Class: 12th

Chemistry

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Objective

If you prepare these MCQs then Insha Allah Confirm your 17/17 marks.

اگر آپ یہ معروضی تیار کرتے ہیں تو انشاءاللہ آپ کے 17/17 نمبر پکے ہیں۔

- **You have four choices for each objective type question as A, B, C and D. The choice which you think is correct.**

1. The basis of modern periodic table is:
   (a) Electron affinity (b) Atomic mass (c) Ionization potential (d) Atomic number
2. Elements of Group II are called?
   (a) Alkali metals (b) Alkaline earth metals (c) Coinage metals (d) Halogens
3. Which is the longest period of periodic table:
   (a) 4 (b) 5 (c) 6 (d) 7
4. Non-metals are present in which block of periodic table?
   (a) s-block (b) p-block (c) d-block (d) f-block
5. Which of the following statement is correct?
   (a) Na atom is smaller than Na^+
   (b) Na atom is larger than K atom
   (c) F atom is smaller than F
   (d) F atom is larger than F
6. Which order is correct one of the size of atoms?
   (a) Mg>Sr (b) Ba>Mg (c) Lu>Cu (d) Cl>I
7. Which is the correct statement?
   (a) Cl^- is smaller than Cl atom
   (b) Cl- (ion) and Cl (atom) are equal in size
   (c) Na^+ is smaller than Na atom
   (d) Na^+ is larger than Na atom
8. Which ion will have maximum heart of hydration?
   (a) Li^+ (b) Na^+ (c) K^+ (d) Mg^{++}
9. Mark the correct statement.
   (a) All lanthanides are present in the same group.
   (b) All halogens are present in the same period.
   (c) All the alkali metals are present in the same group.
   (d) All the noble gases are present in the same period.
10. Which statement is incorrect?
    (a) All the metals are good conductors of electricity.
    (b) All the metals are good conductors of heat.
    (c) All the metals form acidic oxides.
    (d) All the metals form positive ions.
11. Amphoteric oxide is formed by:
    (a) Ca (b) Fe (c) Zn (d) Cu
12. Oxides of Be are?
    (a) Acidic (b) Baric (c) Amphoteric (d) Neutral
13. Hydrogen resembles in properties with groups:
    (a) I-A, V-A, VII-A elements
    (b) I-A, IV-A, VII-A elements
    (c) II-A, III-A, V-A elements
    (d) I-A, II-A, elements
14. The word alkali is derived from which language?
    (a) Arabic (b) Greek (c) French (d) German
15. Formula of Epson salt is:
    (a) $MgSO_4.7H_2O$ (b) $MgSO_4$ (c) $MgCO_3$ (d) $CaMg_3(SiO_3)_4$
16. Which one does not belong to the alkaline earth metals?
    (a) Be (b) Ba (c) Ra (d) Rn
17. Which one of the following is not an alkali metal?

(a) Francium (b) Caesium (c) Rubidium (d) Radium

18. Chile saltpeter has the chemical formula? (19 Time)
(a) $NaNO_3$ (b) KNO_2 (c) $Na_2B_4O_7$ (d) Na_2CO_3, H_2O

19. The minerals $CaSo_4.2H_2O$ has the general name.
(a) Gypsum (b) Dolomite (c) Calcite (d) Epsom salt

20. The chemical formula of Fluorspar is:
(a) $Ca_5(PO_4)_3F$ (b) CaF_2 (c) Na_3AlF_6 (d) $KCl.MgCl_2.6H_2O$

21. General name of mineral $MgSO_4.7H_2O$ is:
(a) Gypsum (b) Dolomite (c) Calcite (d) Epson Salt

22. Which one of the following oxides is more basic?
(a) BeO (b) SrO (c) CaO (d) MgO

23. Point out the element which forms super oxide:
(a) Li (b) Na (c) K (d) C

24. Compound obtained when Na burns in excess of air:
(a) NaO_2 (b) Na_2O_2 (c) Na_2O (d) Na_2O_3

25. The oxides of beryllium are:
(a) Acidic (b) Basic (c) Amphoteric (d) None of these

26. Which ion will have the maximum value of heat of hydration?
(a) Na^+ (b) Cs^+ (c) Ba^{+2} (d) Mg^{+2}

27. Which of the following sulphates is not soluble is water?
(a) Sodium Sulphate (b) Potassium Sulphate (c) Zinc Sulphate (d) Barium Sulphate

28. In Down's cell $CaCl_2$ is added to NaCl to:
(a) Increase solubility (b) Increase the dissociation
(c) Increase conductivity (d) Lower its melting point

29. Down's cell is used to prepare:
(a) Sodium Carbonate (b) Sodium Metal (c) Sodium Bicarbonate (d) Sodium Hydroxide

30. Which elements deposited at the cathode during the electrolysis of brine in diaphragm cell?
(a) H_2 (b) Ba (c) Ra (d) Rn

31. The chief ore of aluminum is: (14 Time)
(a) Na_3AlF_6 (b) $Al_2O_3.2H_2O$ (c) Al_2O_3 (d) $Al_2O_3.H_2O$

32. Tincal is a mineral of:
(a) Al (b) C (c) Si (d) B

33. Chemical composition of colemanite is:
(a) $Ca_2B_6O_{11}.5H_2O$ (b) $CaB_4O_7.4H_2O$ (c) $Na_2B_4O_7.4H_2O$ (d) $CaNaB_5O_9.8H_2O$

34. Which of the following elements is not present abundantly in earth's crust?
(a) Silicon (b) Aluminum (c) Sodium (d) Oxygen

