

Class: F.Y.B.Sc.

Subject: Physical & Inorganic Chemistry-I

Multiple Choice Questions

1. Which of the following is a type of logarithm,
a) Briggsian b) Napierian **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) $\log A \times \log B$ d) Zero
4. Mantissa is determined by using.....
a) **Logarithm table** b) Formula c) Manual calculation d) None
5. $\log_e = \dots\dots\dots\log_{10}$
a) 0.4343 b) 1.987 c) 3.14 **d) 2.303**
6. $\log x^n = \dots\dots\dots$
a) $n \log x$ b) $\log x/n$ c) $\log n/x$ d) 10
7. $\log 10 = \dots\dots$
a) 10 b) 100 **c) 1** d) 0.1
8. $\log 2 = \dots\dots\dots$
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 hasquadrants.

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

14. A two dimensional graph hasaxes.

- 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, $dy/dx = \dots\dots$

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

25. If $y = 5$ then $dy/dx = \dots\dots$

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

26. If $y = 5x$ then $dy/dx = \dots\dots$

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

27. If $y = x+1$ then $dy/dx = \dots\dots$

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

28. If $y = x/2$ then $dy/dx = \dots\dots$

- a) $1/2$** 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 isto 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 length & 2 cm² area of cross section.
b) 1 cm length & 1 cm² area of cross section.
c) 5 cm length & 5 cm² area of cross section.
d) 10 cm length & 10 cm² area of cross section.

37. Conductivity cell is used to measureof 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 conductancewith 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