The Bodwad Sarvajanik Co-op. Education Society Ltd., Bodwad

Arts, Commerce and Science College, Bodwad

Question Bank

Class: F.Y.B.Sc. **Sem: I**

Subject: Physical & Inorganic Chemistry-I

1. Which of the following is a type of logarithm,
   a) Briggsian b) Nepierian **c) Both a & b** d) Partial

2. The integral part of a logarithm is called as,
   a) Mantissa b) Antilog **c) Characteristic** d) Mean

3. log A/B = ?
   a) log A + log B **b) log A – log B** c) log A x log B d) Zero

4. Mantissa is determined by using……
   a) **Logarithm table** b) Formula c) Manual calculation d) None

5. $\log_e$ = ……..$\log_{10}$
   a) 0.4343 b) 1.987 c) 3.14 **d) 2.303**

6. log x^n = ……..
   a) n log x b) log x/n c) log n/x d) 10

7. log 10 = …..
   a) 10 b) 100 **c) 1** d) 0.1

8. log 2 = ……
   a) 0.4343 **b) 0.3010** c) 0.693 d) 2.303

9. Characteristic can be positive or negative.
   a) True b) False c) Cannot be predicted d) All of these

10. Mantissa is always positive.

a) True b) False c) Cannot be predicted d) All of these

11. If log y = x then, y =

a) 100 – y **b) Antilog x** c) x = y d) x^y

12. The value of 'e' is

a) 2.7182 b) 2.303 c) 4.182 d) 3.093

13. Graph has ……..quadrants.

a) 2 b) 3 **c) 4** d) 5

14. A two dimensional graph has ……..axes.

a) 2 b) 3 c) 4 d) 5

15. The point of interception of axes is called,

a) Intercept b) Constant c) co-ordinate **d) Origin**

16. y= mx + b is the equation of,

a) hyperbola **b) Straight line** c) Ellipse d) circle

17. If the intercept on y-axis is zero then,

a) line passes through origin b) line is not straight

b) line is exponential d) line is zigzag

18. The slope of the line is shown by the symbol,

a) x **b) m** c) y d) b

19. For the line parallel to x-axis,

a) slope = 0 b) slope = infinity c) intercept is zero d) None

20. For the line parallel to y-axis,

a) slope = 0 **b) slope = infinity** c) intercept is zero d) None

21. Two straight lines are said to be perpendicular to each other when the product of their slope is

a) 5 b) 1 **c) -1** d) 0

22. In the relation y = f(x)

a) y is dependent variable b) y is independent variable

b) y is zero d) y is constant

23. In the relation y = f(x)

a) x is dependent variable **b) x is independent variable**

b) x is zero d) x is constant

24. If $y = x^n$ then, dy/dx = …….

a) x^{n-1} **b) nx^{n-1}** c) (n-1)x d) $(n-1)x^n$

25. If y = 5 then dy/dx = ……

a) 5x **b) zero** c) x^5 d) x-5

26. If y = 5x then dy/dx = …….

a) 5x b) zero **c) 5** d) x

27. If y = x+1 then dy/dx = …….

a) 1 b) zero c) 5 d) x

28. If y = x/2 then dy/dx = …….

a) ½ b) 2x c) x^2 d) 1

29. If y = ln x then dy/dx =

a) 1/x b) 2x c) x^2 d) 1

30. According to Ohm's law, current flowing through a conductor is directly proportional to

a) Length **b) EMF** c) Resistance d) Sp. Resistance

31. Resistance is directly proportional to

a) Length b) Area of cross section c) current d) voltage

32. Resistance is inversely proportional to

a) Length **b) Area of cross section** c) sp. Resistance d) current

33. The unit of resistance is

a) mho **b) ohm** c) volt d) cm

34. The unit of conductance is

a) mho b) ohm c) volt d) cm

35. Conductance is ……to resistance

a) directly proportional **b) inversely proportional**

c) similar d) not related

36. Specific conductance is the conductance of a conductor having

a) 2 cm legth & 2 cm^2 area of cross section.

b) 1 cm legth & 1 cm^2 area of cross section.

c) 5 cm legth & 5 cm^2 area of cross section.

d) 10 cm legth & 10 cm^2 area of cross section.

