Chemistry 2

1. **The final product of the reaction HC = CH + 2HCI → will be :**
   (1) $CH_2CI\text{-}CH_2CI$ (2) $CH_2=CHCI$
   (3) CH_3CHCI_2 (4) CHCI=CHC

2. **Which of the following is amphoteric :**
   (1) GeO_2 (2) CO_2
   (3) PbO_2 (4) All same

3. **$CH_3COOC_5H_{11}$ is obtained by :**
   (1) $C_5H_{11}OH + CH_3COOH$
   (2) $C_5H_{11}CH_2OH = HCOOH$
   (3) $C_2H_5OH = C_5H_{11}OH$
   (4) $(CH_3)_3 –C\text{-}COOH = C_5H_{11}OH$

4. **5 amp. current is passes through a dry cell for 2 hours. The value of produced electric current will be :**
   (1) 36×10^8 C (2) 3.6×10^8 C
   (3) 36×10^4 C (4) 3.6×10^4 C

5. **Which of the following statement is false for tranis-1, 2-dichloro ethane :**
   (1) chlorine atoms are nearer to each other
   (2) total nos of bonds are six
   (3) free rotation of C=C is possible
   (4) none of these

6. **Orthouitropnenol is a A;**
   (1) Lewis base (2) Lewis acid
   (3) 1 and 2 (4) nither 1 nor 2

7. **Which of the following shows cistrans isomerism :**
   (1) $CH_3\text{-}C\text{-}Br=C\text{-}C1_2$
   (2) $CH_3\text{-}CH=Ch_2$
   (3) $C1\text{-}CH=CH\text{-}CH_3$
   (4) $(CH_3)_2\text{-}C=CH\text{-}C1$

8. Glycine works in a reaction as :
(1) Acid (2) Base (3) both 1 and 2 (4) none of these

9. The true statement for 2-chlrobutane and 3- chlrobutane is :
(1) First is more reactive than second
(2) Second is more reactive than first
(3) Chlorine atom in both are of different type
(4) One name is wrong, both are same

10. The magnetic moment of an ion having 4 unpaired electrons is :
(1) 3.9 B.M. (2) 2.8 B.M. (3) 1.7 B.M. (4) 4.9 B.M.

11. O-F bond in OF_2 compound is formed by the overlapping of following orbitals :
(1) sp^2-2p (2) sp^3-2p (3) sp^3-2s (4) sp-2p

12. The structure of $[Cu(NH_3)_4]^{2+}$ is :
(1) square planner (2) angular (3) linear (4) tetrahedral

13. The no. of structural isomers of heptane is :
(1) equal to pentane (2) less than hexane
(3) more than pentane (4) less than pentane

14. Which of the following hydroxide is soluble in NH_4OH :
(1) $Sb(OH)_3$ (2) $Bi(OH)_3$ (3) $Fe(OH)_3$ (4) none of above

15. Which of the following differs from others :
(1) Pd (2) CO (3) Ni (4) Rb

16. The structure of phorone is :
(1) $(CH_3)_2C(OH)C1_3$
(2) $(CH_3)_2C=CHCOCH=C(CH_3)_2$
(3) $(CH_3)_2C=CHCOCH_3$
(4) none of above

17. Which of the following is strongest electrolyte :
(1) $C_{12}H_{12}O_{11}$
(2) H_2O
(3) CH_3COOH
(4) HI

18. Which of the following statement is true :
(1) O_2^{2-} is diamagnetic
(2) O_2^{+} is paramagnetic
(3) No is diamagnetic
(4) He_2^{+} is less stable than He_2

19. For which of the following elements the quantum nos are 3, 2, 0, + ½ :
(1) K (2) CO (3) Ne (4) C1

20. The coordination nos. of Na^+ and $C1^-$ in NaCI are respectively :

(1) 6, 6 (2) 4, 6 (3) 6, 8 (4) 8, 8

21. In comparision of Cu and Ag :

(1) Cu is easily oxidized in comparision with Ag.
(2) Ag is easily oxidized in comparision with Cu
(3) Both oxidizes simultaneously
(4) Do not oxidizes

