CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

Sample Paper 7

Exercise

1. Define the term 'molarity'.

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2. What is effective atomic number?

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3. Name the noble gas which is not absorbed by constant shell charcoal in Dewar's charcoal adsoption method.

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4. Name the principle involved in the desilverisation of lead by Parke's process.

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5. The reaction $A + B \rightarrow C$ follows first order kinetics with respect to A and second order kinetics with respect to B. What is the overall order of the reaction ?

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6. The hydrogen electrode is dipped in a solution of pH=3 at 25° C. What is the potential of the electrode?

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7. Write the IUPAC name of the organic compound formed when nitrobenzene is reduced using tin and concentrated hydrochloric acid.

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8. What type of mesomeric effect is exhibited by -NO_2 group?

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9. Name the main product formed when bromoethane is treated with sodium metal in dry ether

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10. Deficiency of which vitamin causes the diseasee perncious anaemia?

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11. Suggest any two methods to prevent corrosion of iron.

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12. Write any two merits of Arrhenius theory of electrolytic dissociation.

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13. Define collision frequency. Give an example for Pseudo-first order reaction.

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14. Which element of 3d series exhibits maximum oxidation state?

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15. Name the elements in the 3d-series that shows

(i) maximum oxidation state

(ii) is diamagnetic

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16. What is Lucas reagent? Between primary and tertiary alcohols, which one of these will react faster with Lucas reagent?

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17. Acetic acid is a weak acid than formic acid and chloroacetic acid is a stronger acid than acetic acid. Give reasons.

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18. Give two main functions of carbohydrates in plants.

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19. What are disinfectant ? Give examples .

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20. Write the equations involved in the manufacture of sulphuric acid in contact process.

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21. Write the equations involved in the preparation of nitric acid by Ostwalld's process by maintaining the reaction conditions.

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22. Name the reaction that takes place when a mixture of potassium dichromate and potassium chloride (or sodium chloride) crystals is warmed with conc. sulphuric acid. Give the equation for the reaction.

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23. Dry distillation of calcium acetate.

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24. Reaction of phosphorous penteachloride with acetic Acid

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25. $XeF_6 + 3H_2O \rightarrow P + 6HF$

What is P?

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26. Describe the experimental procedure and give the calculations involved in the estimation of potassium permanganate present in one dm^3 of its solution using standard oxalic acid solution. Give the equation for the redox reaction.

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27. Give reason (one each) for the following:

(a) Transition metals are good catalytic agent

(b) Second ionisation enthalpy of copper is very high.

(c) The spin only magnetic moment of Sc^{3+} is zero (Z = 21).

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28. Give reason (one each) for the following :

Transition metal are good catalytic agent

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29. Give reason (one each) for the following :

Second ionisation enthalpy of copper is very high.

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30. Give reason (one each) for the following :

The spin only magnetic moment of Se^{3+} is zero (Z=21)

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31. Mention any two characteristics of bonding molecular orbitals.

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32. Which of the following overlapping of atomic orbitals will not be allowed? $2p_x + 2p_z$

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33. Which of the following overlapping of atomic orbitals will not be allowed? $2p_x + 2p_x$

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34. Which of the following overlapping of atomic orbitals will not be allowed?$2s + 2s$

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35. On the basis of Valence bond theory account for the hybridization, shape and magnetic property of cuprammonium ion.

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36. The coordination number of Cs^+ in CsCl crystal is -------

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37. Define the terms (a) Crystal lattice (space lattice), (b) Unit cell.

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38. What is the contribution of a corner particle to a unit cell in a cubic crystal lattice ?

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39. On dissolving 2.34g of non-electrolyte solute in 40g of benzene, the boiling point of solution was higher than benzene by 0.81K. Kb value for benzene is 2.53 K $kgmol^{-1}$ .Calculate the molar mass of solute. [Molar mass of benzene is 78 $gmol^{-1}$]

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40. State Henry's law. Write its mathematical form.

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41. Calculate the EMF of the cell for the reaction

$Mg_{(s)} + 2Ag^{+}_{(aq)} \rightarrow Mg^{2+}_{(aq)} + 2Ag_{(s)}$.

$\left(\text{Given} \quad : E^{\circ} Mg^{2+} / Mg = \ -2.37V, E^{\circ} Ag^{+} / Ag = 0.80V, \left[Mg^{2+}\right] = 0\right.$

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42. What are fuel cells?

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43. The rate constant of a particular reaction doubles when the temperature changes from 300K to 310 K, calculate the energy of activation.

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44. b) Show that the half - life period of a first order reaction is independent of initial concentration of reacting species.

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45. With respect to sol what is : Dialysis

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46. What is an electrophoresis ? Explain.

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47. With respect to a sol (a colloid) what is

(i) dialysis

(ii) electrophoresis

(iii) coagulation ?

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48. Give an example of an oil dispersed in water emulsion.

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49. Exlain the mechanism of chlorination benzene

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50. Name the products A & B : In the presence of sunlight Methane+ Chlorine → A + B

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51. Identify and write the organic compounds A and B. $CH_4 + Cl_2 \xrightarrow{\text{Sun light}} A \xrightarrow{\text{Na metal}} B.$

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52. Explain HVZ (Hell-Volhard-Zelinsky) reaction with equation.

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53. How is phenol manufactured by Cumene process?

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54. a. Explain the laboratory method of preparation fo p-bromoacetanilide from acetailide.

b. Mention a general test for the following:

(i) Carboydrates

(ii) Oils and fats.

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55. What is Zwritter ion? Write Zwritter ion structure of amino aicd.

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56. Give the preparation equation of PVC.

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57. Give equations for the reactions that occur when

Sodium peroxide dissolves in water.

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58. Formaldehyde reacts with sodium bicarbonate solution to give

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59. Methyl amine reacts with acetyl chloride.

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60. Name the products obtained when benzaldehyde is made to undergo Cannizzaro's reaction using a concentrated solution of potassium hydroxide.

Give the equation of the reaction.

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

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62. Give an example for water soluble vitamin.

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63. Is lysine an essential or non-essential amino acid?

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64. Write the structure of Maltose.

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65. (a) Write the Haworth structure of maltose.

(b) What is peptide Linkages? How many peptide bonds are present in a tetra-peptide?

(c) Name the hormone which regulates blood sugar level in the body.

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66. Write the partial structure of

Neoprene

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67. Write the partial structure of

Terylene (Dacron)

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68. Write the partial structure of

Nylon-6

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69. Explain the preparation of Teflon with equation.

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