



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

II PUC TOPPER'S ANSWER MARCH - 2017

Part - A

1. How does molarity varies with temperature ?



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2. 10 mL of liquid 'A' is mixed with 10 mL of liquid 'B', the volume of the resultant solution is 19.9 ml. What type of deviation expected from Raoult's law ?



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3. Write the mathematical expression for limiting molar conductivity of sodium chloride.



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4. Define collision frequency.



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5. Name the adsorbent used to removal of colouring matter from solution.



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6. Give an example of a metal purified by Mond process.



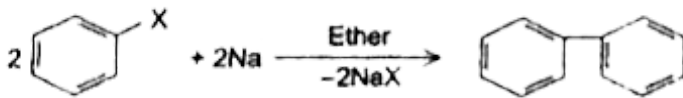
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7. Which noble gas is most abundant in atmospheric dry air ?



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8. What is the name of the following reaction?



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9. Formaldehyde (HCHO) undergoes

Cannizzaro reaction : Give reason.



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10. Deficiency of which vitamin causes the disease scurvy.



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Part - B

1. Give the differences between crystalline and amorphous solids with respect to shape and melting point.



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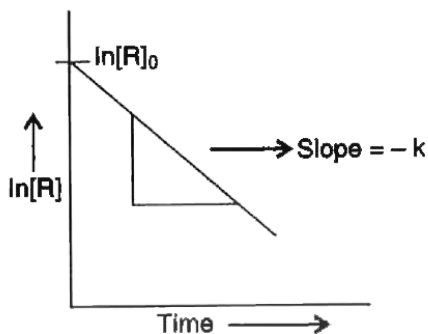
2. Write the cathodic and anodic cell reactions of Hydrogen -Oxygen fuel cell.



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3. From the following graph, identify order of reaction and mention the unit of its rate

constant.



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4. What is lanthanoid contraction? Mention the cause for it.

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5. How anisole reacts with acetyl chloride $[CH_3COCl]$ in the presence of anhydrous $AlCl_3$? Write the chemical equation for the reaction.



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6. What is the action of ammonia $[NH_3]$ on benzoic acid? Write equation.



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7. Give an example for

(i) Non-narcotic analgesics (ii) Antiseptics.



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8. What are anionic detergents? Give an example.



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Part - C

1. During the extraction of aluminium by Hall - He'rault process,

i) Write neat labelled diagram of electrolytic cell.

ii) Write over all cell reaction.

iii) At which electrode oxygen gas is liberated?



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



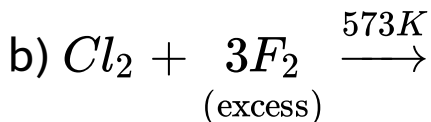
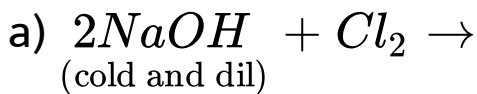
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3. Write the balanced chemical equation for the action of concentrated sulphuric acid on copper metal.



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4. Complete the following equations.





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5. Calculate the spin only magnetic moment of Fe^{2+}



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6. How is $KMnO_4$ [Potassium permanganate] is prepared from MnO_2 ? Write equations.



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7. Using VBT, explain the geometry and magnetic property of $[Ni(CN)_4]^{-2}$. (Atomic Number of Ni=28).



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8. Write the cis and trans isomeric structures of $[Fe(NH_3)_2(CN)_4]^{-}$.



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1. An element having atomic mass 63.1 g/mol has face centered cubic unit cell with edge length 3.608×10^{-8} cm. Calculate the density of unit cell [Given $N_A = 6.022 \times 10^{23}$ atoms/mol].



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2. How solubility of a gas in liquid varies with
(i) Temperature and (ii) pressure?



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3. (a) The electrode potential for the Daniell cell given below is 1.1 V.



Write overall cell reaction and calculate the standard Gibb's energy for the reaction.

[F96487c/mol]

(b) Mention any two factors which affects the conductivity of electrolytic solution .



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



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5. (a) Give any two differences between lyophilic and lyophobic colloids.

(b) Write the two steps involved in the mechanism of enzyme catalysed reaction.

(c) What is the entropy change (Δs) for adsorption ?





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6. Write SN^2 mechanism of the conversion of methyl chloride to methyl alcohol.



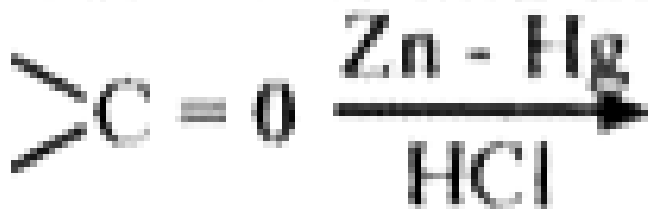
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7. Explain the Kolbe's reaction with equation.



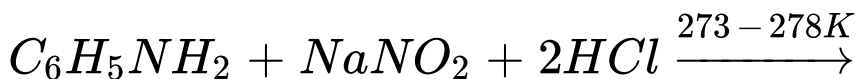
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8. Complete and name the following reaction.



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9. Complete the following equation.



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10. Give an example for

i) Globular proteins.

ii) Naturally occurring optically inactive amino acid.



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11. Explain the preparation of Buna-N with equation.



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