35. The aqueous solution of Borax:
(a) Acidic (b) Alkaline (c) Amphoteric (d) Manual

36. Which is used in the leather industry?
(a) Borax (b) Boric Acid (c) Borix oxide (d) Tetra Boric Acid

37. Boric acid cannot be used:
(a) As antiseptic in medicine (b) For washing eyes
(c) In soda bottles (d) For Enamels and Glazes

38. Aluminum oxide is:
(a) Acidic Oxide (b) Baric Oxide (c) Amphoteric oxide (d) None of these

39. Which elements forms an ion with charge 3+?
(a) Beryllium (b) Aluminum (c) Carbon (d) Silicon

40. Which metal is used in the Thermite process because of its reactivity:
(a) Iron (b) Copper (c) Aluminum (d) Zinc

41. Which element among the following belongs to group IV-A of the periodic table?
(a) Barium (b) Iodine (c) Lead (d) Oxygen

42. Which one of the following is used in cosmetics?
(a) Talc (b) Asbestos (c) Sodium sulphate (d) Aluminum Sulphate

43. Chemical formula of litharge is:
(a) Pb_2O (b) SiO_3 (c) PbO (d) Pb_3O_4

44. Out of all the elements of group VA, the highest ionization energy is possessed by:
(a) N (b) P (c) Sb (d) As

45. In group V-A elements the most electronegative element is:
(a) N (b) P (c) Sb (d) Bi

46. Laughing gas is chemically?
(a) NO (b) NO_2 (c) N_2O (d) N_4O_4

47. Which of the following is a reddish-brown gas?
(a) N_2O_3 (b) NO_2 (c) N_2O_3 (d) N_2O_5

48. The oxidation of NO in air produces:
(a) N_2O_3 (b) NO_2 (c) N_2O_3 (d) N_2O_4

49. Out of all the elements of group VI-A the highest melting and boiling points is shown by the element:
(a) Te (b) Se (c) S (d) Po

50. What is %age of calcium phosphate in bone ash?
(a) 20 (b) 40 (c) 80 (d) 60

51. Carboxylic acids on reduction with HI and red phosphorous gives:
(a) Alkanes (b) Alcohols (c) Aldehydes (d) Ketones

52. Maximum number of unpaired electrons is in:
(a) O_2 (b) O_2^+ (c) O_2^- (d) O_2^{2-}

53. Which catalyst is used in contact process?
(a) Fe_2O_3 (b) V_2O_5 (c) SO_3 (d) Ag_2O

54. Which one of halogens is a liquid?
(a) F_2 (b) Cl_2 (c) Br_2 (d) I_2

55. Which halogen is a solid at room temperature and pressure?
(a) F_2 (b) Cl_2 (c) Br_2 (d) I_2

56. Which one is per chloric acid?
(a) HClO (b) $HClO_3$ (c) $HClO_2$ (d) $HClO_4$

57. Which halogen occurs naturally in a positive oxidation state?
(a) Flourine (b) Chlorine (c) Iodine (d) Bromine

58. Which of the following hydrogen halide is the weakest acid in solution?
(a) HF (b) HBr (c) HI (d) HCl

59. Which halogen will react spontaneously with Au (s) to produce Au+3?
(a) Br_2 (b) F_2 (c) I_2 (d) Cl_2

60. The anhydride of HClO4 is:
(a) ClO_3 (b) F_2 (c) I_2 (d) Cl_2

61. Chlorine helptoxide (Cl_2O_7) reacts with water to form:
(a) Hypochlorous acid (b) Chloric acid (c) Perchloric acid (d) Chlorine and oxygen

62. Which is the strongest acid?
(a) HClO (b) $HClO_2$ (c) $HClO_3$ (d) $HClO_4$

63. Which one is chlorous acid?
(a) HClO (b) $HClO_2$ (c) $HClO_3$ (d) $HClO_4$

64. Bleaching powder may be produced by passing chloring over:
(a) Calcium Carbonate (b) Hydrated Calcium Sulphate
(c) Anhydrous Calcium Sulphate (d) Calcium Hydroxide

65. An element that has high ionization energy and ten do to be chemically inactive, would most likely to be:
(a) An alkali metal (b) A transition element (c) A noble gas (d) A halogen

66. _____ is used as a cooling medium for nuclear reactors.
(a) Ne (b) He (c) Ar (d) Kr

67. Which of the following noble gas is used for arc wedding and cutting?
(a) Ar (b) He (c) Ra (d) Xe

68. The total number of transition element is:
(a) 10 (b) 14 (c) 40 (d) 58

69. Total number of d-block elements are:
(a) 10 (b) 20 (c) 30 (d) 40

70. Which of the following is non-typical transition metal?
(a) Fe (b) Mn (c) Zn (d) Ni

71. Which of the following is typical transition element?
(a) Sc (b) Co (c) Ra (d) Y

72. Which of the following is a typical transition metal?
(a) Sc (b) Y (c) Fe (d) Ra

73. Group IV B of transition elements contains:
(a) Zn, Cd, Hg (b) Fe, Ru, Os (c) Cr, Mo, W (d) Mn, Te, Re

74. Oxidation state of CU in $K_2[Cu(CN)_4]$ is:
(a) +4 (b) +3 (c) +2 (d) +6

75. The colour of $[Ti(H_2O)_6]^{+3}$ ion is:
(a) Red (b) Yellow (c) Violet (d) Green

76. The colour of transition metal complexes is due to:
(a) d-d transitions of electrons (b) paramagnetic nature of transition elements
(c) ionization (d) loss of s-electrons

77. The strength of binding energy of transition elements depends upon:
(a) number of electrons pairs (b) number of unpaired electron
(c) number of neutrons (d) number of protons

