STD-XII **ONE MARK EXAMINATION-2022-23**

CHEMISTRY

Total Marks :100

1. Which one of the following reaction represents Calcination.
   a) $2Zn+O_2 \longrightarrow 2Zno$ b) $2Zns+3O_2 \longrightarrow 2Zno+2SO_2$ c) $MgCO_3 \longrightarrow MgO+CO_2$ d) Both (a) and (c)
2. Which of the metal is extracted by Halt - Heroult process
   a) Al b) Ni c) Cu d) Zn
3. Wolframite orc is separated from tinstone by the process of
   a) Smelting b) Cacimation c) Roasting d) Electro Magnetic Separation
4. Flux is a substance which is used to Convert
   a) Mineral into silicate b) Infusible impurities to souble impurities
   c) Soluble impurities to infusible impurities d) All of these
5. Zinc is obtianed from Zno by
   a) Carbon reduction b) Reduction using Silver c) Electrochemical process d) Acid leaching
6. The incorrect statement among the following is
   a) Nickeal is refined by Mond's Process b) Titanium is refined by van Arkel's process
   c) Zinc blande is concentrated by froth flotation
   d) In the metallurgy of gold the metal is leached with dilute sodium chloride solution
7. In diborane the number of electrons that accounts for banana bonds is
   a) Six b) Two c) Four d) Three
8. Oxidation state of carbon in its hydrides
   a) +4 b) -4 c) +3 d) +2
9. The basic structural unit of silicates is
   a) $(SiO3)^{2-}$ b) $(SiO4)^{2-}$ c) $(SiO)^{-}$ d) $(SiO4)^{4-}$
10. Which of the following is not Sp2 hybridised
    a) Graphite b) Graphene c) Fullerene d) Dryice
11. Duralumin is an alloy
    a) Cu, Mn b) Cu, Al, Mg c) Al, Mn d) Al, Cu, Mn, Mg
12. In which of the following NH_3 is not used?
    a) Nessler's reagent b) Reagent for the analysis of IV group basic radical
    c) Reagent for the analysis of III group basic radical d) Tollen's reagent
13. The basicity of Pyrophosphorus acid ($H_4P_2O_5$) is
    a) 4 b) 2 c) 3 d) 5
14. Assertion: bond dissociation energy of fluorine is greater than chlorine gas
    Reason: Chlorine has more electronic repulsion than fluorine
    a) Both assertion and reason are true and reasen is the correct explanation of assertion
    b) Both assertion and reason are true but reason is not the correct explanation of assertion
    c) Assertion is true but reason is false d) Both assertion and reason are false
15. Most easily liquefiable gas is
    a) Ar b) Ne c) He d) Kr
16. Which of the following is strongest acid among all
    a) HI b) HF c) HBr d) HCl
17. Which one of the following is has the same number of unpaired electrons as presention V^{3+},
    a) Ti^{3+} b) Fe^{3+} c) Ni^{2+} d) Cr^{3+}
18. The magnetic moment of Mn^{2+} ion is
    a) 5.92 BM b) 2.80 BM c) 8.95 BM d) 3.90 BM
19. In acid medium potassium permanganate oxdized oxalic acid to
    a) Oxolate b) Carbon dioxide c) Acetate d) Acetic aicd
20. Which of the following lanthanoid ion is diamagnetic
    a) Eu2+ b) Yb^{2+} c) Ce^{2+} d) Sm^{2+}
21. Which of the following oxidation states is most common among the lanthanoids
    a) +4 b) +2 c) +5 d) +3
22. The actinoid elements which show the highest oxidation state of +7 are
    a) Np. Pu. Am b) U.Fm.Th c) U, Th, Md d) Es, No. Lr
23. IUPAC name of the Complex $K_3[Al(C_2O_4)_3]$ is
    a) Potassiumtrioxlatoaluminium (III) b) Potassiumtrioxlatoaluminiate (II)
    c) Potassium trisoxilato aluminate (III) d) Potassium trioxilato aluminate (III)
24. Which type of isomerism is exhibited by $Pt(NH_3)_2Cl_2$]
    a) Coordination isomerism b) Linkage isomerism c) Optical isomerism d) Geometrical isomerism
25. which kind of isomerism is possible for a complex $[(Co(NH_3)_4Br_2]Cl$?

a) Geometrical and ionization b) Geometrical and optical c) Optical and ionization d) Geometrical only

