



# 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 during 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 sugar level 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  $200\text{S}^{-1}$ . 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



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



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**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 electrolyte 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



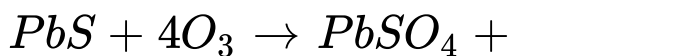
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22. Write the balanced Chemical equation with condition involved in manufacture of nitric acid by ostwald's process.



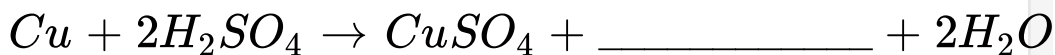
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23. Complete the following chemical equations.



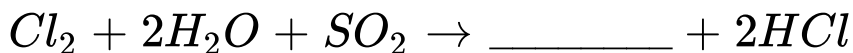
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24. Complete the following chemical equations.



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25. Complete the following chemical equations.



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26. How is chlorine prepared using  $KMnO_4$  ?



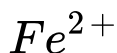
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27. Why is  $I_2$  less reactive than  $ICl$ ?



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28. Calculate the spin only magnetic moment of



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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.



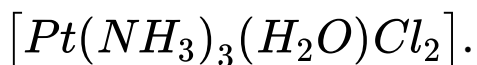
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32. Write any two postulates of Werner's theory of co-ordination compounds.



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33. Write the IUPAC name of





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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 disulphide ( $CS_2$ ). 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 benzamide 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  $pK_b$  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 ?



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



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**58.** Explain addition polymerisation with an example.



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



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**60.** Write the partial structure of Neoprene



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