

Sharath Gore

Chemistry mock 7 2022-23

Time : 60 Min

Chem : Full Portion Paper

Marks : 200

51) The 'iodine value' of an oil indicates

- A) inflammability.
- B) its boiling point.
- C) unsaturation present in acid contents.
- D) solubility of salt in oils.

52) Full name of DDT is

- A) 1, 1-dichloro-2, 2-diphenyl trimethylethane.
- B) 1, 1, 1-trichloro-2, 2-bis(p-chlorophenyl) ethane.
- C) 1, 1-dichloro-2, 2-diphenyl trichloroethane.
- D) none of these.

53) Diazo-coupling is useful to prepare some

- A) dyes.
- B) proteins.
- C) pesticides.
- D) vitamins.

54) According to law of mass action rate of a chemical reaction is proportional to

- A) molar concentration of products.
- B) concentration of products.
- C) molar concentration of reactants.
- D) concentration of reactants.

55) Use of electrolysis is

- A) electrorefining.
- B) electroplating.
- C) (1) and (2) both.
- D) none of these.

56) The standard enthalpy change for the neutralisation of hydrazoic acid and NaOH is ΔH° at 298 K = -2460 cal. Given that the standard enthalpy change for the neutralization of HCl and NaOH is $\Delta H = -13.71$ kcal. Estimate the heat of ionization of HCN.

- A) -11250 cal
- B) +15820 cal
- C) +11250 cal
- D) -15820 cal

57) The basicity of orthophosphoric acid is

- A) 5
- B) 4
- C) 3
- D) 2

58) The pollution in city like Delhi may be controlled to great extent

- A) By proper sewage and proper exit of chemicals from factories
- B) By wide roads and factories away from the city
- C) By cleaning city and scanty use of pesticides
- D) All of the above

59) Conc. H_2SO_4 heated with excess of $\text{C}_2\text{H}_5\text{OH}$ at 140°C to form

- A) $\text{CH}_3\text{CH}_2 - \text{O} - \text{CH}_2\text{CH}_3$

- B) $\text{CH}_3\text{CH}_2 - \text{O} - \text{CH}_3$

- C) $\text{CH}_3 - \text{O} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$

- D) $\text{CH}_2 = \text{CH}_2$

60) Statement 1 : Solubilities of protein is minimum at the isoelectric point.

Statement 2 : At isoelectric point, protein molecule acts as a zwitterion.

A) Both statement 1 and statement 2 are true and the statement 2 is the correct explanation of the statement 1.

B) Both statement 1 and statement 2 are true but statement 2 is not the correct explanation of the statement 1.

C) Statement 1 is true but statement 2 is false.

D) Statement 1 is false but statement 2 is true.

61) Kerosene is used as fuel because it is

- A) more volatile.
- B) less volatile.
- C) cheap.
- D) abundantly available.

62) Grignard reagent is a

- A) organometallic compound.
- B) coordinate compound.
- C) double salt.
- D) none of these.

63) An electric discharge is passed through a mixture containing 50 c.c. of O_2 and 50 c.c. of H_2 . The volume of the gases formed (i) at room temperature and (ii) at 110°C will be

- A) (i) 75 c.c. (ii) 75 c.c.
- B) (i) 25 c.c. (ii) 75 c.c.
- C) (i) 50 c.c. (ii) 75 c.c.
- D) (i) 25 c.c. (ii) 50 c.c.

64) Identify the the incorrect statements about low density polythene.

- A) Highly branched structure
- B) Hard
- C) Poor conductor of electricity
- D) Tough

65) The critical temperature of water is higher than that of O_2 because H_2O molecule has

- A) V-shape.
- B) fewer electrons than oxygen.
- C) two covalent bonds.
- D) dipole moment.

66) Compounds containing both amino and COOH groups are known as

- A) amino acids.
- B) diamines.
- C) enzymes.
- D) unknown.

