CHEMISTRY

BOOKS - OSWAAL PUBLICATION

Solved Paper 2018-1

Exercise

1. Name the SI unit of amount of substance.

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2. Write ideal gas equation for one mole of gas.

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3. The hydrogen ion concentration of a solution is 0.01 M, What is P^H?

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4. What is the oxidation state of Manganese (Mn) in K_2MnO_4?

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5. Li^+ ion has maximum degree of hydration. Why?

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6. Name the colour imparted by CaO in borax beed test.

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7. Give the valence shell electronic configuration of P-block elements.

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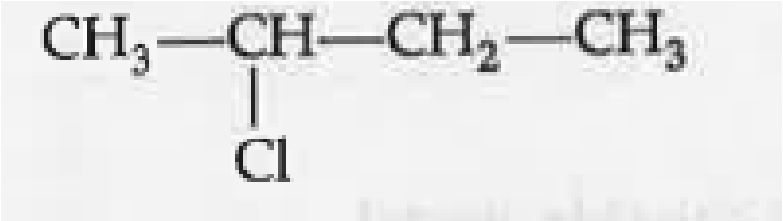
8. Give the IUPAC name of ,



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9. Name the gas liberated when calcium carbide react with water.

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10. Calculate the amount of water produced in gram by the combustion of 8 g of Methane.

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11. State Boyle's law.

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12. Write the Lewis dot structure of

(i)Oxygen molecule (O_2)

(ii) Ethyne molecule (C_2H_2).

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14. Give one suitable reason for diagonal relatioship of lithium with magnesium.

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15. Give any two reasons for anomalous behaviour of carbon in its group.

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16. Define geometrical isomerism. Give an example.

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17. What is Wurtz reaction? Give example.

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18. Give any two effects of depletion of the ozone layer.

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19. What do you mean by ionization enthalpy? How does it vary across a period and down a

group?

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20. Explain sp^2 hybridisation taking boron trichloride (BCl_3) as an example.

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21. Write the electronic configuration of Li_2 molecule. Calculate bond order and mention its magnetic property.

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22. Calculate bond order of Oxygen molecule and mention its magnetic property.

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23. Write any three postulates of VSEPR theory.

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24. Balance the following redox reaction by half reaction method.

$Fe^{2+}(aq) + Cr_2O_7^{2-}(aq) \rightarrow Fe^{3+}(aq) + Cr^{3+}(aq)$

(In acid medium)

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25. How temporary hardness of water is removed by Clerk's Method?

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26. Which isotope of hydrogen is radioactive?

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27. Give the chemical equation involved in the preparation of sodium carbonate by Solvay process.

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28. Write any two differences in the properties of Graphite and Diamond.

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29. Give the composition of WATER GAS.

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30. Write the postulates of Daltons Atomic theory.

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31. Determine the empirical formula of an oxide of Iron which has 69.9% Iron and 30.1% dioxygen by mass. [Atomic mass of $Fe = 56, O = 16$]

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32. Explain the significance of principal,Azimuthal and Magnetic quantum number.

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33. Calculate : Frequency of yellow radiation having wavelength 5800 A°

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34. State Pauli's exclusion principle. Give the possible values of l for $n = 2$

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35. Write De Broglie equation and explain the terms involved in it.

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36. Write any three postulates of Kinetic molecular theory of gases.

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37. Define (i) Boyle temperature (ii) Critical Volume (V_C)

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38. Define critical volume $[V_e]$

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39. Calculate the standard enthaly of formation of Methane. Given that the standard enthalpy of

combustion of Methane, carbon and Hydrogen are -893.3kJ, -3.93kJ and -285.8kJ respectively.

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40. Define Entropy. What is the value of Entropy change at equilibrium in a spontaneous reversible process?

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41. State Hess's law of constant heat summation.

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42. Give an example for an extensive property.

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43. Write the Born-Haber cycle for NaCl.

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44. State Le-Chatelier's priciple.

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45. Explain the effect of temperature and pressure on the equilibrium equation.

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46. What is buffer solution? Give one example of acidic buffer solution.

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47. Explain Lewis acid base concept with an example.

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48. Define common ion effect.Mention any one factor which affect acid strength.

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49. Give the value of ionic product of pure water at 298 K.

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50. Describe an experiment to determie the estimation of C and H by leibig's method.

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51. What is inductive effect? Give an example for electron withdrawing group.

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52. Explain position isomerism with example.

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53. What are electrophiles? Give one example.

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54. Write the bond line structure of 2-bromobutane.

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55. Explain the machanism of chlorinantion of methane.

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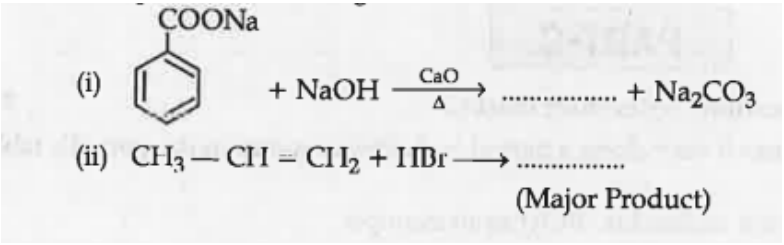
56. Complete the following reaction?



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