Class:12

KALLAKURICHI DISTRICT
ONE MARK EXAMINATION-2023
CHEMISTRY

[Max. Marks : 100

1. The metal oxide which cannot be reduced to metal by carbon is
   a) PbO b) Al2O3 c) ZnO d) FeO
2. Electrochemical process is used to extract
   a) Iron b) Lead c) Sodium d) silver
3. Wolframite ore is separated from tinstone by the process of
   a) Smelting b) Calcination c) Roasting d) Electromagnetic separation
4. Extraction of gold and silver involves leaching with cyanide ion.silver is later recovered by
   a) Distillation b) Zone refining c) Displacement with zinc d) liquation
5. Which of the following plot gives Ellingham diagram
   a) ΔS Vs T b) ΔG^0 Vs T c) ΔG^0 Vs 1/T d) ΔG^0 Vs T2
6. In Hall Herold's Process…… act as cathode
   a) Carbon Blocks b) Hydrogen c) Copper rods d) Zinc rods
7. Concentration of Haematite is done by
   a) leaching b) magnetic separation c) froth flotation d) hydraulic washing
8. In diborane, the number of electrons that accounts for banana bonds is
   a) six b) two c) four d) three
9. Carbon atoms in fullerene with formula C_{60} have
   a) sp^3 hybridised b) sp hybridized c) sp^2 hybridised
   d) partially sp^2 and partially sp^3 hybridised
10. The geometry at which carbon atom in diamond are bonded to each other is
    a) Tetrahedral b) hexagonal c) Octahedral d) none of these
11. The compound that is used in nuclear reactors as protective shields and control rods is
    a) Metal borides b) metal oxides c) Metal carbonates d) metal carbide
12. The stability of +1 oxidation state increases in the sequence
    a) Al < Ga < In < Tl b) Tl < In < Ga < Al c) In < Tl < Ga < Al d) Ga< In < Al < Tl
13. SiO_4^{4-} ion has…….geometry.
    a) Triangular b) Tetrahedral c) Linear d) Pentagonal bipyramidal
14. Ethene is missed with CO and Hydrogen gas to produce propanal. This is called…..
    a) Mcafee process b) Oxo process c) Syn process d) Liquation process
15. 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
16. The basicity of pyrophosphorous acid ($H_4P_2O_5$) is
    a) 4 b) 2 c) 3 d) 5
17. Most easily liquefiable gas is a) Ar b) Ne c) He d) Kr
18. XeF6 on complete hydrolysis produces
    a) XeOF4 b) XeO2F2 c) XeO3 d) XeO2
19. Among the following the correct order of acidity is
    a) $HClO_2 < HClO < HClO_3 < HClO_4$ b) $HClO_4 < HClO_2 < HClO < HClO_3$
    c) $HClO_3 < HClO_4 < HClO_2 < HClO$ d) $HClO < HClO_2 < HClO_3 < HClO_4$
20. P_4O_{10} reacts with hot water to give
    a) H_3PO_3 b) $H_4P_2O_7$ c) HPO_3 d) H_3PO_4
21. Among the transition metals of 3d series, the one that has highest negative (M/M2+) standard electrode potential is a) Ti b) Cu c) Mn d) Zn
22. In acid medium, potassium permanganate oxidizes oxalic acid to
    a) oxalate b) Carbon dioxide c) acetate d) acetic acid
23. Which of the following lanthanoid ions is diamagnetic?
    a) Eu^{2+} b) Yb^{2+} c) Ce^{2+} d) Sm^{2+}
24. Which of the following oxidation states is most common among the lanthanoids?
    a) 4 b) 2 c) 5 d) 3
25. 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
26. A mixture of $TiCl_4$ and trialkyl aluminium is……..
    a) Bayer reagent b) Zeigler natta c) grignard reagent d) chromyl chloride

27. Which of the following is not coloured?
a) Mn^{2+} b) Zn^{2+} c) Cr^{3+} d) Cu^{2+}

28. IUPAC name of the complex $K_3[Al(C_2O_4)]$ _is
a) potassiumtrioxalatoaluminium(III) b) potassiumtrioxalatoaluminate(II)
c) potassiumtrisoxalatoaluminate(III) d) potassiumtrioxalatoaluminate(III)

29. Crystal field stabilization energy for high spin d^5 octahedral complex is
a) $-0.6\Delta_0$ b) 0 c) $2(P-\Delta_0)$ d) $2(P+\Delta_0)$

