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Chemistry mock test 8 2022-23

Time : 60 Min	Chem : Full Portion Paper	Marks : 200

51) Which of the following has highest knocking property?
A) Straight chain paraffins
B) Branched chain paraffins
C) Olefins
D) Aromatic hydrocarbons

52) A current of 0.25 A is passed through $CuSO_4$ solution placed in voltameter for 45 minutes. The amount of Cu deposited on cathode is (At. weight of $Cu = 63.6$)
A) 0.30 g
B) 0.25 g
C) 0.22 g
D) 0.20 g

53) The basic character of hydrides of the V-group elements decreases in the order
A) $SbH_3 > AsH_3 > PH_3 > NH_3$
B) $NH_3 > PH_3 > AsH_3 > SbH_3$
C) $NH_3 > SbH_3 > PH_3 > AsH_3$
D) $SbH_3 > PH_3 > AsH_3 > NH_3$

54) Which of the following haloalkanes is most reactive?
A) 2-bromopropane
B) 2-chloropropane
C) 1-bromopropane
D) 1-chloropropane

55) Collision theory is applicable to
A) intra molecular reactions.
B) bimolecular reactions.
C) zero order reactions.
D) first order reactions.

56) Washing soap can be prepared by saponification with alkali of the oil
A) kerosene.
B) groundnut oil.
C) paraffin oil.
D) rose oil.

57) If the pH of a solution of an alkali metal hydroxide is 13.6, the concentration of hydroxide is
A) between 0.01 M and 1 M.
B) less than 0.001 M.
C) more than 1 M.
D) between 0.1 M and 1 M.

58) If we take $44\,g$ of CO_2 and $14\,g$ of N_2, what will be mole fraction of CO_2 in the mixture?
A) 1/4
B) 2/3
C) 1/3
D) 1/5

59) Which of the following element is a metalloid?
A) C
B) Ge
C) Sn
D) Bi

60) _____ pairs is not correct.
A) Viscose-Synthetic fibre
B) Polysaccharide - Artificial silk
C) Nylon-6 - Perlon - L
D) Nylon-6, 6 - Heteropolymer

61) Which of the following factors will favour the reverse reaction in a chemical equilibrium?
A) Increase in the concentration of one or more products
B) Increase in the concentration of one of the reactants
C) Removal of at least one of the product at regular time intervals
D) None of these

62) The amine which does not react with acetyl chloride is or Which of the following cannot be acetylated
A) $(CH_3)_3N$
B) CH_3NH_2
C) $(CH_3)_2NH$
D) none of these

63) The only cations present in a slightly acidic solution are Fe^{3+}, Zn^{2+} and Cu^{2+}. The reagent that when added in excess to this solution would identify and separate Fe^{3+} in one step is
A) H_2S gas
B) 6M NaOH
C) 6M NH_3
D) 2M HCl

64) The commonest disaccharide has the molecular formula
A) $C_{12}H_{22}O_{11}$
B) $C_{18}H_{22}O_{11}$
C) $C_{10}H_{20}O_{10}$
D) $C_{10}H_{18}O_9$

65) The IUPAC name of Gamaxene is
A) 1, 2, 3, 4, 5, 6, hexachlorocyclohexane
B) 1, 2, 3, 4, 5, 6, hexachlorobenzene
C) Hexachlorobenzene
D) Benzene hexachloride

66) Which of the following is most acidic?
A) Chloroacetic acid

B) Formic acid
C) Propionic acid
D) Acetic acid

67) Which one does not exhibit paramagnetism?
A) NO_2
B) ClO_2
C) ClO_2^-
D) NO

68) To prevent corrosion, iron pipes carrying drinking water are covered with zinc. The process involved is
A) photoelectrolysis.
B) galvanization.
C) electroplating.
D) cathodic protection.

69) Water is a
A) amphoteric acid.
B) protophobic solvent.
C) aprotic solvent.
D) none of these.

70) Aldehydes are produced in atmosphere by
A) reaction of oxygen atoms with ozone.
B) reaction of oxygen atoms with hydrocarbons.
C) reduction of alkenes.
D) oxidation of secondary alcohols.

71) The maximum number of unpaired electron can be present in d orbitals are
A) 7
B) 5
C) 3
D) 1

72) In 300 mL of a 5 volume H_2O_2 sample, _____ mass of H_2O_2 is there.
A) 9.1 g
B) 18.2 g
C) 4.55 g
D) 5.7 g

73) The compounds used to fix a dye to the fabric is known as
A) azeotrope.
B) mordant.
C) bleaching agents.
D) lake.

