1. **ιL + Mm + Nn → pP + qQ + rR the equilibrium constant for this reaction is :**

   (1) $K_c = \frac{[P]^p[Q]^q[R]^r}{[L]^l[M]^m[N]^n}$ (2) $K_c = \frac{[L]^l[M]^m[N]^n}{[P]^p[Q]^q[R]^r}$

   (3) $K_c = \frac{[L][M][N]}{[P][Q][R]}$ (4) $K_c = \frac{\iota mn}{pqr}$

2. **Due to low ionization potential the alkalimetals are :**
   (1) weak oxidizing agent
   (2) strong oxidizing agent
   (3) strong reducing agent
   (4) none of these

3. **Current order of radius is :**
   (1) $Li^+ > Na^+ > K^+$ (2) $K^+ > N^a + > Li^+$ (3) $Na^+ > K^+ > Li^+$ (4) all same

4. **If there is an uncertainity in the position of an electron is zero then uncertainity in the momentum will be :**
   (1) $\frac{h}{2\pi}$ (2) infinite (3) $nh/2\pi$ (4) zero

5. **The boiling point of water is high due to :**
   (1) high ionic product
   (2) hydrogen bonding
   (3) heavy weight
   (4) high dielectric efficient

6. **Elements of the same group are :**
   (1) Mg, Ba (2) C,S (3) H,Be (4) As, se

7. **$Ch_3COOAg + Br_2 \rightarrow CH_3Br + AgBr + CO_2$. The above reaction is known as :**
   (1) Hoffmann mustard oil reaction
   (2) Wurtz fitting reaction
   (3) Hunsdiecker reaction
   (4) Volhard zelinsky reaction

8. **$1s^2\ 2s^2p^6 3s^2p^2$ configuration shows the :**
   (1) f-flock elements
   (2) p-block elements
   (3) s-block elements
   (4) d-block elements

9. **The required condition for precipitation is :**

(1) ionic product $>K_{sp}$
(2) saturated solution
(3) ionic product $<K_{sp}$
(4) dilute solution

10. The molarity of an electrolyte Ba CrO_4 is 1.415×10^{-5} M, the value of solubility product will be :
(1) 2×10^{-8} (2) 2.02×10^{-12} (3) 2.25×10^{-6} (4) 2×10^{-10}

11. Lewis acid is :
(1) NH_2NH_2 (2) NH_3 (3) $AICI_3$ (4) H_2O

12. There are three unpaired electrons in N according to :
(1) Pauli's law (2) Hund's law (3) Aufbau's law (4) Stark law

13. The pH values of solution A and B are 2 and 6 resp. Acid strength of A in comparision to B will be :
(1) 4 times (2) 2 times (3) 10-4 times (4) 10000 times

14. In which of the following test, K MnO_4 is used to testing unsaturation :
(1) Mulliken-Barker test (2) Bayer test
(3) Fehling test (4) Schiff test

15. $Ch_3COCI + H_2 \xrightarrow{Pd/BASO_4} A + HCI$ In the above reaction A is :
(1) Methanol (2) Acetic acid (3) Acetaldehyde (4) Ethenol

16. Removing of sulphur by heating of pyrites is called :
(1) Bessemeerisation (2) Roasting (3) Smelfing (4) Calcination

17. $Ch_3CHO + CH_3MgX \xrightarrow{H_2O}$ A here A is :
(1) 2-propanol (2) 1-propanol (3) Acetone (4) Acetaldehyde

18. Which of the following has not coloured salt :
(1) Cu^+ (2) Fe^+ (3) Cu^{2+} (4) CO^{2+}

19. Nitration of the benzene is a reaction of :
(1) Nucleophillic substitution
(2) Nucleophillic addition
(3) Electrophillic substitution
(4) Electrophillic addition