22. Molarity of 200 ml. of 18.25 N NaOH will be :

(1) 32.5 M (2) 91.25 M (3) 2.28 M (4) 22.8 M

23. In Haber's process if temperature is increased :

(1) Reaction stops
(2) There is no effect
(3) Yield of NH_3 decreases
(4) Yield of NH_3 increases

24. Empirical formula of alkane, alkene and alkyne is :

(1) equal to cyclopean
(2) equal to each other
(3) all are different
(4) none of these

25. $CF2C1_2$ is used as :

(1) Anaesthic (2) Polymer (3) Refrigerant (4) Antipyretic

26. The weight of carbon atom is :

(1) 1.9×10^{-23} (2) 12 gm (3) 6 gm (4) 6.02 gm. X 10^{23} gm.

27. The pH of 10^{-8} M HCI is :

(1) less than 7 (2) less than 6 (3) 8 (4) 7

28. Which of the following statement is true :

(1) C_6H_6 does not show resonance
(2) CO_2does not show resonance
(3) Both do not show resonance
(4) $CO_2$and C_6H_6 show resonating structures

29. In which of the following compound >C=0 group is not present :

(1) Alkane (2) Aldehyde (3) Acids (4) Ketone

30. The mole fraction of acetone in a solution of 2.8 mole acetone and 8.2 mole of $CHC1_3$ will be :

(1) 0.540 (2) 0.241 (3) 0.254 (4) 0.524

31. Which of the following element has high ionization potential :

(1) Ne (2) Be (3) Li (4) O

32. Which of the following has highest boiling point :

(1) HI (2) HC1 (3) HF (4) HBr

33. The dry ice is :

(1) Solid H_2O (2) Solid CO_2 (3) Solid & Dry H_2O (4) none of above

34. For the reaction $2A \underset{\rightarrow}{\leftarrow} C + D$ the value of equilibrium constant is 1×10^{-3} . If [C] = $1.2 \times {}^{10-3}$ M, [D] = 3.8×10^{-6} M the value of [A] will be :

(1) 5.2×10^{-6} M (2) 3.6×10^{-9} M

(3) 2.1×10^{-3} M (4) 4.8×10^{-12} M

35. Which of the following does not obey the octet rule :

(1) PCI_3 (2) SF_6 (3) SO_2 (4) OF_2

36. Mustard gas is found from :

(1) C_2H_4 & H_2SO_4 (2) C_2H_4 & H_2S

(3) C_2H_4 & S_2C1_2 (4) C_2H_4 & CH_3SH

37. The most reactive metal is :

(1) Li (2) Au (3) F (4) Pt

38. Which of the following has highest melting point :

(1) C_4H_{10} (2) C_3H_8 (3) C_2H_6 (4) CH_4

39. Which of the following is not a metal :

(1) Au (2) Hg (3) Ag (4) none of these

40. In which of the following there is strong bond :

(1) C=C (2) C-C (3) C≡C (4) all same

41. The shape and size of 2p, 3p, 4p and 5p orbital are :

(1) only equal in d block
(2) equal in s block and different in p block
(3) different
(4) equal

42. Malachite is a ore of :

(1) Cu (2) Au (3) Ag (4) Mg

43. If the ionization constant of CH_3COOH is 1.8×10^5, the degree of ionization of 0.01 M CH_3COOh will be :

(1) 1.8×10^{-7} (2) 1.8 (3) 4.2×10^{-2} (4) 42.4×10^{-5}

44. If the price of Nac1 sugar are 2 and 14 rupees per kg. then the price of 1 mole NaC1 and 1 mole sugar will be :

(1) 7 Rs. (2) different (3) equal (4) 28 Rs.

45. In which of the following there are minimum nos. of molecule :

(1) 2 gm. H_2 (2) 8 gm. O_2 (3) 16 gm. CO_2 (4) 4 gm. N_2

46. In which of the following central atom uses sp^2 hybrid orbitals :

(1) SbH_3 (2) NH_3 (3) PH_3 (4) ${}^{+}CH_3$

47. Which of the following is paramagnetic :
(1) C (2) CN^- (3) O_2^- (4) NO^+

48. Present atomic weight scale depends upon :
(1) C1-35.5 (2) O-16 (3) C-12 (4) H-1

49. C_3H_8 on combustion gives CO_2 and H_2O. The required volume of O_2 will be :
(1) 5 times of C_3H_8 (2) three times (3) 2 times (4) 2.5 times