26. A complex is which the oxidation number of the metal is zero is
a) $K_4[Fe(CN)_6]$ b) $[Fe(CN)_3(NH_3)_3]$ c) $[Fe(Co)_5]$ d) Both (b) and (c)

27. Which of the following is paramagnetic in nature
a) $[Zn(NH_3)_4]^{2+}$ b) $[Co(NH_3)_6]^{3+}$ c) $[Ni(H_2O)_6]^{2+}$ d) $[Ni(CN)_4]^{2-}$

28. Choose the correct statement
a) Square planar complexes are more stable than octohedral complaxes
b) The spin only magnetic moment of $[Cu(Cl)4]^{2-}$ is 1.732 BM and it has sqaure planar structure
c) Crystal field splitting energy (Δ_0) of $[Fe\ F6]^{4-}$ is higher than the (Δ_0) of $[Fe(CN)6]^{4-}$
d) Crystal field stabilization energy of $V(H_2O)6]^{2+}$ is higher than the crystal field stabilization of $[Ti(H_2O)6]^{2+}$

29. Solid CO_2 is an exampleof
a) Covalent soild b) Metallic solid c) Molecular solid d) Ionic Solid

30. The vacant space is bcc lattice unit cells is
a) 48% b) 23% c) 32% d) 26%

31. The yellow colour is NaCl Crystal is due to
a) extraction of electrans is F Centers b) Reflection of light from Cl^- ion a as the surface
c) Refraction of light from Na^+ ion d) all of the above

32. The cation leaves its normal position in the crystal and moves to some interstitial position the defect is the crystal is known as
a) Schottly defect b) F Center c) Frenkel defect d) Non-Stochiometric defect

33. The Crystal with a metal defeciency defect is
a) NaCl b) FeO c) ZnO d) KCl

34. The decomposition of Phosphine (PH_3) an tungsten at low pressure is a first order rection. It is because the
a) Rate is proportional to the suface coverage b) Rate is inversly proportional to the surface coverage
c) Rate is independent of the surface coverage d) Rate of decomposition is slow

35. The addition of a catalyst during chemical reaction alters which of the following quantities
a) Enthalpy b) Activation energy c) Entropy d) Internal energy

36. The rate constant of a reaction is $5.8 \times 10^{-2}\ S^{-1}$ The order of the reactions
a) First order b) Zero order c) Second order d) Third order

37. If the initial concentration of the reactant is doubled the time for half reaction is also double then the order of the reactions
a) Zero b) One c) Fraction d) None

38. The half life period of a radioactive element is 140 days, After 560 days, 1g of element will be reduced to
a) (1/2) g b) (1/4)g c) (1/8) g d) (1/16)g

39. Conjugate base for bronsted acids H_2O and HF are
a) OH^- and $H_2F^-N^+$ respectively b) H_3O+ and F- respectively
c) OH^- and F^- respectively d) H_3O+ and H_2F^+ respectively

40. Which of these is not likely to act as lewis base
a) BF_3 b) PF_3 c) CO d) F^-

41. If the solubility product of lead iodide is $3.2x10^{-8}$, its solubility will be
a) $2x10^{-3}$ M b) $4x10^{-4}$ M c) $1.6x10^{-5}$M d) $1.8x10^{-5}$M

42. The pH of 10^{-5}M kOH Solution will be
a) 9 b) 5 c) 19 d) more of these

43. $H_4PO_4^-$ the Conjugate base of
a) PO_4^{3-} b) P_2O_5 c) H_3Po_4 d) HPo_4^{2-}

44. The number of electrons that have a total charge of 9650 columbs is
a) 6.22×10^{23} b) 6.022×10^{24} c) 6.022×10^{22} d) 6.022×10^{-34}

45. Faraday constant is defined as
a) Charge carried by 1 electron b) Charge carried by one mole of electrons
c) Charge required to deposit one mole of substance d) Charge carried by 6.22×10^{10} electrons

46. How many faradays of electricity are required for the following reaction to occur $MnO^-_4 \rightarrow Mn^{2+}$
a) 5F b) 3F c) 1F d) 7F

47. During electrolysis of meltan sodium chloride the time required to produce 0.1 mole of chlorine gas using a current of3A is
a) 55 minutes b) 107.2 minutes c) 220 minutes d) 330 minutes