78. Co-ordination number of Pt in $[PtCl(NO_2)(NH_3)_4]$
(a) 2- (b) 4 (c) 1 (d) 6

79. What is coordination number of "Fe" in $K_4[Fe(CN)_6]$?
(a) 4 (b) 6 (c) 2 (d) 3

80. Which is not an ore of iron?
(a) Haematite (b) Magnetite (c) Limonite (d) Cassiterite

81. The percentage of carbon in different types of iron products is in the order of:
(a) Cast iron>wrought iron>steel (b) Wrought iron>steel>cast iron
(c) Cast iron > Steel > wrought iron (d) Cast iron = steel > wrought iron

82. Formula of Haematite is:
(a) FeS_2 (b) Fe_2O_3 (c) $FeCO_3$ (d) Fe_3O_4

83. Mild steel contains carbon percentage:
(a) 0.1-0.2% (b) 0.3-0.7% (c) 0.7-1.5% (d) 1.6-2.0%

84. The chemist who synthesized urea from ammonium cyanate was:
(a) Berzelius (b) Kolbe (c) Wholer (d) Lavoisier

85. Formula of marsh gas is:
(a) CH_4 (b) C_2H_6 (c) C_3H_6 (d) C_4H_{10}

86. Tetra Ethyl lead (T.E.L) is used as:
(a) Pain Killer (b) Petroleum Addictive (c) Fire Extinguisher (d) Moth Repellent

87. Which one is the heterocyclic compound of oxygen?
(a) Pyridine (b) Parrole (c) Furan (d) Thiophene

88. Select from the following the one which is alcohol.
(a) CH_3CH_2OH (b) CH_3OCH_3 (c) CH_3COOH (d) $CH_3.CH_2.Br$

89. In t-butyl alcohol, the tertiary carbon is bonded to:
(a) two hydrogen atoms (b) three hydrogen atom

(c) one hydrogen atom (d) no hydrogen atom

90. Linear shape is associated with set of hybrid orbitals?
(a) sp (b) sp^2 (c) dsp^2 (d) sp^3

91. The state of hybridization of carbon "C" atom in methane.
(a) sp (b) sp^2 (c) dsp^2 (d) sp^3

92. Which set of Hybrid Orbital planner trianglular shape? (10 Time)
(a) sp (b) sp^2 (c) dsp^2 (d) sp^3

93. The state of hybridization in ethene molecule is: (1 Time)
(a) sp (b) sp^2 (c) dsp^2 (d) sp^3

94. Ethers show the phenomenon of:
(a) Position Isomerism (b) Functional group isomerism
(c) Methamerism (d) Chain Isomerism

95. The presence of a double bond in a compound is the sign of:
(a) Saturation (b) Un-saturation (c) Substitution (d) None of these

96. Formula of chloroform is:
(a) CH_3Cl (b) CCl_4 (c) CH_2Cl_2 (d) $CHCl_3$

97. Preparation of vegetable ghee involves:
(a) Halogenation (b) Hydrogenation (c) Hydroxylation (d) Dehydrogenation

98. When methane reacts with Cl_2 in the presence of diffused light the products obtained are:
(a) Chloroform only (b) Carbon tetrachloride only
(c) Chloromethane and dichloromethane (d) Mixture of a, b, c

99. Conversion of unsaturated hydro carbons saturated hydrocarbons in the presence of catalyst is called as:
(a) Halogenation (b) Hydrogenation (c) Hydroxylation (d) Dehydrogenation

100. $\beta - \beta'$-dichloroethyle sulphide is commonly known as:
(a) Used in 1st world war (b) Powerful vesicant
(c) High boiling liquid (d) High boiling gas

101. The addition of unsymmetrical reagent to an unsymmetrical alkene is in accordance with the rule:
(a) Hund's rule (b) Markownikov's rule
(c) Pauli's Exclusionj Principle (d) High boiling gas

102. Which acetylene reach with HCk to form:
(a) Polyacetylene (b) Benzene (c) Chloroprene (d) Divinylacetylene

103. Which compound is the most reactive?
(a) Benzene (b) Ethene (c) Ethane (d) Ethyne

104. Synthetic rubber is made by polymerization of:
(a) Vinylacetate (b) Acetylene (c) Divinylacetylene (d) Chloroprene

105. Which gas is used for artificial ripening of fruits?
(a) Ethene (b) Methane (c) Propane (d) Ethyne

106. Aromatic hydrocarbons are the derivatives of:
(a) Normal series of paraffins (b) Alkene (c) Benzene (d) Cylcohexane

107. Aromatic compounds burn with sooty flame because:
(a) They have high percentage of hydrogen (b) They have a ring structure
(c) They have high percentage of carbon (d) They resist reaction with air

108. The benzene molecule contains:
(a) three double bonds (b) two double bonds
(c) one double bond (d) delocalized $\pi -$ electron cloud

109. The carbon-carbon (C-C) bond length in benzene is:
(a) 1.34 A^o (b) 1.20 A^o (c) 1.39 A^o (d) 1.54 A^o

110. The conversion of n-hexane into benzene by heating in the presence of Pt is called:
(a) Isomerization (b) Aromatization (c) Dealkylation (d) Rearrangement

111. During Nitration of Benzene, the active nitrating agent is:
(a) NO_3 (b) NO^+_2 (c) NO_2 (d) HNO_3

112. Benzene cannot undergo:
(a) $AlCl_3$ (b) $BeCl_2$ (c) NaCl (d) HNO_3

113. The electrophile in Aromatic sulphonation is:
(a) H_2SO_4 (b) HSO^-_4 (c) SO_3 (d) SO^+_3

114. Amongst the following, the compound that can be most readily sulphonated is:
(a) Toluene (b) Benzene (c) Nitro-Benzene (d) Chloro-Benzene

