CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

Solved Paper

Exercise

1. Name the law behind the dissolution of CO_2 gas In soft drinks under high pressure.

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2. Ornamental gold containing copper is an example for what type of solution?

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3. Which gas is evolved at cathode dring the electrolysis of an aqueous solution of NaCl?

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4. What happens to the half life period of a first order reaction if the Initial. concentration of the reactants is increased?

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5. Out of physisorption and chemisorption which one has lower enthalpy of adsorption?

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6. Give the composition of copper matte.

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7. Noble gases are chemically inert. Give one reason

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8. What is "Chirality" ?

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9. Which hormone regulates the sugarlevel in the blood ?

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10. Calculate the no. of particles (atoms) per unit cell in a FCC crystal lattice:

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11. What are ferromagnetic substances? Give one example.

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12. The rate constant of a certain first order reaction is $200S^{-1}$. What is its half life period ?

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13. Zr and Hf have almost identical atomic radii. Give reason.

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14. Explain Kolbe's reaction

15. What is the action of dil. NaOH on ethanal (acetaldehyde)? Name the reaction.

16. What is the role of the following chemicals in food?

Saccharin

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17. What is the role of the following chemicals in food?

Sodium benzoate

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18. What are antifertility drugs ? Give an example

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19. In the extraction of Aluminium by electrolysis

Give the composition of electolyte used

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20. In the extraction of Aluminium by electrolysis

overall cell reaction

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21. In the extraction of Aluminium by electrolysis

Role of cryolite

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22. Write the balanced Chemical equation with condition involved in manufacture of nitric acid by ostwald's process.

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23. Complete the following chemical equations.

$PbS + 4O_3 \rightarrow PbSO_4 +$ _____

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24. Complete the following chemical equations.

$Cu + 2H_2SO_4 \rightarrow CuSO_4 + \_\_\_\_\_ + 2H_2O$

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25. Complete the following chemical equations.

$Cl_2 + 2H_2O + SO_2 \rightarrow \_\_\_\_\_ + 2HCl$

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26. How is chlorine prepared using $KMnO_4$?

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27. Why is I_2 less reactive that ICl?

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28. Calculate the spin only magnetic moment of

Fe^{2+}

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29. Why Sc^{3+} salts are colourless whereas Cr^{3+} salts are coloured.

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30. Write the balanced equations in the manufacture of potassium dichromate from chromite ore.

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31. Explain the hybridisation, geometry and magnetic property of $[CoF_6]^{3-}$ based on VBT.

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32. Write any two postulates of Werner's theory of co-ordination compounds.

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33. Write the IUPAC name of $\left[Pt(NH_3)_3(H_2O)Cl_2\right]$.

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34. Calculate the packing efficiency in Face Centred Cubic (FCC) structure.

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35. Silver crystallizes in CCP lattice. The edge length of its unit cell is 408.6 pm. Calculate density of silver (atomic mass of silver is 107.9)

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36. 5.8 g of non - volatile, non - electrolyte solute was dissolved in 100 g of carbon disuiphide (CS_2). The vapour pressure of the solution was found to be 190 mm of Hg. Calculate molar mass of the solute. Given : Vapour of pure CS_2 is 195 mm of Hg and molar mass of CS_2 is $76g/mol$.

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37. Mention any two differences between ideal and non-ideal solutions.

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38. State Faraday's First law of electrolysis. Write its mathematical form using usual notations.

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39. State Kohlrausch law.

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40. Write the overall cell reaction taking place in Daniel Cell

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

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42. Draw a graph of potential energy V/S reaction co - ordinates showing the effect of catalyst on activation energy (E_a) of a reaction.

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43. Mention any three differences between lyophilic and lyophobic colloids.

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44. What is heterogeneous catalysis? Give an example.

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45. Explain the mechanism of S_N1 reaction taking 2-bromo-2-methyl propane (t-butyl bromide)

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46. Explain wurtz-Fitting's reaction

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47. Write the general formula of Grignard reagent

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48. How is phenol manufactured by Cumene process?

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49. Between phenol and alcohol which is more acidic ? Why ?

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

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51. How is bezamide obtained from benzoic acid ?

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52. Explain carbylamine reaction.

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53. What is the action of bromine water on Benzenamine (Aniline) at room temp.

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54. The pkb values of Ammonia, methanamine and Benzenamic (aniline) are 4.75, 3.38 and 9.38 respectively. Arrange them in the increasing order of their basic strength.

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55. How do you show that glucose contains a linear chain of six carbon atoms.

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56. What are essential amino acids?Is glycine an essential amino acid ?

57. Write the general formula of Zwitter ionic form of an amino acid

58. Explain addition polymerisation with an example.

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

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60. Write the partial structure of Neoprene

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