48. Which of the following electrolytic solution has the least specific conductance
a) 2N b) 0.002N c) 0.02N d) 0.2N

49. Among the following cells
I) Leclanche cell II) Nickel - cadmium cell III) Lead storage battery IV) Mercury cell primary cells are
a) I and IV b) I and III c) III and IV d) II and III

50. Which of the following is incorrect for physisorption?
a) reversible b) increases with increase in temperature
c) Low heat of adsorption d) Increases with increase in surface area

51. Fog is colloidal solution of
a) Solid is gas b) Gas is gas c) Liquid is gas d) Gas is liquid

52. The most effective electrolyte for the coagulation of AS_2S_3 Sol is
a) NaCl b) Ba $(No_3)_2$ c) K_3 [Fe(CN)$_6$] d) $Al_2 (SO_4)_3$

53. The Phenomenon observed when a beam of light is passed through a colloidal solutions is
a) Cataphoresis b) Electrophoresis c) Coagulation d) Tyndall effect

54. Which are of the following is an example of homogeneous catalysis
a) Manufacture of ammonia by Haber's process b) manufacture of sulphuric acid by contact process
c) Hydrogenation of oil d) Hydrolysis of sucrose in presence of dil.HCl

55. Adsorption of a gas is solid metal surface is spontaneous and exothermic then
a) Δ H increases b) Δ S increases c) Δ G increases d) Δ S decreases

56. Which are of the following is the strongest acid
a) 2-Nitrophenol b) 4-Chlorophenol c) 4-Nitrophenol d) 3-Nitrophenol

57. Carbolic acid is
a) Phenol b) Picric aicd c) Benzoic acid d) Phenylacetic acid

58. Assertian : Phenol is more acidic than ethanol
Reason : Phenoxide ion is resonance stabilised
a) Both assertion and reason are true and reason is the correct explantion of assertion
b) Both assertion and reason are true but reason is not the correct explantion of assertion
c) Assertion is true but reasonis false d) Both assertion and reason are false

59. Isoprophylbenzene an air oxidation in the presence of dilute acid gives
a) C_6H_5COOH b) $C_6H_5COCH_3$ c) $C_6H_5COC_6H_5$ d) C_6H_5OH

60. Which of the following compound can be used as antifraese is automobile radiators?
a) Methanol b) Ethanal c) Neopentyl alcohol d) Ethan -1,2 diol

61. An reacting with neutral ferric chloride phenol gives
a) Red colour b) Violet Colour c) Dark Green Colour d) No Colouanation

62. In the following reaction
$HC{\equiv}CH \xrightarrow[HgSO4]{H2SO4}$ x Product x will not give
a) Tollen's test b) Victor meyer test c) Iodoform test d) Fehling solution test

63. $CH3\,Br \xrightarrow{KCN} (A) \xrightarrow{H_3O^+} (B) \xrightarrow{PCl_3} (C)$ Product is
a) Acetyl chloride b) Chloroacetic acid c) α-chloro cycno ethanoic acid d) none of these

64. Which are of the following reduces tollen's reagent
a) Formic acid b) Acetic acid c) Benzophenone d) None of these

65. Which are of the following reaction is an example of dunproprtienation reaction
a) Aldol condensation b) Cannizaro reaction c) Benzoin Condensation d) None of these

66. The reagent used to distinguish between acitaldehyde and benaldehyde is
a) Tollens reagent b) Fehlign's solution c) 2,4 dinitrophenyl hydrozine d) Semicarbazide

67. In which of the following reaction new carbon - carbon bond is not formed
a) Aldol condensation b) Friedel craft reaction c) Kolbe's reaction d) Wolfkishner reduction

68. Carbonylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecularmass. It is due to their
a) More extensive association of carbonylic aicd via vander waals force of attraction
b) Formation of carboxylate ion c) Formation of intramolecular H-bonding
d) Formation of intermolecular H-bonding

69. Which of the following reagent canbe used to convert nitrobenzene to aniline
a) Sn / HCl b) ZnHg / NaoH c) Zn/NH_4Cl d) All of these

70. Which are of the following will not undergo Hoffman bromamide reaction
a) CH_3 CO NH CH_3 b) CH_3 CH_2 CO NH_2 c) CH_3 CO NH_2 d) C_6 H_5 CO NH_2

71. The product formed by the reaction an aldehyde with a primay amine
a) Carbonylic acid b) Aromatic acid c) Schiffasbase d) Ketone