50. The oxidation state of B in KBF_4 is :
(1) -3 (2) +2 (3) +3 (4) +4

51. The electronic configuration of strong electronegative element is :
(1) ns^2np^6 (2) ns^2np^4 (3) ns^2np^3 (4) ns^2np^5

52. The IUPAC name of CO_2O_3 is :
(1) Cobalt (III) oxide (2) Cobalt (II) oxide
(3) Cobaltans oxide (4) Cobalt oxide

53. The most light weight inert gas is :
(1) Ar (2) Ne (3) He (4) Kr

54. Which of the following element forms cation easily :
(1) Sr (2) Ne (3) Li (4) Mg

55. Which of the following is the strongest ionic compound :
(1) LiC1 (2) HC1 (3) CsC1 (4) CH_3C1

56. Which of the following does not forms π bond :
(1) s-s (2) p-d (3) p-p (4) d-d

57. CO is isoelectronic of :
(1) N_2^+ (2) O_2^+ (3) CN^- (4) O_2^-

58. All s-orbitals have :
(1) $n \neq 0, \iota \neq 0$ (2) $\iota = 0$ (3) $n = 0$ (4) $n = 0, \iota = 0$

59. The dipole moment of BF3 is zero. Which of the following 6 bond orbitals are used by B :
(1) sp^2 (2) sp (3) sp^3 (4) none of these

60. Which of the following have acidic hydrogen :
(1) C_2H_4 (2) C_2H_2 (3) C_2H_6 (4) None of these

61. In which of the following molecule C-C bond is largest :
(1) Benzene (2) Ethene (3) Ethane (4) Ethyne

62. The set of four quantum number of e^0 of 4-d will be :
(1) 3, 2, 0 + ½ (2) 4, 2, 0, + ½
(3) 4, 1, 0, + ½ (4) 4, 3, 0, + ½

63. The molecule which has linear structure is :

(1) NO_2 (2) SO_2 (3) CO_2 (4) OCl_2

64. Which of the following have not tetrahedral geometry :

(1) NH_4^+ (2) BF^-_4 (3) SiF_4 (4) SF_4

65. $\overset{1}{N}\equiv\overset{2}{C}-C-CH_2$ **in this compound bond**

$$\begin{array}{c} \\ | \\ H \end{array}$$

Between C(1) and C(2) is formed by hybrid orbitals of :

(1) sp & sp^2 (2) sp & sp^3 (3) sp & sp (4) sp^2-sp^2

66. The dipole moment of CCl_4 is zero, because of :

(1) equal electron affinity of C, and Cl
(2) equal size of C and Cl
(3) regular size of C and Cl
(4) planar structure

67. The number of moles of H_2 at 500 cm.3 volume, 700 mm. pressure and 300^0 K temperature will be:

(1) $0.203x10^{-2}$ moles
(2) $20.x10^{-3}$ moles
(3) $20.3x10^{-2}$ moles
(4) 2.03×10^{-7} moles

68.Which of the following has electronic configuration as $4f^{1-14}5s^25p^65d^16s^2$:

(1) Representative elements
(2) Transition elements
(3) Lanthanides
(4) Actinides

69. The wave number of hydrogen atom in Lymen series is 82, 200 $cm.^{-1}$. The electron goes from :

(1) III orbit to II (2) II orbit to I (3) IV orbit to III (4) none of these

70. Teflen is a polymer of :

(1) PVC (2) Tetrafluro ethane (3) Tetra fluro ethane (4) C_2H_4

71. In which of the following s character is maximum :

(1) C_6H_6 (2) H_2H_6 (3) C_2H_4 (4) C_2H_2

72. Benzene hexachloride is found by :

(1) Addition (2) Elimination (3) Substitution reaction (4) All these

73. Alkane is found by :

(1) Reaction by alky l halide
(2) Wurtz reaction
(3) Grignard reagent
(4) All these

74. The first inert gas compound invented was :
(1) KrF_6 (2) XeF_6 (3) XeF_2 (4) $XePtF_6$

75. There are unpaired electrons in nitrogen according to :
(1) Hund's rule
(2) Aufabu's principal
(3) Paulis principal
(4) none of these

