CHEMISTRY

BOOKS - OSWAAL PUBLICATION

CHEMISTRY (KANNADA ENGLISH)

SOLVED PAPER II PUC JULY - 2016

Part A

1. What are ideal solutions?

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 $k = 3.14 \times 10^{-4} mol L^{-1} s^{-1}$. 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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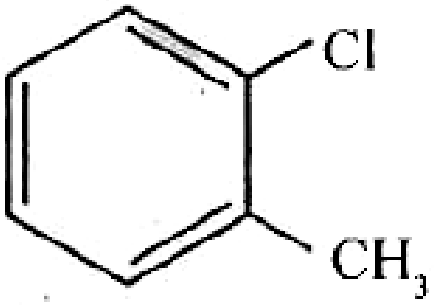
8. Write the IUPAC name of



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

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Part B

1. What type of stoichiometric defect is shown by AgCl ?

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2. Which type of Stoichmetric defect is shown by the following solids?

a) $AgCl$

b) KCl

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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 Rcimer - Tiemann reaction with an example .

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7. Aldehydes are generally more reactive than ketones towards nucleophillic addition reactions. Give two reasons.

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8. What are tranqilizers ?

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9. (i) What are tranquililzers?

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

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10. Why soaps do not work in hard water ?

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Part C

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

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

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

(b) Write the structure of Sulphuric acid .

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4. 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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7. Cu^{2+} ions are coloured but Zn^{2+} ions are colourless. Give reason.

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8. Write the formula to calculate spin only magnetic moment.

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9. How potassium permanganate is prepared from MnO_2.

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

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

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12. What are homoleptic complexes?

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Part D

1. Calculate packing efficiency in BCC lattice.

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2. Calculate the number of particles per unit cell in 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. State Henry's law.

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5. i) State Henry's law.

ii) Soda water bottles are sealed under high pressure. Give reason.

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6. Find the value of AG° at $25^{\circ}C$ for the following electrochemical cell.

$Cu\left|Cu^{2+}(1M)\right|\left|Ag^{+}(1M)\right|Ag$

$\left[Ec_u = +0.34V, E^{\circ}_{Ag} = +0.8V\right]$

$F = 96487C$

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7. Write the equations of anodic and cathodic reactions occur during rusting of iron.

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8. Derive an integrated rate equation for the rate constant of a zero order reaction.

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

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10. Give two applications of adsorption.

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11. 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+}

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13. What is heterogeneous catalysis ? Give an example.

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Part E

1. Explain S_N2 mechanism taking an example of chloromethane.

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2. Write the general equation for the reaction of primary alcohol with $SOCl_2$.

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3. $CH_3Br + AgF \rightarrow CH_3F + AgBr$. Name the reaction.

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

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5. i) Identify 'A' and 'B' in the following equations.

$$CH_3 - CH = CH_2 \xrightarrow[H^+]{H_2\ \emptyset} A \xrightarrow{CrO_3} B$$

ii) What is Lucas reagent?

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6. What is Lucas reagent ? How it is used to identify secondary alcohols?

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7. Explain Williamson's ether synthesis.

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8. i) How does benzaldehyde reacts with acetophenone in presence of a dilute alkali?

ii) Name the product formed when acetaldehyde reacts with HCN.

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10. Among formic acid and acetic acid, which is more acidic ? Give reason.

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11. i) Explain the reduction of nitrocompounds to amines with an examples.

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

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13. How is aniline converted in phenyl isocyanide ? Write the equation.

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14. Write Haworth structure for maltose.

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15. What is nucleoside?

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16. What are fibrous proteins Give an example .

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17. Name the monomers usedl in the manufacture of Nylon-6, 6.

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18. What is vulcanisation of rubber?

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19. Give an example for biodegradable polymer.

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