30. Which type of isomerism is exhibited by $[Pt(NH_3)_2Cl_2]$
a) Coordination isomerism b) Linkage isomerism c) Optical isomerism d) Geometrical isomerism

31. How many geometrical isomers are possible for [Pt (Py)(NH_3)(Br)(Cl)]
a) 3 b) 4 c) 0 d) 15

32. Fac-mer isomerism is shown by
a) $[Co(en)_3]^{3+}$ b) $[Co(NH_3)_4(Cl)_2]^+$ c) $[Co(NH_3)(Cl)_3]$ d) $[Co(NH_3)_5(Cl)]SO_4$

33. Phthalo blue a bright blue figment is a complex of----------
a) Copper(I) ion b) Copper (II) ion c) Nickle (II) ion d) Nickle (IV) ion

34. The crystal with a metal deficiency defect is
a) NaCl b) FeO c) ZnO d) KCl

35. The cation leaves its normal position in the crystal and moves to some interstitial position, the defect in the crystal is known as a) Schottky defect b) F center c) Frenkel defect d) non-stoichiometric defect

36. The Yellow colour in NaCl crystal is due to
a) Excitation of electrons in F centers b) Reflection of light from Cl-ion on the surface
c) Refraction of light from Na^+ ion d) all of the above

37. The vacant space in bcc lattice unit cell is a) 48% b) 23 % c) 32% d) 26%

38. A ionic compound A_xB_y crystallizes in fcc type crystal structure with B ions at the centre of each face and A ion occupying corners of the cube. the correct formula of AxBy is
a) AB b) AB_3 c) A_3B d) A_8B_6

39. The number of atoms per unit cell is 2. Which is
a) bcc b) fcc c) sc d) ccc

40. Which of the following closed packing structure to form Octa hedral structure
a) FCC b) BCC c) SC d) HCP

41. For the reaction $2NH_3 \dashrightarrow N_2 + 3H_2$ if $-d[NH_3]/dt = K_1[NH_3]$, $d[N_2]/dt = K_2[NH_3]$, $d[H_2]/dt = K_3[NH_3]$ then the relation between K1, K2 and K3 is
a) $K_1 = K_2 = K_3$ b) $K_1 = 3K_2 = 2K_3$ c) $1.5K_1 = 3K_2 = K_3$ d) $2K_1 = K_2 = 3K_3$

42. The decomposition of phosphine (PH3) on tungsten at low pressure is a first order reaction. It is because the (NEET)
a) rate is proportional to the surface coverage b) rate is inversely proportinal to the surface coverage
c) rate is independent of the surface coverage d) rate of decomposition is slow

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

44. What is the activation energy for a reaction if its rate double when the temperature is raised from 200k to 400k? ($R=8.314\ JK^{-1}\ mol^{-1}$)
a) 234.65 kJ mol^{-1} b) 434.65 kJ mol^{-4} c) 2.305 KJ mol^{-1} d) 334.65 J mol^{-1}

45. For a first order reaction, the rate constant is 6.909 min-1/ the time taken for 75% conversion in miniutes is
a) (3/2) log2 b) (2/3) log2 c) (3/2) log (3/4) d) (2/3) log (4/3)

46. The unit of zero order rate constant is
a) litre mol^{-1} sec^{-1} b) mol $litre^{-1}$ sec^{-1} c) sec^{-1} d) $litre^2$ sec^{-1}

47. The half life period of a first order reaction is 10 minutes.Then its rate constant is
a) $6.93\times10^{2}\ min^{-1}$ b) $0.693\times10^{-2}\ min^{-1}$ c) $6932\times10^{-2}\ min^{-1}$ d) $69.3\times10^{-1}\ min^{-1}$

48. Dissociation constant of NH_4OH is 1.8×10^{-5} the hydrolysis constant of NH_4Cl would be
a) 1.8×10^{-19} b) 5.55×10^{-10} c) 5.55×10^{-5} d) 1.80×10^{-5}

49. $H2PO_4^-$ the conjugate base of
a) PO_4^{3-} b) P_2O_5 c) H_3PO_4 d) HPO_4^{2-}

50. The pH of 10-5 M KOH solution will be
a) 9 b) 5 c) 19 d) None of these

51. If the solubility product of lead iodide is 3.2×10^{-8}, it solubility will be
a) $2\times10^{-3}M$ b) $4\times10^{-4}M$ c) $1.6\times10^{-5}M$ d) $1.8\times10^{-5}M$