20. Which of the following is most reactive for nitration :
(1) Netrobenzene (2) Clorobenzene (3) Talione (4) Benzene

21. Coversion of H into H ion is a :
(1) Reduction

(2) Free radical fission
(3) Oxidation
(4) Fission of hydrogen

22. In which of the following there is no resonance :
(1) Ethyl amine (2) Phenol (3) Anilene (4) Benzene

23. Why does NH_4CI is added first in NH_4OH in the qualitative analysis :
(1) for pure precipitation
(2) for making dilute solution
(3) to reduce the concentration of OH^- ion
(4) to increase the concentration of OH^- ion

24. The hydrolysis of esters by base is known as :
(1) Dehydration (2) Saponification
(3) Dehelogenation (4) Dehydrogenation

25. By which of the following, oxalic acid reacts at 110^0 C to form formic acid :
(1) Pri. Amine (2) Glycerol (3) Acetaldehyde (4) Acetone

26. $M_xA_y \rightarrow xM^{y+} + yA^{x-}$ the true statement for this reaction is :
(1) $K_{sp} = X^xS^{x+y}$ (2) $K_{sp} = S^{x+y}$ (3)$K_{sp}=X^xY^yS^{x+y}$ (4) $K_{sp}= S^2$

27. By which of the following enzyme in the process of fermentation glucose and fructose are converted into alcohol :
(1) Diastase (2) Xymase (3) Invertase (4) Maltase

28. Nitration of benzoic acid gives :
(1) 4-dinitrobenzoic acid
(2) 2,4-dinitrobenzoic acid
(3) 2-nitrobenzoic acid
(4) 3-nitrobenzoic acid

29. Which of the following is the main particle of petrol :
(1) Alkyle helide
(2) Compounds containing oxygen
(3) Compounds containing sulphur
(4) Mixture of alkanes

30. The order of dehydration of alcohols by concentrated H_2SO_4 is :
(1) t>s>p (2) p>s>t (3) s>t>p (4) All same

31. Which of the following forms oilynitrosoamine with aq. HNO_2 :
(1) Aniline (2) Dimethylamine (3) Ethylamine (4) Methylamine

32. Reducing agents are those which :
(1) domates electrons
(2) forms covalent bond

(3) shares electrons
(4) gains electrons

33. In acidic medium the oxidation state of Mn in $KMnO_4$ change from :
(1) +6 to +2 (2) +7 to +3 (3) +7to +4 (4) +7 to +2

34. $A+B \underset{\leftarrow\leftarrow}{\overset{\rightarrow\rightarrow}{}} C + D$ in this reaction initial concentration A and B are mole each of the equilibrium constant is k. If the concentrations of A and B will be done 2 and 3 mole resp. the equilibrium constant will be :
(1) half (2) unchanged (3) four times (4) 2 times

35. Which of the following are homologous :
(1) CH_3COOH, CH_3COOCH_3
(2) $CH_3\text{-}C\equiv CH_2CH_2=CH_2$
(3) CH_3CHO, CH_3CH_2CHO
(4) CH_3CHO, CH_3COCH_3

36. The general formula of alkyne is :
(1) C_nH_{2n} (2)C_2H_{2n-2} (3) C_nH_{2n+2} (4)None above

37. According to Bohr, electron can move around the nuclease. If the principal quantum no is n then the angular momentum will be :
(1) nh (2) h/π (3) nπ/h (4) nh/2π

38. At reversible equilibrium :
(1) the concentration of matter are equal
(2) the forward and backward rates are equal
(3) the backward rate will be higher
(4) the forward rate will be higher

39. The hydrolysis constant (k_h) of CH_3COONa at 25^0 C will be : ($K_a=1.8x10^{-5}$)
(1) 5.55×10^{-5} (2) $5.55x10^{-10}$ (3) $5.55x10^{-12}$ (4) $5.55x10^{-11}$

40. If the ladius of I Bohr orbit of H is a_0 then the radius of III Bohar orbit will be :
(1) $12a_0$ (2) a_0 (30 $9a_0$ (4) $3a_0$

41. The knowledge of energy and position of an electron is found from :
(1) Principal quantum no.
(2) Azimuthal quantum no.
(3) Magnetic quantum no.
(4) Spin quantum no.

