



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

sample Paper 1

Excercise

1. Define the term molality.



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2. Mention the sign of enthalpy of mixing for a solution showing positive deviation from Raoult's law.



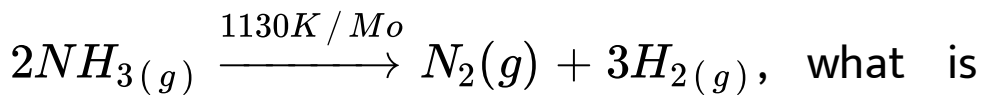
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3. What is a primary electrochemical cell?



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4. For the reaction



the order?



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5. What do you mean by selectivity of a catalyst?



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6. Write the composition of copper matte.





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7. Name the noble gas that is radioactive?



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8. Write the general equation of the preparation of alkyl chlorides from alcohols using $SOCl_2$.



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9. What are acetals?



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10. a) Name the water insoluble component of starch.



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11. An element having atomic mass 60 amu. has fcc unit cell. The edge length of the unit cell is 4×10^2 pm. Find the density of the unit cell.



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12. Mention any one application of Kohlrausch law.



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13. The half-life period of a certain reaction is directly proportional to initial concentration of the reactant. Predict the order of the reaction and write the expression to calculate the half-life period of the reaction.



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14. Derive an expression for half life period of a first order reaction.



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15. Give two consequences of lanthanoid contraction.



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16. How does ketone react with ethylene glycol.

Write chemical equation for the reaction.



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17. What are analgesics? Give an example.



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18. What are artificial sweeteners? Give an example.



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19. On the basis of Ellingham's diagram explain the principle of extraction of iron from its oxide ore.



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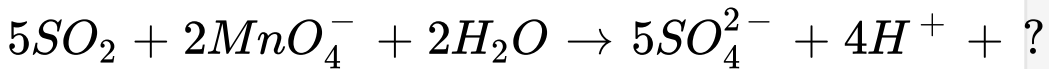
20. Explain the principles involved in the manufacture of ammonia by Haber's process.



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21. Complete the following equations :

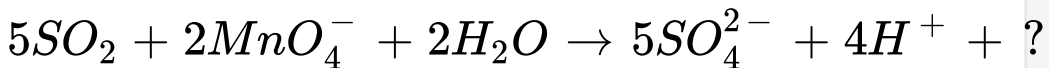
(i)



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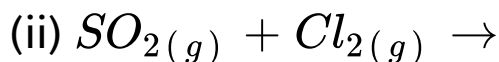
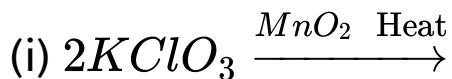
22. Complete the following equations :

(i)



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23. Complete the following equations :



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24. (a) Explain the action of Cone. HCl on $KMnO_4$ crystals

(b) Write the structure of perchloric acid.



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26. (a) Transition metals show variable oxidation states. Explain.

(b) Which metal of 3d-series exhibit maximum number of oxidation state?



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27. (a) Transition metals show variable oxidation states. Explain.

(b) Which metal of 3d-series exhibit maximum number of oxidation state?



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28. How is $K_2Cr_2O_7$ manufactured from chromite ore.



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29. Define linkage isomerism of co-ordination compound. Give an example ?



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30. Calculate packing efficiency in BCC lattice.



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31. Calculate the number of particles per unit cell in fcc.



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32. Acetone boils at 56.38°C and a solution of 1.41 g of an organic compound in 20 g of acetone boils at 56.88°C . Calculate the molar mass of the organic compound (Given k_b for acetone = 1.67 k kg/ mol).



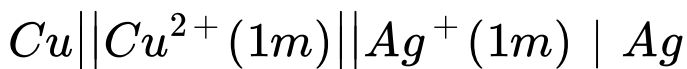
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33. What is reverse osmosis? Mention one of its practical utility.



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34. Standard EMF of the cell:



is 0.46 at $25^\circ C$. Find the value of standard free energy change for the reaction that occurs in the cell.



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35. Draw the neat labeled diagram of SHE and write its symbolic representation.



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36. Derive the integrated rate equation for rate constant of Zero order reaction.



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37. (a) Mention the integrated rate equation for a zero order reaction

(b) Give any two differences between order and molecularity of reaction



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38. Write any two difference between lyophilic Sol and lyophobic Sol.



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39. Write any two differences between physisorption and chemisorption.



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40. i) What type of adsorption involves Van der Waals force of attraction?

ii) Give an example for homogeneous catalysis.



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41. Name the organic product formed when chloroalkane is heated with concentrated solution of sodium iodide (NaI) in acetone.



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42. Explain Fittig reactions with equation.



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43. Organic compounds A, B and C are aliphatic saturated hydroxyl compounds when they react with Lucas reagent (anhyd. $ZnCl_2 + conc. HCl$), the following observations are made : Compound A gave turbidity immediately



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44. Organic compounds A,B and C are aliphatic saturated hydroxyl compounds when they react with Lucas reagent (anhyd.ZnCl₂+conc.HCl),the following observations are made : Compound B gave turbidity after five minutes.



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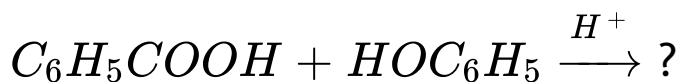
45. Organic compounds A,B and C are aliphatic saturated hydroxyl compounds when they react with Lucas reagent (anhyd.ZnCl₂+conc.HCl),the following observations are made : Compound C

gave turbidity only on heating. Identify the type of compounds A, B and C.



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46. Complete the equation:



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47. Name the main organic product formed when anisole is reacted with HI.

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48. Which of the following organic compound undergoes Cannizzaro's reaction? : CH_3CHO

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49. Which of the following organic compound undergoes Cannizzaro's reaction? : $HCHO$.

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50. Explain the mechanism of addition of HCN to a carbonyl group in presence of base.



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51. Explain the conversion of carboxylic acid into an acid amide. Give the general chemical equation.



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52. (a) Explain Mendius reduction with an equation.

(b) When aniline is treated with HNO_2 at 273-278 K, benzene diazonium chloride is formed.

Write the equation and name the reaction.

(c) What is Hinsberg's reagent?



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54. What is Hinsberg's reagent?



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55. Write the Haworth structure of D - sucrose.

Why is a non - reducing sugar?



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56. What are non-essential amino acids?

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57. (a) What are non-essential amino acids?

(b) Name the heterocyclic N-containing base present only in DNA but not in RNA.

(c) Vitamin-C cannot be stored in the body. Give reason.

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59. Which among the following is a homopolmer and co-polymer,: Nylon-6,6



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60. Which among the following is a homopolymer and co-polymer; PVC



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61. (a) How is Buna-N prepared ?. Write the equation

(b) Give one example for a non-biodegradable polymer



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62. Give an example for biodegradable polymer.



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