ONE MARK TEST-I

SUBJECT : CHEMISTRY   **TIME : 45 MINTS**

STD : XI   **(BOOK BACK FULL PORTION)**   **MARKS : 50**

CHOOSE THE CORRECT ANSWER   **50 X 1 = 50**

1. Carbon forms two oxides, namely carbon monoxide and carbon dioxide. The equivalent mass of which element remains constant?

  a) carbon   b) oxygen   c) both carbon and oxygen   d) neither carbon nor oxygen

2. Which one of the following is used as a standard for atomic mass.

  (a) $_6C^{12}$ (b) $_7C^{12}$ (c) $_6C^{13}$ (d) $_6C^{14}$

3. 7.5 g of a gas occupies a volume of 5.6 litres at 0o C and 1 atm pressure. The gas is

  a) NO   b) N_2O c)   CO   d) CO_2

4. According to the Bohr Theory, which of the following transitions in the hydrogen atom will give rise to the least energetic photon ?

  a) n = 6 to n = 1   b) n = 5 to n = 4   c) n = 5 to n = 3   d) n = 6 to n = 5

5. Two electrons occupying the same orbital are distinguished by

  a) azimuthal quantum number   b) spin quantum number

  c) magnetic quantum number   d) orbital quantum number

6. The maximum number of electrons in a sub shell is given by the expression

  a) $2n^2$ b) 2l + 1 c)   4l + 2   d) none of these

7. The group of elements in which the differentiating electron enters the anti penultimate shell of atoms are called

  a) p-block elements b) d-block elements   c) s-block elements   d) f-block elements

8. Which of the following elements will have the highest electronegativity?

  a) Chlorine   b) Nitrogen   c) Cesium   d) Fluorine

9. In the third period the first ionization potential is of the order.

  a) Na > Al > Mg > Si > P   b) Na < Al < Mg < Si < P

  c) Mg > Na > Si > P > Al   d) Na< Al < Mg < Si < P

10. In a given shell the order of screening effect is

  a) s > p > d > f   b) s > p > f > d   c) f > d > p > s   d) f > p > s > d

11. Which of the following statements about hydrogen is incorrect ?

  a) Hydrogen ion, H_3O^+ exists freely in solution. b) Dihydrogen acts as a reducing agent.

  c) Hydrogen has three isotopes of which tritium is the most common.

  d) Hydrogen never acts as cation in ionic salts

12. Tritium nucleus contains

  a) 1p + 0 n   b) 2 p + 1n   c) 1p + 2n   d) none of these

13. The type of H-bonding present in ortho nitro phenol and p-nitro phenol are respectively
 a) inter molecular H-bonding and intra molecular H-bonding
b) intra molecular H-bonding and inter molecular H-bonding
c) intra molecular H - bonding and no H - bonding
d) intra molecular H - bonding and intra molecular H - bonding

14. Non-stoichiometric hydrides are formed by
   a) palladium, vanadium   b) carbon, nickel
   c) manganese, lithium   d) nitrogen, chlorine

15. odium is stored in
   a) alcohol   b) water   c) kerosene   d) none of these

16. Lithium shows diagonal relationship with
   a) sodium   b) magnesium   c) calcium   d) aluminium

17. The suspension of slaked lime in water is known as
   a) lime water   b) quick lime   c) milk of lime   d) aqueous solution of slaked lime

18. Rate of diffusion of a gas is
a) directly proportional to its density   b) directly proportional to its molecular weight
c) directly proportional to its square root of its molecular weight
d) inversely proportional to the square root of its molecular weight

19. When an ideal gas undergoes unrestrained expansion, no cooling occurs because the
    molecules
   a) are above inversion temperature   b) exert no attractive forces on each other
   c) do work equal to the loss in kinetic energy   d) collide without loss of energy

20. The temperatures at which real gases obey the ideal gas laws over a wide range of
    pressure is called
   a) Critical temperature   b) Boyle temperature
   c) Inversion temperature   d) Reduced temperature

21. The amount of heat exchanged with the surrounding at constant temperature and pressure
    is given by the quantity
   a) ΔE b) ΔH c) ΔS d) ΔG