115. Which of the following acid can be used as a catalyst in Friedel Craft's reactions?
(a) $AlCl_3$ (b) HNO_3 (c) $BeCl_2$ (d) NaCl

116. Which one of the following species is an electron?
(a) $-CH_3$ (b) -CHO (c) -OH (d) $-NH_2$

117. Which compound is the most reactive?
(a) Benzene (b) Ethene (c) Ethane (d) Ethyne

118. In primary alkyl halides, the halogen atom is attached to a carbon which is further attached to how many carbon atoms?
(a) 2 (b) 3 (c) 1 (d) 4

119. The reactivity order of alkyl halides for a particular group is:
(a) Flouride > Chloride > Bromide > Iodide (b) Chloride > Bromide > Flouride > Iodide
(c) Iodide > Bromide > Chlrodie > Flouride (d) Bromide > Iodide > Chloride > Flouride

120. SN2 reactions can be carried out with:
(a) Primary Reactions alkylhalide (b) Secondary alkylhalide
(c) Tertiary alkylhalide (d) All of these

121. Which one of the following is not a nucleophile?
(a) H_2O (b) CH_3 (c) BF_3 (d) NH_3

122. Which one of the following is best nucleophile?
(a) H_2O (b) NH_3 (c) C_2H_5O (d) NO

123. Elimination Bimolecular reactions involve:
(a) Second Order Kinetics (b) First order Kinetics
(c) Third Order Kinetics (d) Zero-order-Kinetics

124. For which mechanisms, the first step involved is the same:
(a) E_1 and E_2 (b) E_2 and S_N2 (c) E_2 and S_N2 (d) E_1 and S_N2

125. When CO_2 is made to react with ethyl magnesium iodide, followed by acid hydrolysis, the product formed is:
(a) Propane (b) Propanoic acid (c) Propanal (d) Propanol

126. The reactivity of Grignard's reagent is due to:
(a) Polarity of Mg-x bond (b) Polarity of C-Mg bond
(c) Electro negativity of halogen atom (d) Presence of Mg-atom

127. Grignard's reagent is reactive due to:
(a) The presence of Halogen atom (b) The presence of Mg atom
(c) The polarity of C-Mg bond (d) None of the above

128. When ethyl magnesium bromide is reacted with HCHO, followed by acid hydrolysis, the product formed is:
(a) Ethanol (b) I-Propanol (c) 2-Propanol (d) Ethanoic acid

129. Which compound is called universal solvent?
(a) CH_3OH (b) C_2H_2OH (c) CH_3OCH_3 (d) H_2O

130. In t-butyl alcohol, the tertiary carbon is bonded to:
(a) Three hydrogen atoms (b) Two hydrogen atoms
(c) One hydrogen atom (d) No hydrogen atom

131. Which compound shows maximum hydrogen bonding with water?
(a) CH_3OH (b) C_2H_5OH (c) CH_3-O-CH_3 (d) C_6H_5OH

132. Methyl alcohol is not used as:
(a) As a solvent (b) As an anti freezing agent
(c) As a substitute for petrol (d) For denaturing of ethyl alcohol

133. Rectified spirit contains alcohol about:
(a) 80% (b) 85% (c) 90% (d) 95%

134. compound shows extensive hydrogen bonding with water: (3 Time)
(a) C_2H_6 (b) H_2S (c) C_2H_5OH (d) CH_3Cl

135. Which enzyme is not involved in fermentation of starch?
(a) Zymase (b) Urease (c) Invertase (d) Diastase

136. Which compound shows hydrogen bonding?
(a) C_2H_6 (b) C_2H_5Cl (c) CH_3OCH (d) C_2H_5OH

137. Ethanol can be converted into ethanoic acid by:
(a) Hydrogenation (b) Hydration (c) Oxidation (d) Fermentation

138. Which compound is more soluble in water?
(a) C_2H_5OH (b) C_6H_5OH (c) CH_3COCH_3 (d) n-hexanol

139. The most reactive alcohol when O-H bond breaks is:
(a) Tertiary alcohol (b) Secondary alcohol (c) Primary alcohol (d) Methyl alcohol

140. Which is more soluble compound in H2O?
(a) I Propanol (b) Methanol (c) Phenol (d) n-Hexanol

141. Bakelite is obtained from phenol by reacting with:
(a) Acetal (b) Ethanal (c) Formaldehyde (d) Methanol

142. According to Lewis concept, ethers behave as:
(a) Acid (b) Base (c) Nucleophile (d) Solvent

143. The carbon atom of carbonyl group is hybridized.
(a) sp (b) sp^2 (c) sp^3 (d) dsp

144. Ketones are prepared by the oxidation of:
(a) Primary alcohol (b) Secondary alcohol (c) Tertiary alcohol (d) None of these

145. Formalin is:
(a) 10% solution of formaldehyde in water (b) 20% solution of formaldehyde in water
(c) 40% solution of formaldehyde in water (d) 60% solution of formaldehyde in water

146. Which of the following compound will not give iodoform test on treatment with I2/NaOH?
(a) Acetaldehyde (b) Acetone (c) Butanone (d) 3-Pentanon

147. Cannizzaro's reaction is not given by:
(a) Formaldehyde (b) Acetaldehyde (c) Benzaldehyde (d) Triethylacetaldehyde

148. Which reagent will react with both aldehyde and ketones?
(a) Grignard reagent (b) Tollen's reagent (c) Fehling's reagent (d) Benedict's reagent