67) In H_2O_2 molecule, the angle between the two O - H planes is

- A) 105°
B) 103°
C) 101°
D) 90°

68) For a given reaction $t_{1/2} = \frac{1}{K_a}$. The order of the reaction is

- A) 0
B) 1
C) 2
D) 3

69) Calcium cyanamide on treatment with steam produce

- A) $\text{Ca}(\text{OH})_2 + \text{NH}_3$
B) $\text{CaO} + \text{NH}_3$
C) $\text{CaHCO}_3 + \text{NH}_3$
D) $\text{CaCO}_3 + \text{NH}_3$

70) For the reaction $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$; $\Delta H =$

- A) $\Delta U + 2RT$
B) $\Delta U + RT$
C) $\Delta U - 2RT$
D) $\Delta U - RT$

71) When β -particles are sent through a tin metal foil, most of them go straight through the foil as

- A) β -particles move with high velocity.
B) most part of the atom is empty space.
C) β -particles are positively charged.
D) β -particles are much heavier than electrons.

72) If electron, hydrogen, helium and neon nuclei are all moving with the velocity of light, then the wavelengths associated with these particles are in the order

- A) Neon < hydrogen < helium < electron
B) Electron < hydrogen < helium < neon
C) Electron > helium > hydrogen > neon
D) Electron > hydrogen > helium > neon

73) Some salts although containing two different metallic elements give test for only one of them in solution. Such salts are

- A) basic salts.
B) complex salts.
C) normal salts.
D) double salts.

74) The Van't Hoff factor i for a 0.2 molal aqueous solution of urea is

- A) 0.1
B) 0.2
C) 1.0
D) 1.2

75) When 10 ml of 0.1 M acetic acid ($\text{pK}_a = 5.0$) is titrated against 10 ml of 0.1M ammonia solution ($\text{pK}_b = 5.0$), the equivalence point occurs at pH

- A) 9.0

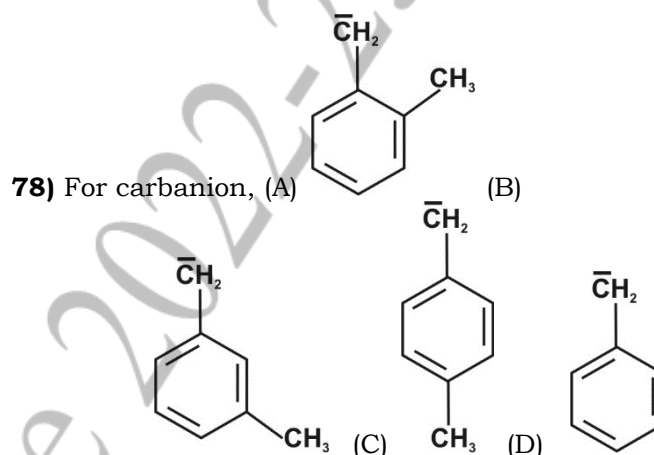
- B) 7.0
C) 6.0
D) 5.0

76) Refractory materials are generally used in furnaces because

- A) they can withstand high temperature.
B) they possess great structural strength.
C) they are chemically inert.
D) they do not require replacement.

77) Which is an amphoteric oxide?

- A) SrO
B) BaO
C) CaO
D) ZnO



Stability order will be

- A) $D > C > B > A$
B) $D > B > C > A$
C) $A > C > B > D$
D) $A > B > C > D$

79) The oxidation states of sulphur in the anions SO_3^{2-} , $\text{S}_2\text{O}_4^{2-}$ and $\text{S}_2\text{O}_6^{2-}$ follow the order

- A) $\text{S}_2\text{O}_6^{2-} < \text{S}_2\text{O}_4^{2-} < \text{SO}_3^{2-}$
B) $\text{S}_2\text{O}_4^{2-} < \text{SO}_3^{2-} < \text{S}_2\text{O}_6^{2-}$
C) $\text{SO}_3^{2-} < \text{S}_2\text{O}_4^{2-} < \text{S}_2\text{O}_6^{2-}$
D) $\text{S}_2\text{O}_4^{2-} < \text{S}_2\text{O}_6^{2-} < \text{SO}_3^{2-}$

80) Calcium is obtained by

- A) electrolysis of molten anhydrous calcium chloride.
B) reduction of calcium chloride with carbon.
C) electrolysis of solution of calcium chloride in H_2O .
D) roasting of limestone.