37. Conductivity cell is used to measure …….of a solution.

a) conductance b) resistance c) length d) volume

38. In a conductivity cell, the ratio l/A is called as,

a) Specific resistance b) Specific conductance **c) cell constant** d) EMF

39. ……solution is used to determine cell constant.

a) KCl b) HCl c) NaOH d) KOH

40. Specific conductance (Ls) = cell constant (K) x ……..

a) observed resistance **b) observed conductance** c) concentration d) volume

41. cell constant (K) = Specific conductance (Ls) x ……..

a) observed resistance b) observed conductance c) concentration d) volume

42. Specific conductance (Ls) ……..with increase in concentration.

a) increases b) decreases c) remains constant d) randomize

43. Equivalent conductance ……..with increase in concentration.

a) increases **b) decreases** c) remains constant d) randomize

44. In conductometric titrations, equivalence point is determined by……

a) color indicator **b) graphical method** c) calculation d) guessing

45. Both elements of 1st period contain valence electrons in

a) M shell b) N shell **c) K shell** d) S shell

46. In the periodic table, helium is placed at

a) top left corner b) bottom right corner c) bottom left corner **d) top right corner**

47. Across the period the atomic size decreases due to

a) shielding effect b) photoelectric effect

c)increase in nuclear force of attraction d) decrease in nuclear force of attraction

48. Down the column the atomic size

a) increases b) decreases c) remain same d) fluctuates

49. Down the column the atomic size increases due to

a) shielding effect b) photoelectric effect

c)addition of new shell d) decrease in nuclear force of attraction

50. Down the column the electronegativity

a) increases **b) decreases** c) remain same d) fluctuates

51. Down the column the ionization energy

a) increases **b) decreases** c) remain same d) fluctuates

52. Down the column the electron affinity

a) increases **b) decreases** c) remain same d) fluctuates

53. Across the period the atomic size……..from left to right

a) increases **b) decreases** c) remain same d) fluctuates

54. Across the period the ionization energy……..from left to right

a) increases b) decreases c) remain same d) fluctuates

55. Across the period the electronegativity……..from left to right

a) increases b) decreases c) remain same d) fluctuates

56. Across the period the electron affinity……..from left to right

a) increases b) decreases c) remain same d) fluctuates

57. Ionization potential is measured in…….

a) kcal b) kJ **c) eV** d) erg

58. The periodic table consists of…….blocks.

a) 2 b) 3 c) 1 **d) 4**

59. The first group elements are called as……

a) alkali metals b) alkaline earth metals c) transition metals d) noble gases

60. The second group elements are called as……

a) alkali metals **b) alkaline earth metals** c) transition metals d) noble gases

61. The zero group elements are called as……

a) alkali metals b) alkaline earth metals c) transition metals **d) noble gases**

62. The d-block elements are called as……

a) alkali metals b) alkaline earth metals **c) transition metals** d) noble gases

63. The f-block elements are called as……

a) Lanthanides & actinides b) alkaline earth metals c) transition metals d) noble gases

64. s-orbital can accommodate a maximum of ……. electrons.

a) 2 b) 6 c) 10 d) 14

65. p-orbital can accommodate a maximum of ……. electrons.

a) 2 **b) 6** c) 10 d) 14

66. d-orbital can accommodate a maximum of ……. electrons.

a) 2 b) 6 **c) 10** d) 14

67. f-orbital can accommodate a maximum of ……. electrons.

a) 2 b) 6 c) 10 **d) 14**

68. The ionization energy depends on,

a) Atomic size b) electronic configuration c) screening effect **d) All of these**

