CHEMISTRY

BOOKS - USHA CHEMISTRY (ODIA ENGLISH)

PRACTICE PAPER

Practice Paper

1. When H_2 gas is passed through benzoyl chloride solution in xylene in presence of

$PdBaSO_4$ catalyst _____ is formed and the reaction as _____.

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2. Write the IUPAC name of $(CH_3)_3C - CHO$

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3. Write IUPAC name of $\left[Co(NH_3)_5NO_2\right]SO_4$

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4. The unit of cryoscopic constant is _____.

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5. The temperature co-efficient of a reaction is 2. How many times the rate of reaction will increase if the temperature is increased by 50° C?

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6. MnO_2 on heating with _____ liberates Cl_2 gas.

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7. Name a polymer used in controlled drug capsules.

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8. Give comparison between Schottky defect and Frenkel defect.

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9. For a chemical reaction $A \rightarrow B$, it is found that the rate of reaction doubles when the conc, of 'A' is increased four times. The order of reaction is

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10. What type of sol is formed when $AgNO_3$ solution is added to KI solution and vice-versa?

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11. Give a chemical test to distinguish between aniline and ethyl amine.

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12. Describe the shape of XeF_6 molecules.

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13. Write the anomalous properties of fluorine.

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14. Write the names and structures of monomers of Nylon-6,6 and Buna-S.

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15. Write the difference between ideal and non-ideal solutions.

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16. Write one example of dehydrating property of H_2SO_4

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17. Difference between double salt and complex salt.

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18. Write short notes on : Werner's theory of co-ordination compounds.

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19. How can you prepare benzoic acid from Grignard reagent? Give equations only.

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20. How can you prepare benzoic acid from Ethyl benzene? Give equations only.

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21. How can you prepare benzoic acid from Benzene diazonium chloride? Give equations only.

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22. Name the reagents used in Oxidation of 1° - alcohol to aldehyde.

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23. Name the reagents used in Iodobenzene to diphenyl.

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24. Name the reagents used in Acetal dehyde to isopropyl alcohol.

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25. An organic compound containing C,H and O has molecular mass 86. It does not reduce Tollen's reagent but gives iodoform test. On vigorous oxidation it gives mixture of acetic acid and propionic acid. Write the possible structure of the compound giving explanations.

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26. Explain that bleaching action of CL_2 is permanent, while that of SO_2 is temporary.

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27. Arrange as indicated - HF,HCL,HBr,HI (increasing volatility order)

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28. Arrange as indicated - H_2O, H_2S, H_2Se, H_2Te (increasing bond angle)

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29. Arrange as indicated - NH_3, PH_3, AsH_3, SbH_3 (increasing basic strength)

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30. A current of 0.15 A passed through a salt solution for 150 minute depositing 0.783 g of the metal . If atomic mass of the metal is 112, then find valency of the metal.

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31. State and explain Faraday's laws of electrolysis.

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32. What happens when an electrolyte is added to ferric hydroxide sol?

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33. What happens when current is passed through a colloidal solution?

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34. What is elevation in boiling point of a liquid ? derive a relationship between

molecular mass of a non-volatile solute and elevation in boiling point in a solution.

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35. Calculate boiling point of aqueous solution containing 5.85g NaCl in 200g water (K_b for water = 0.56kgmol^{-1}, $\propto$ for NaCl= 1)

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36. What are the transition elements?

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37. Discuss the general characteristics properties of transition elements.

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38. How can you prepare acetic using Grignard reagent?

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39. What happens with when acetic acid is heated with P_2O_5 ?

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40. What happens with when acetic acid is heated with $LiAlH_4$?

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41. How can you prepare benzaldehyde from Benzene ? Also name the reactions involved.

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42. How can you prepare benzaldehyde from Toluene? Also name the reactions involved .

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43. A compound 'A' having molecular formula $C_2H_5O_2N$, on reaction with Sn and conc. HCl gives a compound B which when treated with $NaNO_2$ and dil. HCl gave compound C having molecular formula C_2H_6O. The compound C when treated with Na metal give effervescenes and when reacts with CrO_3 give a saturated aldehyde having 2 carbon atoms. Determine the structures and names of A, B and C along with the sequence of reactions.

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44. Which of the following will not react with Tollen's reagent?

A. Formic acid

B. Acetylene

C. Acetone

D. Formaldehyde

Answer:

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45. Which of the following is not a copolymer?

A. Bakelite

B. Terylene

C. Teflon

D. Nylon -6,6

Answer:

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46. The false statement about sulphuric acid is

A. It acts as an oxidant

B. It acts as a dehydration agent

C. It absorbs SO_2 to form oleum

D. It forms two series of salts

Answer:

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47. Fluorine reacts with water giving

A. HF and O_3

B. HF and O_2

C. HF and OF_2

D. HF, O_2 and O_3

Answer:

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48. The sequence of iconic mobility in aqueous solution is

A. $K^+ > Na^+ > Rb+$

B. $Rb^+ > K^+ > Na^+$

C. $Na^+ > K^+ > Rb^+$

D. $Rb^+ > Na^+ > K^+$

Answer:

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49. Which among the following will show anisotropy?