76. Which of the following is smallest in size :
(1) Na^+ (2) F^- (3) N^-_3 (4) O^{-2}

77. The wave character of electron was invented by :
(1) Schrödinger (2) Henisber (3) Niel Bohr (4) Davisson & Germer

78. The electronic configuration of Chromium will be :
(1) [Ar] $3d^5\ 4s^3$ (2) [Ar]$3d^4\ 4s^2$ (3) [Ar] $3d^5\ 4\ s^1$ (4) [Ar] $3d^5\ 4s^0$

79. In which of the following nos. of primary carbon atoms are maximum :
(1) is pentane (2) iso-octane (3) neopentane (4) all of these

80. $Na_2\ S_2O_3$ is used in photography because :
(1) It is a compound of sulphur
(2) It reacts with Ag Br to form sodium silver thisulphate
(3) It is an antichlor reagent
(4) none of these

81. Borax is found in :
(1) Punjab (2) Rajasthan (3) Utterpradesh (4) Delhi

82. Which of the following is not true for O_3 :
(1) it converts into colourless liquid when condensed
(2) it converts into violet black solid when it condensed
(3) it is blue gas
(4) it is a allotrople of oxygen

83. H_2O and D_2O both have :
(1) common chemical properties
(2) different physical and chemical properties
(3) common physical but different chemical properties
(4) common physical properties

84. Which of the following is not a conjugate base :
(1) CH^-_3 (2) OH^- (3) CO_2^- (4) none of these

85. Plaster of paris is a compound of the following element :
(1) K (2) Ca (3) Mg (4) Na

86. Benzene $\rightarrow$ Toluene is formed by :
(1) Anti-mark rule

(2) F.C.R.
(3) Wurtz reaction
(4) Markownikoff's rule

87. The frequency of wave of 4000 Å wave. Length will be :
(1) 7.5 x 0^2s^{-1} (2) 75 x $10^{10}s^{-1}$ (3) 7.5 x 10^{14} (4) 0.75 x 10^2s^{-1}

88. The oxidation no. of C in CO_2 is :
(1) +1 (2) +2 (3) +4 (4) 0

89. H_2O_2 is :
(1) strong oxidizing agent and weak reducing agent
(2) neigther oxidizing agent nor reducing agent
(3) only reducing agent
(4) only oxidizing agent

90. Which element have maximum oxidation states :
(1) Sc (2) Zn (3) B (4) Mn

91. Carborundum is :
(1) SiB (2) SiC (3) SiO_2 (4) CO_2

92. Stainless steel is :
(1) Fe, Ni, CO, C (2) Fe, Mg, Ni, C
(3) Fe, Cr, Ni, C (4) Fe, Mn, Cr, Ni

93. fluorine is formed by electrolysis of the fused mixture of K and HF because :
(1) It is most reactive (2) It is a gas
(3) It is strong oxidizing agent (4) It is (F_2) toxic

94. Which of the following Lewis acid is strongest :
(1) BI_3 (2) BCI_3 (3) BF_3(4) BBr_3

95. The colour of the solution of alkali metal in liquid ammonia appears to blue due to :
(1) Ammonical metal ion and electron
(2) Ammonical electron
(3) Ammonical metal ion
(4) Metal ion

96. The solubility product of calcium oxalate is 2.5 x 10-3 mole2/liter-2 . The required minimum concentration of calcium ion to precipitate it will be :
(1) >$5x10^{-2}$ (2) $5x10^{-2}$ (3) <$5x10^{-2}$ (4) none of these

97. Aqueous solution of ferric chloride is :
(1) Very week Basic (2) Acidic (3) Neutral (4) Basic

98. Which one is electrolyzed in the metallurgy of aluminium :
(1) Cryolite and Alumina
(2) Alumina
(3) Cryolite

(4) Bauxite

99. Which of the following gives rod colour precipitate with sodium cupritartaarate :
(1) CH_3COOH (2) CH_3COCH (3) $CH_3COC_2H_5$ (4) CH_3CHO

100. Which of the following are present in picric acid :
(1) $–NO_2$ group
(2) –OH and $–NO_2$ group
(3) $–NO_2$ and –COOH groups
(4) –OH group

ANSWER SHEET

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