$Cu \mid Cu^{2} + 9(1M)Ag(1M)Ag$

Write the equation of anodic and cathodic reaction occur during rusting of iron. (i) At Anode :- $2Fe \rightarrow 2Fe^{2} + \ + 4e^{-}$

(ii) At Cathod :- $O_2 + 4H^{+} 4e^{-} \rightarrow 2H_2O.$

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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 folowing equation.

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

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9. (a) (i) How deos benzaldehyde reacts with acetophenone in presesnce of a dilute alkali ? (b) Among formic acid and acetic acid , which is more acidic ? Give rason ?

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10. (a) (i) Explain the reduction of nitrocompound 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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