69. The tendency of an atom in a molecule to attract shared electrons is called……

a) electron affinity **b) electronegativity** c) ionization energy d) atomic size

70. The amount of energy released when an extra electron is added to an isolated gaseous atom in its ground state is called ……

a) electron affinity b) electronegativity c) ionization energy d) atomic size

71. The amount of energy required to remove an electron from an isolated gaseous atom in

its ground state is called ……

a) electron affinity b) electronegativity **c) ionization energy** d) atomic size

72. The distance of the outermost orbital from the center of nucleus is called.

a) electron affinity b) electronegativity c) ionization energy d) atomic radius

73. The ion having positive charge is called,

a) cation b) anion c) free radical d) carbene

74. The ion having negative charge is called,

a) cation **b) anion** c) free radical d) carbene

75. Cation is bigger in size than anion.

a) True **b) False** c) Not related d) same

76. Anion is bigger in size than Cation.

a) True b) False c) Not related d) same

77. Crown ether is……..ligand

a) monodentate b) bidentate **c) polydentate** d) tridentate

78. The electronic configuration of Lithium is,

a) $1s^2\ 2s^1$ b) $1s^1$ c) $1s^2\ 2s^2$ d) $1s^2\ 2s^2\ 2p^1$

79. The electronic configuration of Helium is,

a) $1s^2\ 2s^1$ **b) $1s^2$** c) $1s^2\ 2s^2$ d) $1s^2\ 2s^2\ 2p^1$

80. The electronic configuration of Hydrogen is,

a) $1s^2\ 2s^1$ **b) $1s^1$** c) $1s^2\ 2s^2$ d) $1s^2\ 2s^2\ 2p^1$

81. The electronic configuration of Sodium is,

a) $1s^2\ 2s^1$ b) $1s^1$ c) $1s^2\ 2s^2$ **d) $1s^2\ 2s^2\ 2p^6\ 3s^1$**

82. Sodium is…….

a) Metal b) Non-metal c) Gas d) Liquid

83. Hydrogen is ……..

a) Metal b) Non-metal **c) Gas** d) Liquid

84. Formation of ions is called as…..

a) ionization b) Hydrolysis c) Solvation d) addition

85. The s-block elements are good……..

a) oxidizing agents **b) reducing agents** c) ligands d) nucleophiles

86. The adhesion of atoms/ ions/ molecules on the surface is called,

a) absorption **b) adsorption** c) reaction d) addition

87. The surface on which adsorption takes place is called,

a) adsorbate **b) adsorbent** c) solute d) solvent

88. The material which gets adsorbed is called,

a) adsorbate b) adsorbent c) solute d) solvent

89. Activated charcoal is generally used to remove….

a) gases b) acids **c) coloured impurities** d) water

90. Isotherms are determined at……

a) variable temperature b) Low temperature c) fluctuating **d) constant**

91. In several reactions, activated charcoal is used as……

a) reactant b) metal catalyst **c) heterogeneous catalyst** d) energy source

92. The integration is of …… types.

a) 1 **b) 2** c) 3 d) 4

93. The integration is of two types,

a) partial integration & complete integration b) Standard integration & general integration

c) Integration without limits & within limits d) Important & non-important

94. $\int x dx =$

a) x + C b) 1 c) 0 **d) $x^2/2 + C$**

95. $\int (5x + 2)dx =$

a) 5x + C b) x + C **c) $5x^2/2 + C$** d) 10x + C

96. Integration is …….. to that of differentiation

a) similar **b) opposite** c) irrelevant d) None

97. Constant must be used in,

a) integration with limits **b) integration without limits** c) both d) none

98. Integration without limits is called as……..

a) Definite integration **b) Indefinite integration** c) Useful integration d) All

99. Integration within limits is called as……..

a) Definite integration b) Indefinite integration c) Useful integration d) All

100. $\int d \ln V =$

a) ln V b) 1/V c) V d) V^2