



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

II PUC MARCH - 2018

Part A

1. State Henry's law.



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2. Van't Hoff's factor for a solution is less than one . What is the conclusion drawn from it ?



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3. How many faraday of electricity is required to reduce 1 mole of MnO_4^- ions to Mn^{2+} ions?



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4. If the unit of rate constant of a reaction is $\text{mol}^{-1}\text{Ls}^{-1}$ then mention its order.



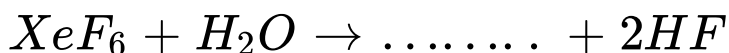
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5. Name a metal refined by Van Arkel method.



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6. Complete the following equations.





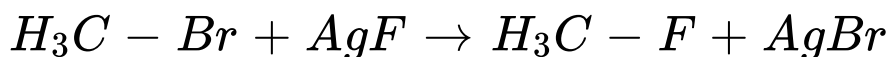
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7. What is an ambidentate ligand ? Name the type of structural isomerism arises when such ligand present in the complex.



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8. Name the Following reaction.



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9. Ethanal(CH_3CHO) undergoes aldol condensation reaction. Give reason.



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10. Deficiency of which vitamin cause the disease "Rickets".



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1. What is Frenkel defect ? How does it affect density of the solid ?



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2. Draw a neat labelled diagram of $H_2 - O_2$ fuel cell. Write the reaction occurs at cathode of the cell.



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3. A first order reaction is found to have a rate constant $K = 5.5 \times 10^{-14} \text{S}^{-1}$. Find the half-life of the reaction.



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4. Give reason :

a) Cerium (Ce) exhibits +4 oxidation state.

b) Actinoid contraction is greater from element to element than lanthanoid contraction.





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5. How anisole reacts with bromine in ethanoic acid? write the chemical equation for the reaction.



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6. Explain the preparation of carboxylic acids from Grignard reagent . Give equation.



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7. Given an example each for

(a) Artificial sweetening agents (b) Narcotic analgesics.



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8. What are cationic detergents? Give an example.



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1. Explain the process of obtaining "blister copper" from "copper matte" with equations.



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2. Write the equation involved in the manufacture of nitric acid by Ostwalds process by maintaining reaction conditions.



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3. (a) How is ozonised oxygen prepared in the laboratory? Give equation.

(b) Give the composition of "Oleum".

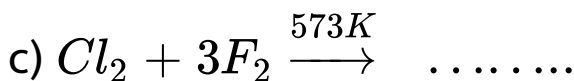
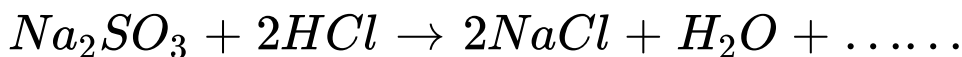


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4. Complete the following equations :



b)



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5. How is potassium permanganate ($KMnO_4$) prepared from MnO_2 ? write the equation.



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6. Why 3d-series of elements acts as good catalyst?



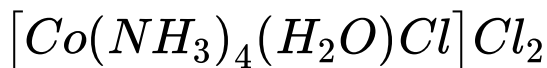
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7. Explain the hybridisation, geometry and magnetic property of $[Ni(Cl)_4]^{2-}$.



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8. Write the IUPAC name of :



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1. An element having atomic mass 107.9 u has FCC lattice. The edge length of its unit cell is 408.6 pm. Calculate density of the unit cell.

$$\left[\text{Given, } N_A = 6.022 \times 10^{23} \text{ mol}^{-1} \right].$$



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2. The boiling point of benzene is 353.23 K when 1.80 g of a non-volatile, non-ionising solute was dissolved in 90 g of benzene, the boiling point is raised to 354.11 K. Calculate the

molar mass of solute.

[Given K_b for benzene = $2.53 \text{ K kg mol}^{-1}$]



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3. i) State Kohlrausch law.

ii) What is meant by limiting molar conductance.



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4. Derive an integrated rate equation for the rate constant of a first-order reaction.



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5. What is heterogeneous catalysis? Give an example.



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6. Name the reagent used in the dehydrohalogenation of haloalkanes.



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7. Write the mechanism of acid catalysed dehydration of ethanol to ethane.



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8. How does propanone (CH_3COCH_3) reacts with hydrazine? Give equation.

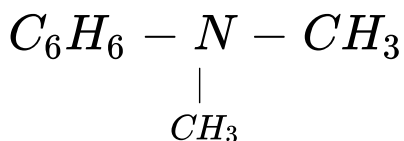


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9. (a) Explain carbyl amine reaction with equation.

(b) How does nitrobenzene is reduced to aniline? Give equation.

(c) Write the IUPAC name of





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10. (a) Write Haworth structure of "Lactose".

(b) i) What are non-essential amino acids?

ii) Write Zwitter ionic structure of "glycine".

(c) Name the nitrogenous base present in RNA but not in DNA.



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11. (a) Explain the preparation of Nylon-6, 6 with equation.

(b) What are thermoplastic polymers? Give an example

(c) Write the structure of isoprene (2-methyl-1,3-butadiene).



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