149. Acetone reacts with HCN to form cyanohydrins it is an example of:
(a) Electrophilic addition (b) Electrophilic substitution
(c) Nucleophiolic addition (d) Nucleophilic substitution

150. Aldol condensation is given:
(a) Acetaldehyde (b) Formaldehyde (c) Benzaldehyde (d) Trimethylacetal

151. Which one of the following compounds will react with Fehling's solution?
(a) HCOOH (b) H_3C-CHO (c) H_2N-CH_2COOH (d) H_3C-CO-CH_3

152. The compound used in the processing of anti-polio vaccine is:
(a) Acetaldehyde (b) Formaltehyde (c) Acetone (d) Ethylbromide

153. A carboxylic acid contains:
(a) A hydroxyl group (b) A carboxyl group
(c) A hydroxyl and carboxyl group (d) A carboxyl and an aldehyde group

154. Which of the following is not a fatty acid?
(a) Propanic acid (b) Acetic acid (c) Phthalic acid (d) utanoic aid

155. Which reagent is used to reduce a carboxylic group to an alcohol?

(a) H_2/NI (b) H_2/pt (c) $NaBH_4$ (d) $LiAlH_4$

156. Which of the following derivative is not directly prepared from acetic acid CH_3COOH?
(a) Ethyl acetate (b) Acetyl chloride (c) Acetic anhydride (d) Acetamide

157. Acetamide is prepared by:
(a) Heating ammonium acetate (b) Heating methyl cyanide
(c) Heating ethyl acetate (d) The hydrolysis of methyl cyanide

158. The flavor of octylacetate is:
(a) Orange (b) Apricot (c) Banana (d) Jasmine

159. Which of the following ester gives apricot flavor?
(a) Amyl acetate (b) Benzyl acetate (c) Amuyl butyrate (d) Otyl acetate

160. Acetic acid is manufactured by:
(a) Distillation (b) Fermentation (c) Ozonolysis (d) Esterification

161. Which of the following derivatives cannot be prepared directly from acetic acid?
(a) Acetamine (b) Acetyl chloride (c) Acetic anhydride (d) Ethyl acetate

162. Which acid is used in the manufacture of synthetic fiber?
(a) Formic Acid (b) Oxalic Acid (c) Carbonic Acid (d) Acetic Acid

163. The solution of which acid is used for seasoning of food?
(a) Formic acid (b) Acetic acid (c) Butanoic acid (d) Benzoic acid

164. Which one is neutral amino acid?
(a) Lysine (b) Histidine (c) Glumatic acid (d) Valine

165. Which of the following is a neutral amino acid?
(a)Glycine (b) Lysine (c) Histidine (d) Glutamic acid

166. Polypeptide has molecular mass upto:
(a) 10,000 (b) 20,000 (c) 1000 (d) 10

167. A polymer is a large molecule built up by the repetition of small and simple chemical units.
(a) Monomers (b) Dimers (c) Tetramers (d) Trimers

168. The polymer which can be softened and hardened by heating and cooling is called:
(a) Thermoplastic (b) Thermosetting (c) Proteins (d) Fats

169. Which of these polymers is a synthetic polymer?
(a) Animal fat (b) Starch (c) Cellulose (d) Polyester

170. A polymeric substance that is formed in the liquid state and then hardened to a rigid solid is called:
(a) Fiber (b) Plastic (c) Varnish (d) Polyamide resin

171. Which of the following is an addition polymer?
(a) Polyester (b) Polystyrene (c) Nylon 6, 6 (d) Terylene

172. The fiber which is made from acrylonitrile as monomer?
(a) PVC (b) Polyester fiber (c) Rayon Fiber (d) Acrylic fiber

173. Which one of the following is mono-saccharide.
(a) Fructose (b) Sucrose (c) Starch (d) Cellulose

174. Which of the following element is not present in all proteins?
(a) Carbon (b) Hydrogen (c) Nitrogen (d) Sulphur

175. Which of the following element is present in all proteins?
(a) Cl (b) Cu (c) N (d) Al

176. Vegetable oils are:
(a) Polyesters (b) Glycerides of unsaturated fatty acids
(c) Essential oils (d) Fatty acids

177. The reaction between fat and NaoH is:
(a) Esterification (b) Hydogenolysis (c) Fermentation (d) Saponification

178. Which one of the following is a water-soluble vitamin?
(a) Niacin (b) Riboflavin (c) Trypsin (d) Ascrobic Acid

179. Which of the following nitrogenous base is not present in RNA?

(a) Cytosine (b) Adenine (c) Thymine (d) Uracil

180. Micro-nutrient is required in quantity for plant growth ranging from:
(a) 4-40gm (b) 6-200gm (c) 6-200kg (d) 4-40kg

181. Which three elements are needed for healthy growth for plants?
(a) N, S, P (b) N, Ca, P (c) N, P, K (d) N, K, C

182. Ammonium Nitrate fertilizer is not useful for which crop:
(a) Wheat (b) Cotton (c) Sugar Cane (d) Paddyrice

183. The nitrogen present in some fertilizers helps plants?
(a) To fight against diseases (b) To produce fat
(c) To undergo photosynthesis (d) To produce protein

184. Phosphorus helps the growth of:
(a) Root (b) Leaf (c) Steam (d) Seed

185. Which is not a calcarious material?
(a) Clay (b) Limestone (c) Marble (d) Chalk

186. How many zones through which the charge passes in a rotary kiln?
(a) 4 (b) 3 (c) 2 (d) 5

187. The wood paper is derived from the name of which reedy plant:
(a) Rose (b) Sun Flower (c) Papyrus (d) Water

188. Woody raw material for paper pulp is obtained from:
(a) Cotton (b) Biogases (c) Poplar (d) Rice Straw

189. Ecosystem is smaller unit of:
(a) Lithosphere (b) Hydrosphere (c) Atmosphere (d) Biosphere

190. Which of following element is not abundantly present in earth's crust?
(a) Siloam (b) Aluminum (c) Sodium (d) Oxygen

