



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

II PUC ANNUAL EXAMINATION 2019

Part A

1. Answer all the questions each question carries one mark.

How does the size of blood cells change when placed in an aqueous solution containing more than 0.9% (m/v) sodium chloride?



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2. Answer all the questions each question carries one mark.

How does the volume change on mixing two volatile liquids to form an ideal solutions?



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3. Answer all the questions each question carries one mark.

Draw a graph of $\lambda_m \frac{v}{s} \sqrt{c}$ for acetic acid (weak electrolyte) solution.



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4. Unit of rate constant of a reaction is same as that of its rate. What is the order of this reaction?



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5. Among physisorption or chemisorption which one has higher enthalpy of adsorption?



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6. What is the role of depressant (NaCN) in Froth-Flotation method?



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7. Name the noble gas having ns^2np^6 electronic configuration but does not have d-orbitals in its valence shell.



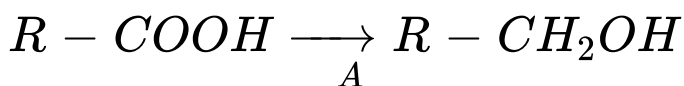
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8. Write the general equation for Wurtz reaction.



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9. What is the reagent A used in the following equation?



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10. Which vitamin deficiency causes the disease pernicious anaemia?



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1. Lithium metal has a body centred cubic lattice structure with edge length of unit cell 353 pm . Calculate the density of the lithium metal. [Given : Atomic mass of Li = 7gmol^{-1} , $N_A = 6.022 \times 10^{23} \text{ atom mol}^{-1}$)



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2. State Faraday's second law of electrolysis.



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3. What is pseudo-first order reaction? Give an example.



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4. How will you account for the following ?

(i) Actinoids exhibit more number of oxidation states than lanthanoids.

(ii) Atomic radii of second and third transition series elements are almost identical.



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5. Explain the Kolbe's reaction with equation.



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6. Write the equation for the reaction between benzaldehyde and concentrated NaOH solution. Name the reaction.



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7. (i) What are anionic detergents?

(ii) What is the role of saccharin in food?



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8. Give one example each for the following:

(i) Antifertility drugs

(ii) Narcotic analgesics.



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1. (a) In extraction of Aluminium by electrolysis,

(i) Write overall cell reaction.

(ii) What is the role of cryolite?

(b) Name the metal refined by Mond's process.



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2. In the manufacture of ammonia by Haber's process. Write the flow chart and chemical equations with optimum conditions.



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3. Answer any five of the following questions.

a) Given reason: (i) Hydrogen bonding in H_2O

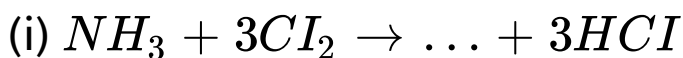
but not in H_2S

(ii) Conc. H_2SO_4 is a good dehydrating agent

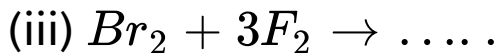
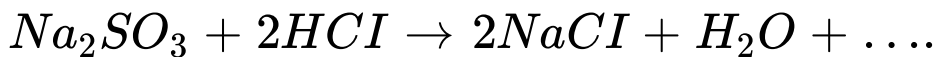


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4. Complete the following chemical equations :



(ii)



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5. Write the balanced chemical equation involved in the manufacture of potassium-dichromate from chromite ore.



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6. Transition elements shows catalytic property. Give two reason.



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7. Give the IUPAC name of $K_3[Cr(C_2O_4)_3]$



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8. Using VBT, explain the geometry and magnetic property of $[Ni(CN)_4]^{-2}$. (Atomic

Number of Ni=28).



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Part D

1. Answer any three of the following questions.

a) 31 g of an unknown molecular material is dissolved in 500 g of water. The resulting solution freezes at 271.14 K. Calculate the molar mass of the material. Given : K_t for

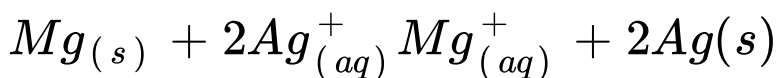
water = 1.86K K gmol¹ T_t° of water = 273K

.



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2. Calculate the EMF of the cell for the reaction.



$$\text{Given: } E^\circ Mg^{2+} / Mg = -2.37V$$

$$E^\circ Ag^+ / Ag = 0.08V$$

$$[Mg^{2+}] = 0.001M, [Ag^+] = 0.0001M$$

$$\log 10^5 = 5$$



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3. The specific reaction rate of a reaction quadruples when temperature changes from 30°C to 50°C . Calculate the energy of activation of the reaction [Given :

$$R = 8.314\text{JK}^{-1}\text{mol}^{-1}]$$



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4. Answer any three of the following questions.

b. What is Peptisation ? Give an Example



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5. Answer any FOUR of the following questions.

b. (i) Name the product formed for the reaction of isopropyl iodide on alcoholic KOH.

(ii) What is the condition to be satisfied for a compound to be chiral?



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6. Answer any FOUR of the following questions.

b. How do you prepare methoxy ethane by Williamson's ether synthesis?



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7. Answer any FOUR of the following questions.

a. How does benzene reacts with acetylchloride in the presence of anhydrous $AlCl_3$?

Give equation.



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8. Answer any FOUR of the following questions.

b. (i) Name the main product when aniline is heated with alcoholic KOH and chloroform.

(ii) Give the IUPAC name of $(CH_3)_2N - C_2H_5$



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9. Answer any FOUR of the following questions.

b. What is peptide linkages? How many peptide bonds are present in a tetra-peptide?·



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10. (a) How is Buna-N prepared? Give equation

(b) Name the monomers of Nylon-6, 6.

(c) What are thermosetting polymers?



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