42. The conjugate acid of CI is :
(1) HCI (2) $HClO_3$ (3) $HClO_2$ (4) $HClO_4$

43. OH^- and H_2O both are according to Lewis :
(1) Acids (2) Bases (3) Acidand base (4) Base and acid

44. Azimthal quantum no. is represented by :
(1) s (2) n (3) 1 (4) m

45. The values of ι and n for 2p orbital are :
(1) ι = 2 , n = 2 (2) ι = 2, n= 1 (3) ι=0, n=1 (4) ι = 1, n=2

46. Which of the following are present in the aqueous solution of Na_2CO_3 :
(1) H_2CO_3, Na^+, OH^- ion
(2) H_2CO_3, OH^-, CO_3^{2-}
(3) CO_3^{-2} ion
(4) Na^+ and OH^-

47. The 10. of an unpaired electrons in the configuation $1s^2$, $2s^2p^3$ are :
(1) 5 (2) 3 (3) 2 (4) 1

48. The pH value of pure water is 7. If a salt X is added in the water the pH value raised and become 13. The salt X will be:
(1) CH_3COONH_4 (2) NH_4CI (3) CH_3COONa (4)NaCI

49. The magnetic quantum no. shows :
(1) orientation of orbitals
(2) shape of orbitals
(3) size of orbitals
(4) All

50. The value of electronega-fivity in a column from right to left becomes:
(1) not certain change (2) equal (3) reduces (4) increases

51. $PCI_5 \overset{\rightarrow\rightarrow}{\leftarrow\leftarrow} PCI_3 + CI_2$ In this reaction when pressure increases :
(1) equilibrium constant becomes double
(2) more Cl_2 produces
(3) The dissociation of PCI_5 increases
(4) The dissociation of PCI_5 decreases

52. Shape of s orbital is :
(1) double dumb bell (2) spherical (3) dumb bell (4) none of these

53. The correct order of ionization potential is :
(1) N>C>B (2) N>B>C (3) C>N>B (4) N<C<B

54. CCI_4 is more covalent than LiCI because :
(1) dipole moment of Li-CI is constant
(2) dipole moment of CCI_4 is zero
(3) Li-CI bond is polar
(4) C-CI bond is non polar

55. Which of the following is the no. of paired electrons in N_2 molecule :
(1) 2 (2) 6 (3) 5 (4) 4

56. Strangest electronegative element is :

(1) I (2) F (3) CI (4) Br

57. When atomic no. of alkali metal increases :

(1) electron affinity increases
(2) ionic radius increases
(3) electro negativity increases
(4) ionization potential increases

58. The C-CI bond of C_6H_5CI incomparision with CH_3CI is :

(1) long and weak
(2) long and strong
(3) short and weak
(4) short and strong

59. $C_6H_6+CH_3COCI \xrightarrow{AICI_3} C_6H_5COCH_3+HCI$

The name of the above reaction is:

(1) Wurtz reaction
(2) Friedel craft reaction
(3) Schoften Bauman reaction
(4) Gattermann reaction

60. Which of the following one has electronic configuration of transition element :

(1) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2$
(2) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$
(3) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^3\ 4s^2$
(4) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$

61. In which of the following conditions benzene reacts with H_2SO_4 :

(1) when HNO_3 is added
(2) with conc. and hot H_2SO_4
(3) with dilute and hot H_2SO_4
(4) with dilute and cold H_2SO_4

62. The no's of σ and π bonds in tetracynoethylene are :

(1) 3 σ and 4 π (2) 8 σ and 7 π
(3) 9 σ and 9 π (4) 9 σ and 8 π

63. Which of the following is diamagnetic molecule :

(1) O_2^{2-} (2)O_2^- (3) O_2^+ (4)O_2

64. To recognize the position and velocity of an electron around the nucleas at a time is :

(1) could not say any thing
(2) sometime possible and some time not possible
(3) impossible
(4) possible

65. Which of the following is found from oxidation of propionaldehyde :
(1) C_2H_5COOH (2) HCOOH (3) CH_3COCH_3 (4) CH_3COOH