191. A single chloride free radical can destroy how many ozone molecules?
(a) Carbonic Acid (b) CO_2 (c) SO_2 (d) NO

192. A single chloride free radical can destroy how many ozone molecules? (6 Time)
(a) 100 (b) 100,000 (c) 100,00 (d) 10

193. Peroxyacetyl nitrate (PAN) is an irritant to human beings and it affects.
(a) Eyes (b) Ears (c) Stomach (d) Nose

194. The main pollutant of leather tanneries in the waste water is:
(a) Lead (b) Chromium (VI) (c) Copper (d) Chrommium (III)

195. In purification of portable water, the coagulant used is:
(a) Nickel sulphate (b) Copper Sulphate
(c) Barium Sulphate (d) Aluminum Sulphate(Alum)

196. The newspaper can be recycled again and again many times as:
(a) 5 (b) 3 (c) 4 (d) 2

Class: 12th — Chemistry

Subjective Part

If you prepare these Short and long Questions then Insha Allah Confirm your A+ marks

اگر آپ یہ مختصر سوالات اور تفصیلی سوالات تیار کرتے ہیں تو انشاءاللہ آپ کے A+ نمبر پکے ہیں۔

Section-I

Question No. 2

1. Writer four uses of Borax?
2. What is chemistry of Borax bead test?
3. How borax can be converted to orthoboric acid?
4. Why aqueous solution of Borax is alkaline in nature?

5. How Borax is used as water softening agents?
6. How does orthoboric acid react with: (i) Ethyl Alcohol (ii) NaOH
7. Give the formulas of four boric acids with names.
8. What is action of heat on orthoboric acid, H_3BO_3?
9. What are uses of Boric acid?
10. How aluminum reacts with aqueous sodium hydroxide?
11. Give any four uses of Aluminum.
12. Why is CO_2 a gas at room temperature? While SiO_2 is a solid?
13. What is vitreous silica?
14. Write four uses of sodium silicate?
15. What is meant by chemical garden?
16. What are Silicates?
17. What are silicones? Write their two uses?
18. Write the names of four oxides of lead used as pigments.
19. What are monocyclic and polycylic aromatic hydrocarbons?
20. What objections were raised on the Kekule's structure for benzene molecule?
21. What are the main points given by Kekule for structure of benzene?
22. Describe X-ray structure of Benzene.
23. Describe the structure of Benzene on the basis of Resonance.
24. Define Resonance Energy. Give resonance energy of Benzene.
25. What is Wurtz-Fitting reaction?
26. Benzene can be prepared commercially from acetylene. Give reaction with conditions.
27. How Hexane and Heptane can give Benzene and Toluene respectively.
28. What does happen to benzene during Friedel Craft's reaction? Give mechanism of one reaction.
29. Give two addition reactions of benzene.
30. Prepare m-chloronitro benzene from benzene in two steps.
31. Explain the term oxidation with one example using benzene.
32. Write name of any four ortho-para directing groups?
33. Why hydroxyl group (-OH) is ortho and para directing group?
34. Benzene is less reactive than Alkene, why?
35. Differentiate between thermoplastic and thermosetting polymers.
36. What is condensation polymerization? Give two examples? Write a note on condensation polymer.
37. How Nylon -6, 6 can be obtained?
38. How PVC is prepared? Give its uses.
39. Write major uses of epoxy resin?
40. What are epoxy resins? How are they prepared?
41. What are carbohydrates and how are they classified?
42. What is the difference between Glucose and Fructose?
43. Define Proteins and write names of elements present in them?
44. What is difference between conjugated protein and derived protein?
45. What are lipids? Give their types.
46. What are the characteristics of Lipids?
47. Give two differences between oils and fats?
48. Define saponification and hardening of oil.
49. Define Saponification number and iodine number?

50. What is rancidity of fats? Why it occurs?
51. Write a note on Cholesterol?
52. Describe briefly the importance of Lipids?
53. Give two remarkable properties of enzymes?
54. Give four properties of enzymes.
55. Write the factors which affect the enzyme activity?
56. Write down the names of two enzymes used in the diagnosis of disease.
57. Name four components of environment?
58. What is Ecosystem?
59. What are primary and secondary pollutants? Give example of each.
60. What is the major health effect of Pollutant of CO?
61. What is chemical oxygen demand (COD)? How it is measured?
62. How CO (Carbon monoxide) is a poisonous gas?
63. What is acid rain?
64. What is Photochemical smog? Give its properties?
65. What are conditions for the formation of smog?
66. How chloroflorocarbons (CFCs) destroy the Ozone layer?
67. What is smog? What are the contents of photochemical smog?
68. Discuss detergents as water pollutants?
69. Leather tanneries pollute water. Explain.
70. Explain the term BOD?
71. Write harmful effects of chlorination of water?
72. What are the effects of dumping of waste in sea and rivers?
73. What are Leachate and what they contain?
74. What is the purpose of the process of incineration?
75. What is recycling of raw materials?
76. How recycling of plastic is done by the process of transformation?