74) Which of the following explains the viscous nature of glycerol?
A) Hydrogen bonds
B) Covalent bonds
C) Ionic forces
D) Vander Waal's forces

75) Which metal is used as a reducing agent in smelting?
A) Zn
B) C
C) Al
D) None of these

76) The aqueous solution of which of the following decomposes on passing electric current?
A) Potassium iodide
B) Methanol
C) Urea
D) Cane sugar

77) The reaction

$$CH_3CH=CH_3 \xrightarrow[H^+]{CO+H_2O} CH_3-\underset{\displaystyle COOH}{\underset{|}{CH}}-CH_3$$ is

known as
A) Koch reaction.
B) Wurtz reactions.
C) Kolbe's reaction.
D) Clemensen's reduction.

78) Which of the following substances is used in the laboratory for fast drying of neutral gases?
A) Anhydrous calcium chloride
B) Sodium sulphate
C) Phosphorus pentoxide
D) Sodium phosphate

79) The P-P-P bond angle in white phosphorus is
A) 60^o
B) 90^o
C) $109^o28'$
D) 120^o

80) Composition of bauxite is
A) $Al_2O_3.3H_2O$
B) $Al_2O_3.2H_2O$
C) $Al_2O_3.H_2O$
D) Al_2O_3

81) In the following which has highest boiling point?
A) HCl
B) HBr
C) HF
D) HI

82) If two moles of an ideal gas at 546 K occupy a volume of 44.8 litres, the pressure must be
A) 1 atm
B) 2 atm
C) 3 atm
D) 4 atm

83) Schweitzer's reagent used for dissolving cellulose in the manufacture of artificial silk, is
A) $CuSO_4.5H_2O$
B) $[Cu(NH_3)_4]SO_4$
C) CuI
D) $Cu(CH_3COO)_2.Cu(OH)_2$

84) Chlorine was discovered by
A) Sheele.
B) Rutherford.
C) Priestley.
D) Davy.

85) ____ is a property physisorption.
A) Non-specific nature
B) Irreversibility
C) High specificity
D) None of these

86) Isotonic solutions have
A) equal amount of solute.
B) equal volume.
C) equal osmotic pressure.
D) equal temperature.

87) _____ molecules of CO_2 which are present in 44 gm of CO_2.
A) 3×10^{10}
B) 3×10^{23}
C) 6.0×10^{23}
D) 12×10^{23}

88) What is the free energy change ΔG, when 1.0 mole of water at 100^oC and 1 atm pressure is converted into steam at 100^oC and 1 atm pressure?
A) 0 cal
B) 540 cal
C) –9800 cal
D) 9800 cal

89) Statement 1 : The fluorine has lower reactivity.
Statement 2 : $F-F$ bond has low bond dissociation energy.
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.

90) Statement 1 : First ionization energy for nitrogen is lower than oxygen.
Statement 2 : Across a period effective nuclear charge decreases.
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) The statement 1 and statement 2 both are false.

91) Of the four oxyacids of chlorine the strongest oxidising agent in dilute aqueous solution is
A) HOCl
B) $HClO_2$
C) $HClO_3$
D) $HClO_4$

92) H_2O_2 is manufactured these days
A) by burning hydrogen in excess of oxygen.
B) by electrolysis of 50% H_2SO_4.
C) by the action of H_2SO_4 on Na_2O_2.
D) by the action of H_2O_2 on BaO_2.

93) _____ pollutants is not emitted during volcanic eruptions.
A) SO_2
B) H_2S
C) CO
D) Hydrocarbons

94) Actual number of atoms of different elements present in a molecule of a compound is given by
A) structural formula.
B) molecular formula.
C) empirical formula.
D) none of these.

95) Mixing of non-reacting gases is generally accompanied by
A) change in free energy.
B) change in enthalpy.
C) increase in entropy.
D) decrease in entropy.

96) The dissociation of water at 25^oC is $1.9\times10^{-7}\%$ and the density of water is $1.0\ g/cm^3$. The ionization constant of water is
A) 2.00×10^{-16}
B) 1.00×10^{-14}
C) 3.42×10^{-8}
D) 3.42×10^{-6}

97) The quantum number 'm' of a free gaseous atom is associated with
A) the energy of the orbital in the absence of a magnetic field.
B) the spatial orientation of the orbital.
C) the shape of the orbital.
D) the effective volume of the orbital.

98) Hexagonal close packed arrangement of ions is described as
A) ABBAB
B) ABABA
C) ABC ABC
D) ABC ABA

99) Paraffin wax is
A) saturated hydrocarbon.
B) unsaturated hydrocarbon.
C) alcohol.
D) ester.

100) Which of the following represents a chelating ligand?
A) Cl^-
B) DMG
C) OH^-
D) H_2O