66. According to Bohr when an electron reaches at the lowest level then :
(1) Bohr theory does not explains
(2) There is no change in energy
(3) Energy of electron reduces
(4) Energy of an electron increases

67. The pH value of a solution is 5. The hydrogen ion concentration will be :
(1) 10^{-8} (2) 10^{-2} (3) 10^{-5} (4) 10^{-7}

68. The molarity of a solution in which 5.3 gm. Na_2CO_3 is dissohed in 500 ml. will be:
(1) 1.0 M (2) 0.1 M (3) 0.25 M (4) 0.2 M

69. Cupellation method is used the extraction of the following :
(1) Zn (2) Ag (3) Fe (4) Cu

70. The compound which is found from the distillation of calcium acetate is :
(1) $CH_3COCH_2CH_2$ (2) HCHO (3) CH_3CHO (4) $(CH_3)_2CO$

71. By which of the following process hydrocarbon is found from pertrlium :
(1) addition (2) combustion (3) fractional distillalion (4) all above

72. If a compound containing more than one functional groups. In the nomenclalure, the preferace is given to :
(1) principal functional group
(2) triple bond
(3) double bond
(4) other functional group

73. Which of the following is tertiary carbonium ion:
(1) $(CH_3)_3\overset{\oplus}{C}$ (2) $(CH_3)_2\overset{\oplus}{C}H$ (3) $CH_3\overset{\oplus}{C}H_2$ (4) $CH_3\overset{\oplus}{}$

74. Which of the following is true statement :
(1) Acetylene gives white precipitate with $AgNo_3$ and red precipitate with Cu_2Cl_2
(2) Acetylene gives red precipitate with $AgNO_3$ and white precipitate with Cu_2Cl_2
(3) Acetylene gives white precipitate with both
(4) Acetylene gives red precipitate with both

75. Which of the following is electrophilic :

(1) R-O-R (2) NH_3 (3) H_2O (4) BF_3

76. In which of the following solution methyl orange gives red colour :

(1) HCI (2) NaOH (3) CH_3COONa (4) CH_3COONH

77. The pH value of water is T. When a salt X is dissobed the pH value becomes 13. The salt X will be :

(1) salt of weak acid and weak base
(2) salt of weak acid and strong base
(3) salt of strong acid and weak base
(4) salt of strong acid and strong base

78. For which of the following titration phenolphthalein is suitable indicator :

(1) $NH_4OH$and NH_4CI
(2) CH_3COOH and NaOH
(3) HCI and NH_4OH
(4) H_2CO_3&N_2CO_3

79. The true statement for CH_3COONH_4 is :

(1) $K_h = \frac{Kw}{K_a}$ (2) $K_h = \frac{Kw}{K_aK_b}$ (3) $K_h = \frac{Kw}{K_b}$ (4) All above

80. The IUPAC name of CH_3, CH_3, CH_3 **C-**

$CH=CH_2$ is :

(1) 3,3 dimethyl-3-butene
(2) 4,4-dimethyl-2-butene
(3) 3,3-dimethyl-l-butene
(4) 3,3-dimethyl-2-butene

81. Which of the following set of quantum nos. are not possible :

(1) 3,2,3,1/2 (2) 5,0,0,1/2 (3) 3,2,-3, ½ (4) 5,1,0,-1/2

82. For a solution mole nos. of solute and whole solution are 20 and 80 receptively then the mole fraction of solute will be :

(1) 0.35 (2) 4.0 (3) 0.4 (4) 0.25

83. The degree of lonisation of an electrolyte depends upon :

(1) size of solvent molecules
(2) nature of solvent molecules
(3) lonisation potential of solvent molecules
(4) shapce of solvent molecules

84. The chemical properties of an element depends upon :
(1) atomic no. and volume
(2) atomic weight and volume
(3) atomic no. and electronic configuration
(4) atomic no. of atomic weight

85. Paramagnetism is found in elements when :
(1) all electrons are paired
(2) octet is complete
(3) all electrons are shared
(4) unpaired electrons are present