Question No. 3

1. How does nitrogen differ from other members of its group?
2. Justify that N_2O is a supporter of combustion.
3. Write ring test for the confirmation of nitrates.
4. How does NO act as oxidizing agent?
5. Give reaction of NO_2 with H_2S and KI.
6. What is Aqua Regia? How does it dissolve gold?
7. Give reactions of CU with di HNO_3 and conc. HNO_3?
8. Write four uses of HNO_3.
9. How does HNO_2 acts as reducing agents?
10. Give definition of allotropy. Write allotropes of phosphorus?
11. Write the properties of white phosphorus?
12. P_2O_5 is a powerful dehydrating agent, prove by giving two examples?
13. What is action of heat on ortho phosphoric acid?
14. Why the elements of Group IV-A other than oxygen show more than two oxidation states?
15. Justify H_2SO_4 is a king of chemicals?
16. Why SO_3 gas is dissolved in H2SO4 but not in water in contact process?
17. Write two reactions in which H_2SO_4 acts as dehydrating agents?
18. Why vital force theory was rejected?

19. Define catenation.
20. What is destructive distillation?
21. What is natural gas? Write its two uses.
22. Differentiate between catalytic and steam cracking?
23. Write importance of cracking.
24. What is octane number? How octane number is improved?
25. Define aromatic compounds, Give an example.
26. Differentiate between homocylic or heterocyclic compounds.
27. What are alicylic ompounds? Give two examples.
28. What are homocylic compounds? Give two examples.
29. Define functional group. Give two examples of oxygen containing functional group?
30. Define functional group isomerism and of give an example.
31. Define metamerism with example.
32. Define Tautomerism by giving one example.
33. Why does Alkane show least-reactivity?
34. Alkanes are less reactive than Alkenes, comment.
35. Give four uses of methane?
36. What is heat of combustion?
37. What are clemmensen and Wolf-Kishner reduction reactions? How they differ?
38. What is Raney-Nickel? Where it is used?
39. Define Markownikov's Rule and give one example.
40. Give the mechanism of O_3 ozonolysis of Ethene?
41. What is Baeyer's test?
42. Prepare Cis and Trans alkenes from Alkyne along with chemical equation.
43. Give four uses of ethene?
44. How will you prepare the following compounds from ethene?
45. How Ethyne is converted to: (a) Acetaldehyde (b) Benzene
46. How primary, secondary and tertiary alcohols are different from each other in structure.
47. Give an excellent method for the preparation of simple alkyl iodides?
48. Why "R-X" is reactive compound?
49. Why the reactivity of alkyl halide depends upon bond energy?
50. Give mechanism of S_{N1} reactions.
51. Give only mechanism for S_{N2} reactions.
52. What is leaving group and substrate?
53. What are electrophile and Nucleophile?
54. Convert ethyl bromide into: i. n-butane ii. Ethene iii. Ethyl alcohol iv. Propane
55. What are elimination reactions? Give examples of E_1 and E_2.
56. Starting from ethyl bromide (C_2H_5Br), how will you prepare ethane and ethene.
57. What is Wurtz synthesis?
58. Why dry ether is necessary for preparation of Grignard reagent?
59. What is Grignard's reagent? How is prepared?
60. Covert ethyl magnesium bromide into 1-butanol.
61. What are fertilizers? Why are they needed?
62. What are micro-nutrients and macronutrients?
63. Write any four points of essential qualities of a good fertilizer?
64. Why nitrogen is necessary for plants? Give names of two nitrogen fertilizers

65. Why Ammonium Nitrate is not added to the crop of Paddyrice?
66. What are Phosphatic fertilizers? Give two formulas of Phosphatic fertilizers?
67. Write average composition of cement.
68. Why wet process is preferable over dry process in preparation of cement?
69. Just write five-stages involved in the manufacturing of Portland cement.
70. Explain reactions taking place in first 24-hours during setting of cement.
71. Discuss reacting taking place in 1-7 days in setting of cement.
72. What is meant by setting of cement?
73. Write names of four non-woody raw materials for the production of paper and pulp.

Question No. 4

1. Why d-and f-block elements are called transition elements?
2. What are interstitial compounds?
3. Why transition elements have variable oxidation state?
4. How do transition elements display colour?
5. Write two/four properties of transition metals?
6. What is meant by coordination sphere? Give one example?
7. What do you mean by coordination number?
8. Define coordination ligand. Give one example.
9. What are Chelates? Give an example.
10. What is ligand? Give types of Ligands.
11. Define coordination ligand. Give one example.
12. Write down the chemical formulas of: i. Magnetite ii. Haematite
13. What are the commercial forms of iron. What percentage of carbon is present in each.
14. Define corrosion.
15. Under What conditions aluminum get corrodes?
16. Write down the name of any four methods for prevention of corrosion.
17. Why does damaged tin plated iron get rusted quickly?
18. What is meant by sacrificial corrosion?
19. What is chromyl chloride test?
20. Write the uses of $K_2Cr_2O_7$
21. Give any two uses of $KMnO_4$?
22. Differentiate between primary and secondary alcohols.
23. How will you distinguish between 1-propanol and 2-propanol?
24. Give the structural formulae of: i. Lactic Acid ii. Tartaric Acid
25. How alcohol is denatured?
26. Define fermentation, give its conditions.
27. Why absolute alcohol is not obtained by fermentation process and how is it obtained?
28. Ethyl alcohol is a liquid while methyl chloride is a gas. Give reason.
29. What is Luca's test?

a. Write two uses each for methanol and ethanol.

30. Write down the formulas of: i. Picric Acid ii. P-hydroxybenzyl alcohol
31. How does picric acid synthesis take place?
32. Give the reactions of phenol with conc. H_2SO_4 and acetyl chloride.
33. What is Williamson's synthesis of ether?
34. What is difference between Aldehyde and Keton.