22. The intensive property among the quantities below is
   a) mass   b) volume   c) enthalpy   d)mass/volume

23. Heat of combustion is always
   a) positive   b) negative   c) zero   d) either positive or negative

24. The correct thermodynamic conditions for the spontaneous reaction at all temperature is
a) $\Delta H < 0$ and $\Delta S > 0$ b) $\Delta H < 0$ and $\Delta S < 0$ c) $\Delta H > 0$ and $\Delta S = 0$ d) $\Delta H > 0$ and $\Delta S > 0$

25. Solubility of carbon dioxide gas in cold water can be increased by
   a) increase in pressure   b) decrease in pressure c) increase in volume   d) none of these

26. Which one of the following is incorrect statement ?
a) for a system at equilibrium, Q is always less than the equilibrium constant
b) equilibrium can be attained from either side of the reaction
c) presence of catalyst affects both the forward reaction and reverse reaction to the same extent
 d) Equilibrium constant varied with temperature

27. An equilibrium constant of 3.2×10^{-6} for a reaction means, the equilibrium is
a) largely towards forward direction   b) largely towards reverse direction
c) never established   d) none of these

28. In a chemical equilibrium, the rate constant for the forward reaction is 2.5×10^2 and the equilibrium constant is 50. The rate constant for the reverse reaction is,
    a) 11.5   b) 5   c) 2×10^2 d) 2×10^{-3}

29. Which of the following concentration terms is / are independent of temperature
    a) molality   b) molarity   c) mole fraction   d) (a) and (c)

30. The molality of a solution containing 1.8g of glucose dissolved in 250g of water is
    a) 0.2 M   b) 0.01 M   c) 0.02 M   d) 0.04 M

31.According to Raoults law, the relative lowering of vapour pressure for a solution is equal to
 a) mole fraction of solvent   b) mole fraction of solute
 c) number of moles of solute   d) number of moles of solvent

32. The Van't Hoff factor (i) for a dilute aqueous solution of the strong elecrolyte barium hydroxide is
    a) 0   b) 1   c) 2   d) 3

33. The ratio of number of sigma (σ) and pi (π) bonds in 2- butynal is
    a) 8/3   b) 5/3   c) 8/2   d) 9/2

34. Which one of the following is diamagnetic.?
    a) O_2 b) O_2^{2-} c) O_2^+ d) None of these

35. Non- Zero dipole moment is shown by
   a) CO2   b) p-dichlorobenzene   c) carbontetrachloride   d) water

36. Which one of the following names does not fit a real name?
   a) 3 – Methyl –3–hexanone   b) 4–Methyl –3– hexanone
   c) 3– Methyl –3– hexanol   d) 2– Methyl cyclo hexanone

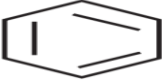37. Which one of the following shows functional isomerism?
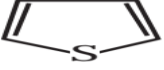   a) ethylene   b) Propane   c) ethanol   d) CH2Cl2

38. Which of the following is optically active?
   a) 3 – Chloropentane   b) 2 Chloro propane   c) Meso – tartaric acid   d) Glucose

39. The isomer of ethanol is
 a) acetaldehyde   b) dimethylether   c) acetone   d) methyl carbinol

40. Hyper Conjugation is also known as
(a) no bond resonance (b) Baker - nathan effect (c) both (a)and (b) (d) none of these

41. Homolytic fission of covalent bond to the formation of
  (a) electrophile   (b) nucleophile   (c) Carbo cation   (d) free radical

42. The geometrical shape of carbocation is
 a) Linear   b) tetrahedral   c) Planar   d) Pyramidal

43. Which of the following is optically active
 a) 2 – methyl pentane   b) citric acid   c) Glycerol   d) none of of these

44. Cis – 2 – butene and trans – 2 – butane are
   a) conformational isomers   b) structural isomers
   c) configurational isomers   d) optical isomers

45. Which one of the following is non   aromatic ?

a)   b)

c)   d)

46. C -X bond is strongest in
a) Chloromethane   b) Iodomethane   c) Bromomethane   d) Fluoromethane

47. Freon-12 is manufactured from tetrachloro methane by
a) Wurtz reaction   b) Swarts reaction   c) Haloform reaction   d) Gattermann reaction

48. The raw material for Rasching process
  a) chloro benzene   b) phenol   c) benzene   d) anisole

49. Haemoglobin of the blood forms carboxy haemoglobin with
  a) Carbon dioxide   b) Carbon tetra chloride   c) Carbon monoxide   d) Carbonic acid

50. The pH of normal rain water is
  a) 6.5   b) 7.5   c) 5.6   d) 4.6

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