52. Which of the following fluro compounds is most likely to behave as a Lewis base? (NEET-2016)
a) BF_3 b) PF_3 c) CF_4 d) SiF_4

53. The relation between the dissociation constants (Ka, Kb) and the hydrolysis constant is
a) $K_a K_a K_h = K_w$ b) $K_b K_b K_h = K_w$ c) $K_a K_b K_h = K_w$ d) all the above
54. What is the P^H of sea water a) 5 b) 8 c) 11 d) 10
55. The number of electrons that have a total charge of 9650 coulombs is
a) 6.22×10^{23} b) 6.022×10^{24} c) 6.022×10^{22} d) 6.022×10^{-34}
56. The Molar conductivity of a 0.5 mol dm^{-3} solution of $AgNO_3$ with electrolytic conductivity of 5.76×10^{-3} S cm^{-4} at 298 K is a) 2.88 S cm^2 mol^{-1} b) 11.52 S cm^2 mol^{-1} c) 0.086 S cm^2 mol^{-1} d) 28.8 S cm^2 mol^{-1}
57. How many faraday of electricity are required for the following reaction to occur MnO_4 ----> Mn^{2+}
a) 5F b) 3F c) 1F d) 7F
58. Which of the following electrolytic solution has the least specific conductance
a) 2N b) 0.002N c) 0.02N d) 0.2N
59. In H_2-O_2 fuel cell the reaction occurs at cathode is
a) $O_2(g) + 2H_2O(l) + 4e^-$ ----> $4OH^-(aq)$ b) $H^+(aq) + OH^-(aq)$ ----> $H_2O(l)$
c) $2H_2(g) + O_2(g)$ ----> $2H_2O(g)$ d) $H^+ + e^-$ ----> $1/2\ H_2$
60. Which of the following is electrolyte of the lithium – ion Battery
a) Lithium salt in an inorganic solvent b) Sodium salt in an inorganic solvent
c) Lithium salt in an organic solvent d) Sodium salt in an organic solvent
61. Fog is colloidal solution of
a) Solid in gas b) gas in gas c) liquid in gas d) gas in liquid
62. Statement : To stop bleeding from an injury, ferric chloride can be applied. Which comment about the statment justified? a) It is not true, ferric chloride is poison
b) It is true, Fe^{3+} ions coagulate blood which is a negatively charged sol
c) It is true, ferric chloride is ionic and gets into the blood stream.
d) It is true, coagulation takes place because of formation of negatively charged sol with Cl
63. The most effective electrolyte for the congulation of As_2S_3Sol is
a) NaCl b) $Ba(NO_3)_2$ c) $K_3[Fe(CN)_6]$ d) $Al_2(SO_4)_3$
64. The phenomenon observed when a beam of light is passed through a colloidal solution is
a) Cataphoresis b) Electrophresis c) Cogulation d) Thyndall effect
65. Adsorption of gas on solid metal surface is spontaneous and exothermic, then
a) ΔH increased b) ΔS increases c) ΔG increases d) ΔS decreases
66. Which of the following is the gold number of Potato starch
a)24 b)23 c)26 d) 25
67. Which of the following compounds on reaction with methyl magnesium bromide will give tertiary alcohol?
a) benzaldehyde b) propanoic acid c) methyl propanoate d) acetaldehyde
68. Assertion : Phenol is more acidic than ethanol
Reason: Phenoxide ion is resonance stabilized
a) both assertion and reason are true and reason 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.
69. In the reaction Ethanol $\xrightarrow{PCl_5}$ X $\xrightarrow{\text{alc. KOH}}$ Y $\xrightarrow[298K]{H_2SO_4/H_2O}$ Z The 'Z' is
a) ethane b) ethoxyethane c) ethyl bisulphite d) ethanol
70. On reacting with neutral ferric chloride, phenol gives
a) red colour b) violet colour c) dark green colour d) no colouration.
71. Which of the following compound can be used as antifreeze in automobile radiators?
a) methanol b) ethanol c) Neopentyl alcohol d) ethan -1, 2-diol
72. Ethanoic acid $\xrightarrow{P / Br2}$ 2 – Bromo ethanoic acid. This reaction is called
a) Finkelstein reaction b) Haloform reaction c) Hell – Volhard – Zelinsky reaction
d) none of these
73. Which one of the following reduces tollens reagent?
a) formic acid b) acetic acid c) benzophenone d) none of these
74. Which one of the following undergoes reaction with 50% sodium hydroxide solution to give the corresponding alcohol and acid?
a) Phenyl methanal b) ethanal c) ethanol d) methanol
75. In which of the following reactions new carbon – carbon bond is not formed?
a) Aldol condensation b) Friedel craft reaction c) Kolbe's reaction d) Wolf kishner reduction

76. Carboxylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecular mass. It is due to them a) more extensive association of carboxylic acid via van der Waals force of attraction b) formation of carboxylate ion c) formation of intramolecular H-bonding d) formation of intermolecular H – bonding

77. Which of the following reagent can be used to convert nitrobenzene to aniline?
a) Sn / HCl b) Zn-Hg / NaOH c) Zn/NH4Cl d) All of these

78. Which one of the following will not undergo Hofmann bromamide reaction?
a) CH3 CONHCH3 b) CH3 CH2 CONH2 c) CH3 CONH2 d) C6 H5 CONH2

79. The product formed by the reaction an aldehyde with a primary amine
a) carboxylic acid b) aromatic acid c) Schiff 's base d) ketone

80. Which of the following amines does not undergo acetylation?
a) t – butylamine b) ethylamine c) diethylamine d) triethylamine

81. Ammonium salt of benzoic acid is heated strongly with P2O 5 and the product so formed is reduced and then treated with NaNO2 / HCl at low temperature. The final compound formed is
a) Benzene diazonium chloride b) Benzyl alcohol c) Phenol d) Nitroso benzene

82. Which one given below is a non-reducing sugar?
a) Glucose b) Sucrose c) maltose d) Lactose.

83. In a protein, various amino acids linked together by
a) Peptide bond b) Dative bond c) a - Glycosidic bond d) ß - Glycosidic bond

84. The pyrimidine bases present in DNA are
a) Cytosine and Adenine b) Cytosine and Guanine
c) Cytosine and Thiamine d) Cytosine and Uracil

85. Which of the following vitamins is water soluble?
a) Vitamin E b) Vitamin K c) Vitamin A d) Vitamin B

86. Which of the following amino acids are achiral?
a) Alanine b) Leucine c) Proline d) Glycine

87. Drugs that bind to the receptor site and inhibit its natural function are called
a) antagonists b) agonists c) enzymes d) molecular targets

88. Natural rubber has a) alternate cis- and trans-configuration b) random cis- and trans-configuration c) all cis-configuration d) all trans-configuration

89. Terylene is an example of
a) polyamide b) polythene c) polyester d) polysaccharide

90. Which one of the following is a bio-degradable polymer?
a) HDPE b) PVC c) Nylon 6 d) PHBV

91. The polymer used in making blankets (artificial wool) is
a) polystyrene b) PAN c) polyester d) polythene

92. Which is used to neutralize the acidity in the stomach.
a) Ranitidine b) Cetirizine c) Morphine d) Asprin

93. Which reducing agent is used for the following conversion?
R-COOH --------? R-CH2OH
a) LiAlH4 b) NaBH4 c) K2Cr2O7 d) KMnO4

94. Benzene $\xrightarrow[\text{con } H_2SO_4]{}$ P $\xrightarrow[\text{i) NaOH ii) HCl}]{}$ Q
The compound Q will be
a) Aniline b) Phenol c) Benzaldehyde d) Benzene sulphonic acid

95. The product formed when acetone reduced by Mg-Hg amalgam and water.
a) Ethanol b) isopropyl alcohol c) pinacol d) propane

96. Which is used to in the preparation of artificial fruit essences.
a) Acetic anhydride b) Benzoic acid c) Ethyl acetate d) sodium acetate

97. CH3CH2NO2 $\xrightarrow{KOH}$ A $\xrightarrow{H2O / H+}$ B the product B is?
a) CH_3CH_2OH b) CH_3CHO c) $CH_3CH_2NH_2$ d) CH_3NHOH

98. Ethanenitrile is Complete hydrolyzed to give
a) Acetic acid b) Acetamide c) Ethanamide d) Acetaldehyde

99. A storage polysaccharide found in animals is _____.
a) Cellulose b) Starch c) Heparin d) Glycogen

100. Which are non-compound lipids?
a) Fats b) Phospholipids c) Glycolipids d) Lipoproteins