A. Glass

B. Quartz

C. Rubber

D. Wood

Answer:

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50. Which of the following is not correctly matched?

A. Bakelite - polymer

B. Surf – detergent

C. Crocin-Antipyretic

D. Boric acid – Analgesics

Answer:

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51. Benzaldehyde on nitration results _____.

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52. Tailing of mercury is due to formation of _____.

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53. When Cl_2 is passed through potassium bromide solution, the color of the solution changes to _____.

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54. Write the relationship between rate constant and temperature of a reaction.

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55. Write the IUPAC NAME OF $\left[Fe(H_2O)_5NO\right]SO_4$

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56. What is the normality of 9.8% $(w/v)H_2SO_4$ solution?

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57. Glyptal is a polymer of _____ and _____.

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58. How does nitrogen differ from other elements of Gr-15?

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59. Why do transition metals form complex salts?

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60. Explain the Hofnann bromamide reaction with one example.

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61. Give one test to distinguish between acetaldehyde and acetone.

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62. Why does sea water boil at higher temperature than normal water?

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63. Difference between peptisation and coagulation?

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64. Give a comparison between metallic solid and ionic solid.

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65. Identify the catalyst used in Decan process.

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66. Name the catalyst used in the contact process of manufacture of H_2SO_4

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67. Identify the catalyst used in Haber's process.

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68. Identify the catalyst used in Ostawald's process.

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69. What happens when $FeCl_3$ is added to hot water?

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70. What happens when $FeCl_3$ is added to NaOH solution?

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71. How is SO_2 prepared in the laboratory?

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72. A cubic solid is made of two elements 'M' and 'N' , Atoms of 'M' are at the corners of the

cube and 'N' at the edge centre and the body centre. What is the formula of the compound?

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73. Discuss the trends in properties of hydrides of Gr-16 family (any three) ?

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74. Sodium chloride on heating with conc. H_2SO_4 in presence of 'A' gives a gas 'B' with

pungent smell. The gas when passed over solid 'C' , compound 'D' is formed , which is used as a fungicide. Identify A to D giving equations.

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75. Write the products of ozonolysis of but-2-ene.

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76. Write the products of reaction of tert-Butylmethyl ether with HI.

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77. A compound with M.F. $C_2H_5O_2N$ on reduction with Sn and HCl gives compound 'B', When 'A' is treated with alkaline chloroform provides a very unpleasant smell due to formation of compound 'B', when 'B' is

reduced with $LiAlH_4$ gives compound 'C' , Identify A,B and C.

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78. Write about the sulphonation reaction of aniline.

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79. Classify the polymers on the basis of molecular forces.

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80. The decomposition of ammonia on platinum surface is a zero order reaction. What are the rates of production of N_2 and h_2 if rates constant is $2.5 \times 10^{-4} mollit^{-1} \sec^{-1}$

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81. How is chlorobenzene prepared from benzene?

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82. Why chlorobenzene is less reactive than alkyl chloride towards nuclecphilic substitution reaction?

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83. How does chlorobenzene react with sodium in dry ether.

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84. How does chlorobenzene react with methyl chloride in presence of anhydrous $AlCl_3$

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85. Write short note on Iodoform reaction.

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86. Write short note on Sandmayer reaction.

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87. Write short note on Lucas test.

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88. Differentiate between multimolecular and macromolecular colloids.

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89. Explain the mechanical and optical properties of colloidal solution.

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90. Write short note on Law of independent migration of ions.

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91. Write short note on Nernst equation.

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92. Write short note on activation energy.

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93. Describe the Siemen's method preparation of ozone.

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94. How does ozone react with $SnCl_2$

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95. How does ozone react with moist iodine?

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96. Which of the following contains carboxylic group.

A. Picric acid

B. Carbolic acid

C. Salicylic acid

D. All of the these

Answer:

97. Which of the following is used in cryogenics.

A. He

B. Ne

C. Ar

D. Rn

Answer:

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98. Which of the following is used to make non-stick

A. Taflon

B. Nylon

C. PVC

D. PAN

Answer:

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99. If the unit of rate constant is same as unit of rate of reaction, then reaction is _____ order.

A. Zero

B. 1st

C. 2nd

D. 3rd

Answer:

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100. IF is the charge carried by

A. 96500 electrons

B. 1 electron

C. 6.022×10^{22} electros

D. 1 mole electrons

Answer:

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101. During laboratory method of preparation of ammonia, the drying agent used is

A. CaO

B. P_2O_5

C. H_2SO_4

D. $CaCl_2$

Answer:

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102. Which of the following pairs is not correctly matched?

A. Tincture of Iodine- Antiseptic

B. Cetyl trimethyl ammonium bromide – catonic detergent

C. Amino caproic acid – biodegradable

D. Phenol - analgesics

Answer:

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