86. $C_6H_5NH_2 + CHCI_3 + KOH \rightarrow$ (A) + KCI + H_2O here A is :
(1) $C_6H_4(CI)NH_2$ (2) C_6H_5CN (3) $C_6H_4(OH)NH_2$ (4) C_6H_5NC

87. Ethane, ethane and ehtyne. In which of the above three. C-H bond energy is highest :
(1) in C_2H_4 (2) in C_2H_6 (3) in C_2H_2 (4) same

88. The correct order of strength of halogen acids is :
(1) HI>HCI>HBr>HF
(2) HCI>HF>HBr>HI
(3) HF<HCI<HBr<HI
(4) HF>HCI>HBr>HI

89. Which of the following pair has same electronic configuration :
(1) K^+, Rb^+ (2) Na^+, K^+ (3) K^+, Ca^{2+} (4) Li^+, NO^+

90. Alkali metal gets inert gas configuration by :
(1) making coordination bond
(2) sharing an electron
(3) gain of an-electron
(4) loss of an electron

91. The polarity of covalent bond between two atoms depends upon :
(1) nos. of an unpaired electrons
(2) electronic configuration of an atom
(3) electronegativity of an atom
(4) lonisation potential of an atom

92. The shape of an ammonia molecule is :
(1) pyranide (2) tetrahedral (3) triangular (4) linear

93. The important copper ore is :
(1) Chalocopyrites (2) Alumina (3) Bauxite (4) Sedarite

94. Cryolite is added in the extraction of aluminium because of :
(1) Oxidation of bauxite

(2) To remove bauxite from anode
(3) Reduction of bauxite
(4) To fuse bauxite

95. By which of the following regent aldehyde and ketone is distinguished :
(1) Fehling solution (2) Bayer solution (3) Na_2CO_3 (4) O_3

96. Which of the following does not give precipitate with (NaOH + I_2) :
(1) Ethanol (2) Benzaldehyde (3) Acetone (40 Acetaldehyde

97. Sodium acetate + soda lime $\rightarrow$ A here A is :
(1) Butane (2) Propane (3) Ethane (4) Methane

98. Diethyl ether is not a isomer of :
(1) Butanone (2) Butanol (3) Methyl isopropyl ether (4) Methyl propyl ether

99. By which of the following shiff reagent gives pink colour :
(1) Diethyl ether (2) Acetaldehyde (3) Methanol (4) Acetone

100.In which of the following oxidation state of N is 1 :
(1) NH_3 (2) N_2O (3) NH_2OH (4) NO

ANSWER SHEET

1.(1)	2.(3)	3.(2)	4.(2)	5.(2)	6.(1)	7.(3)	8.(2)	9.(1)	10.(4)	11.(3)
12.(2)	13.(4)	14.(2)	15.(3)	16.(2)	17.(3)	18.(1)	19.(3)	20.(3)	21.(3)	22.(1)
23.(3)	24.(2)	25.(2)	26.(3)	27.(2)	28.(2)	29.(4)	30.(2)	31.(2)	32.(1)	33.(4)
34.(2)	35.(3)	36.(2)	37.(4)	38.(2)	39.(2)	40.(3)	41.(1)	42.(1)	43.(2)	44.(3)
45.(4)	46.(2)	47.(2)	48.(3)	49.(1)	50.(3)	51.(4)	52.(2)	53.(1)	54.(3)	55.(2)
56.(2)	57.(2)	58.(4)	59.(2)	60.(3)	61.(1)	62.(3)	63.(1)	64.(3)	65.(1)	66.(3)
67.(3)	68.(2)	69.(2)	70.(4)	71.(3)	72.(1)	73.(1)	74.(1)	75.(4)	76.(1)	77.(2)
78.(2)	79.(2)	80.(3)	81.(3)	82.(4)	83.(2)	84.(3)	85.(4)	86.(4)	87.(3)	88.(3)
89.(3)	90.(4)	91.(3)	92.(1)	93.(1)	94.(4)	95.(1)	96.(2)	97.(4)	98.(1)	99.(2)
100(2)										