72. Nitrobenbenzene and reaction with Ca HNO_3 | H_2SO_4 at 80-100°C forms which are of the following products
a) 1,4 - dinitrobenzene b) 2,4,6 - trinitrobenzene c) 1,2 dinitrobenzene d) 1,3 - dinitrobenzene

73 Secondary nitro alkanes react with nitrous acid to form
a) Red Solution b) Blue Solution c) Green Solution d) Yellow Solution

74. Which of the following amines does not undergo acetylation
a) t-butylamine b) Ethylamine c) Diethylamine d) Triehtylamine

75. Which are given below is a non reducing sugar
a) Glucose b) Sucrose c) Maltose d) Lactose

76. In a proteinvarious amino acids linked together by
a) Peptide bond b) Dative bond c) α–Glycosidic bond d) β–Glycosidic bond

77. Among the following the achiral aminoaicd is
a) 2-Ethylalamine b) α–methylglycine c) 2-hydrocymethylserine d) Tryptophan

78. Vitamin B2 is also known as
a) Riboflavin b) Thiamine c) Nicotinamide d) Pyridoxine

79. α–D(+) glucose and β–D(+) glucose are
a) Epimers b) Anomers c) Enentiomers d) Carformational isomers

80. Which of the following is an analygesic
a) Streptomycin b) Chloromycetin c) Asprin d) Pencillin

81. Aspirin is a | an
a) Acetylsalicylic acid b) benzoyl Salicylic acid c) Cholorobenzoic acid d) Anthranilic acid

82. Natural rubber has
a) alternate cis and trans - Configuration b) Random cis - and trans - Configuration
c) All cis - Configuration d) All trans - Configuration

83. Which one of the following is a bio degradable polymer
a) Hope b) PVc c) Nylan 6 d) PHBv

84. The polymer used is making blankets (artificial wool) is
a) Polystyrane b) PAN c) Polyester d) Polythene

85. Which is used as a collector is froth flotation method
a) Sodium ethyl xanthate b) Sodium acetate c) Sodium hydroxide d) Sodium

86. ..... is employed septic agent to arrest bleeding
a) Potassium chloride b) Aluminium chloride c) Potash Alum d) Zeolite

87. The Shape of Ammonia is
a) Tetrahedral b) Trigonal c) Planar d) Pyramidal

88. Zeigler - Natta Catalylst is .....
a) A mixture of $TiCl_4$ and trialkyl aluminium b) $TiCl_2$ and ethyl bromide
c) Vcl_4 and Aluminium chloride d) None of these

89. An example for antidentate ligard is
a) water b) thiocyanate c) Ammonia d) Pyridine

90. The radius ratio is 0.225 - 0.414 predict the structure
a) Trigonal planar b) Tetrahedral c) Octahedral d) Cubic

91. Example for Zero order reaction
a) Iodination of acetone is acid medium b) decomposition of dinitrogen pantoxide
c) Isomerisation of cyclo propane to propene d) Hydrolysis of ester in acid medium

92. The ratio of ionic Product of water at 25°C is
a) $1x10^{-7}$ b) $1x10^{-14}$ c) $1x10^{7}$ d) $1x10^{14}$

93. The solution containing aceticacid and soldium acetate is
a) Basic Buffer solution b) Acidic buffer Solution c) Neutral solution d) None of these

94. EMF of standard hydrogen electrode is assigned as
a) OV b) 1.1V c) 0.76V d) 1.2V

95. The size of colloidal particle ranges from
a) 10^{-9}M to 10^{-6}M b) 10^{9}M to 10^{6}M c) 10^{10}M to 10^{9}M d) 10^{9}M to 10^{-6}M

96. Fentons reagent is
a) $FESO_4 + H_2O_2$ b) $CuSO_4 + H2O_2$ c) $FeSO_4 + H_2O$ d) $CuSO_4 + H_2O$

97. IUPAC name of Acetaldol
a) 2-Hydroxy butanclk b) Hydroxy butane c) 3-Hydroxy butanal d) 1-Hydroxy butanal

98. Which is more basic in nature
a) $(C2H_5)_2$ NH b) $(C_2H_5)_3$ N c) $C_2H_5NH_2$ d) NH_3

99 When iodine is added to amylopectin ..... colour is appeared
a) Scarlet Red b) Blue c) Purple d) Colourless

100. The monomer Unit of Natural rubber is
a) Cis-isoprene b) Trans-isoprene c) Cis-Chloroprene d) Trans Chloroprene