Give the formulas of: i. Formaldehyde ii. Acetaldehyde

35. What is Formalin?
36. Prepare acetone from calcium acetate.
37. Give Industrial preparation of Formaldehyde.
38. How acetaldehyde is prepared in industry?
39. How will you distinguish between ethanol and Benzaldehyde? Give respective chemical reaction.
40. What is "Haloform Reaction" Give its uses.
41. Give reactions of Aldehyde with: i. HCN ii. CH_3-CH_2-OH
42. What is Canizzaro's reaction? Write one example.
43. How iodoform is prepared from acetaldehyde and ethyl alcohol?
44. How HCHO and CH_3CHO are polymerized? Give chemical reaction?
45. Write composition of Tollen's reagent? and which organic compound are usually identified by it?
46. What is "Fehling's solution test" of aldehyde?
47. Benedict's solution reacts with Aldehydes to give red-ppt. Justify it?
48. Write down four uses of formaldehyde?
49. Write four important uses of acetaldehyde?
50. Write formulae of Melonoic acid and Phthalic acid.
51. What are fatty acids? Give an example.
52. Write the mechanism of Amide formation.
53. How acetic acid is obtained from methyl cyanide?
54. What is glacial acetic acid? Write any four uses of acetic acid.
55. What are amino acids? Give two examples.
56. What are essential and non-essential amino acids?
57. What is Zwitter ion? How it is formed?
58. Explain acidic and basic behavior of Amino acids?
59. How amino acid is synthesized give one method.
60. What is Ninhydrin Test?
61. What is peptide bond? Write down formula of a dipeptide?

Long Questions

Section-II

Question No. 5

1. What is Mendeleev's periodic table? Discuss improvements in Mendeleev's periodic table.
2. Define ionization energy. How does it vary in a group and period of the periodic table?
3. Define hydrides give their classification?
4. Explain similarities of hydrogen with halogens and dissimilarities with Alkali metals.
5. Discuss the position of hydrogen over VII a group element.
6. Explain peculiar behavior of Beryllium.
7. Describe the process for the preparation of sodium metal on industrial scale by Down's cell? What are advantages of the process?
8. Describe commercial preparation of sodium hydroxide by diaphragm cell or Nelson cell.
9. What is the role of Gypsum in industries
10. Give role of lime in industries? Write only eight points.

Question No. 6

1. Write four points which show the peculiar behavior of fluorine from another halogen. (3 Time)
2. What happens when bleaching powder reacts with?
   i. dil.H_2SO_4 ii. Conc.H_2SO_4
   iii. NH_3 iv. HI
4. Write essential qualities of a good fertilizer.
5. Nitrogenous fertilizer is an important class of fertilizers for crops. Discuss.
6. Write commercial uses of Halogens and their compounds?
7. Write the application of noble gases.

3. What is Bleaching powder is prepared by Hasenclever's method? Give its reaction with HCl and NH_3.

Question No. 7

1. Explain cracking of hydrocarbons giving its two types.
2. Explain reforming of petroleum with the help of suitable example.
3. Explain any four features of organic compounds.
4. What is orbital hybridization? Explain sp^3-hybridzation of carbon.
5. What is sp- hybrization? Explain structure of acetylene according to this theory.
6. Define four types of isomerization with one example.
7. Explain the structure of Benzene on the basis of atom orbital treatment? (10 Time)
8. Discuss two industrial and two laboratory methods to prepared Benzene.
9. What are Friedel and Craft's reactions? Give one example in each case with mechanism.
10. Describe nitration and sulphonation of benzene with mechanism.
11. Convert Benzene into:

a. i. Cyclohexane ii. Maleic acid

b. iii. Glyoxal iv. Benzene sulphonic acid

Question No. 8

1. Prepare Ethane from Kolbe's Electrolytic method?
2. Give reactions of Ethene with:
   (i) S_2Cl_2 (ii) HOCl
   (iii) O_3 (iv) $KMnO_4$
3. Describe with examples the acidlic nature of Alkynes?
4. Write the Kolbe's electrolytic method for the preparation of Ethyne along with mechanism.
5. Convert Acetylene into:
   (i) Glyoxal (ii) Chloroprene
6. How ethyne reacts with:
7. Alkaline $KMnO_4$
   (ii) 10% H_2SO_4 in the presence of $HgSO_4$
   (iii) HBr (iv) NH_3/Al_2O_3
8. Explain the structure of Benzene on the basis of atom orbital treatment?
9. Discuss two industrial and two laboratory methods to prepared Benzene.
10. What are Friedel and Craft's reactions? Give one example in each case with mechanism.
11. Describe nitration and sulphonation of benzene with mechanism.
12. Convert Benzene into:
    i. Cyclohexane ii. Maleic acid
    iii. Glyoxal
    iv. Benzene sulphonic acid

Question No. 9

1. Write laboratory and Industrial preparation of acetaldehyde.
2. Write a note Cannizzaro's reaction.
3. What is aldol condensation? Give example and mechanism.
4. How does Acetaldehyde react with following reagents?
   i. C_2H_5MgI ii. HCN
   iii. $NaHSO_3$ iv. $I_2/NaOH$
5. How 2-4 dinitrophenylhydrazones are prepared? Write mechanism of reaction of ammonia derivatives with carbonyl compound in general?
6. Write a brief note on haloform reaction.
7. Write a note on oxidation of aldehydes and ketones.
8. Define Zwitter ion. Discuss effect of acidic and basic medium on the dipolar ion structure of amino acid.
9. Explain the mechanism of the reaction of acetic acid with $SOCl_2$.
10. How would you prepare carboxylic acid from primary alcohols and aldehyde?
11. Write down any four methods of preparation of acetic acid with reactions?
12. Define amino acids? What is the difference between protein and polypeptides?