81) The electric conduction of a salt solution in water depends on the

- A) extent of its ionization.
B) size of solvent molecules.
C) size of its molecules.
D) shape of its molecules.

82) The permanent hardness of water can be removed, by adding

- A) sodium chloride.
B) washing soda.
C) soda lime.

D) sodium bicarbonate.

83) How many gram of HCl will be present in 150 ml of its 0.52 M solution?

- A) 2.84 gm
- B) 3.65 gm
- C) 5.70 gm
- D) 8.50 gm

84) Sodium or potassium salts of higher fatty acids are called

- A) terpenes.
- B) soaps.
- C) sugars.
- D) alkaloids.

85) Of the following, which cannot be obtained by electrolysis of the aqueous solution of their salts?

- A) Cr
- B) Cu
- C) Ag
- D) Mg and Al

86) Which of the following statements is not true about NaCl structure?

- A) Each unit cell contains 4 NaCl molecules.
- B) Cl^- ions has coordination number 6.
- C) Na^+ ions has coordination number 4.
- D) Cl^- ions are in fcc arrangement.

87) Colloidal solutions of gold prepared by different methods have different colours owing to

- A) presence of different types of foreign particles depending upon the method of preparation of the colloid.
- B) different concentrations of gold.
- C) the fact that gold exhibits a variable valency of + 1 and + 3.
- D) the difference in the size of the colloidal particles.

88) The shape of ethane is

- A) tetrahedral.
- B) triangular.
- C) linear.
- D) none of these.

89) The heaviest atom amongst the following is

- A) Pb
- B) U
- C) Ra
- D) Hg

90) Unlike other halogens fluorine does not show higher oxidation states because

- A) it has no d-orbitals.
- B) it is highly electronegative.
- C) its atomic radius is very small.
- D) the F^- ion is stable and isoelectronic with neon.

91) Number of structural isomers of $\text{C}_4\text{H}_{10}\text{O}$ are

- A) 3
- B) 6
- C) 7
- D) 10

92) Which of the following is expected to form

colourless complex?

- A) Cu^+
- B) Ni^{2+}
- C) Fe^{3+}
- D) Ti^{3+}

93) The density of a gas A is three times that of a gas B. If the molecular mass of A is M, then the molecular mass of B is

- A) $M / \sqrt{3}$
- B) $M / 3$
- C) $\sqrt{3} M$
- D) $3 M$

94) Oleum is

- A) fuming H_2SO_4 .
- B) castor oil.
- C) oil of vitriol.
- D) none of them.

95) Which does not give silver mirror with ammoniacal AgNO_3 ?

- A) HCOOH
- B) CH_3COOH
- C) CH_3CHO
- D) HCHO

96) The conjugate acid of NH_2^- is

- A) N_2H_4
- B) NH_2OH
- C) NH_4^+
- D) NH_3

97) Which of the following is non-polar?

- A) SF_6
- B) IF_7
- C) PCl_5
- D) PCl_3

98) The octet rule is not followed in

- A) BF_3
- B) CaF_2
- C) NaF
- D) F_2

99) Which is the most reactive compound towards formation of cyanohydrin on treatment with KCN followed by acidification?

- A) p-hydroxybenzaldehyde
- B) p-nitrobenzaldehyde
- C) Phenylacetaldehyde
- D) Benzaldehyde

100) The substances which effect the central nervous system and induce sleep are called

- A) antipyretics.
- B) tranquilizers.
- C) analgesics.
- D) none of these.