

Section-A

Multiple Choice Questions (MCQ's)

Q.1 Choose the correct answer for each from the given options:

- (1) Number of electrons in a shell is given by:
(a) $2n^3$ (b) $2n^2$ (c) $2(2l + 1)$ (d) $2l^2$
- (2) Oxidation number of oxygen in OF_2 is:
(a) -2 (b) -1 (c) +1 (d) +2
- (3) The shape of p-orbital is:
(a) Spherical (b) Complex (c) Dumb-bell (d) double dumb-bell
- (4) The crystal of sodium chloride is made up of _____ unit cells.
(a) Trigonal (b) Cubic (c) orthrhombic (d) Monoclinic
- (5) Which orbital has lowest energy?
(a) 3d (b) 4s (c) 3p (d) 4f
- (6) If $\frac{dx}{dt} = K$ then concentration of each reactant in a reaction must be:
(a) 2M (b) 3M (c) 10M (d) 1M
- (7) Mass of electron is:
(a) $9.11 \times 10^{28}g$ (b) $9.11 \times 10^{31}kg$
(c) 0.000055 a.m.u (d) All of these
- (8) Neutron was discovered by:
(a) W. Crookes (b) Gold Stein
(c) Moseley (d) James Chadwick
- (9) Which of the following figure contain three significant digits:
(a) 1.030 (b) 0.035 (c) 0.0010 (d) 1030
- (10) Which of the following molecule posses highest dipolemoment?
(a) CO (b) CO_2 (c) CS_2 (d) $BeCl_2$
- (11) How many moles are there in 8 g of hydrogen gas:
(a) 2 moles (b) 4 moles (c) 6 moles (d) 8 moles
- (12) 16 g of oxygen gas at S.T.P occupies:
(a) $11.2 dm^3$ (b) $22.4 dm^3$ (c) $44.8 dm^3$ (d) $67. dm^3$
- (13) The dissociation of an electrolyte depends upon:
(a) Nature of electrolyte (b) Degree of dilution
(c) Temperature (d) All of these
- (14) For the decomposition of H_2O_2 , the inhibitor is:
(a) MnO_2 (b) V_2O_5 (c) Glycerine (d) Al_2O_3
- (15) Alpha particle consist of :
(a) 2 protons and 2 neutrons (b) 3 protons and 2 electrons
(c) 1 proton and 2 neutron (d) 2 protons and 1 neutron
- (16) Second energy level contain:
(a) Two sub- shells (b) Four orbitals
(c) Maximum eight electrons (d) All of these
- (17) Oxidation number of oxygen in KO_2 is:
(a) -2 (b) -1 (c) -1/2 (d) +2
- (18) Strongest sigma bond is formed due to _____ orbital overlapping.
(a) s - s (b) s - p (c) p - p (d) All of these
- (19) When 1 mole of a compound is formed at $25^\circ C$ and 1 atm pressure then it is called:
(a) H_f (b) H_f° (c) H (d) E
- (20) Which crystalline solid posses low melting point and low density?
(a) Atomic solid (b) Molecular solid
(c) Ionic solid (d) Metallic solid
- (21) The total number of electrons in a sub-shell having $l=2$ are:
(a) 2 (b) 6 (c) 8 (d) 10
- (22) Which one of the following is an element?
(a) Sea water (b) Graphite (c) Air (d) Soil
- (23) The volume of gas varies with:
(a) Temperature (b) Pressure (c) Moles (d) All of these
- (24) Phenolphthalein indicator given _____ color in basic solution.
(a) Yellow (b) Green (c) Pink (d) Blue
- (25) Which one of the following has zero dipolemoment?
(a) CH_4 (b) NH_3 (c) HF (d) H_2O
- (26) The law of chemical equilibrium is given by:
(a) Le- Chatellier (b) Guldberg and Waage (c) Bohr (d) Einstein
- (27) According to _____ Law $Pv = K$ at constant temperature.
(a) Boyle's (b) Charle's (c) Avogadro's (d) Graham's
- (28) The rate of diffusion / effusion of gases depends upon their:
(a) Molecular Mass (b) Molecular Motion
(c) Both (a) and (b) (d) None of these
- (29) Which one of the following can not be hydrolyzed?
(a) NaCl (b) NH_4Cl (c) Na_2CO_3 (d) Both (b) and (c)
- (30) Bond energy is maximum in case of:
(a) Polar Bond (b) Non-polar Bond
(c) Both (a) and (b) (d) None of these
- (31) Rate of formation of product for a chemical reaction $A \rightarrow B$ can be denoted as :
(a) $\frac{dt}{dx}$ (b) $-dA/dt$ (c) dB/dt (d) $-dt/dx$
- (32) e/m ratio of electron is determine by:
(a) William Crookes (b) Gold Stien
(c) Milliken (d) J.J Thomson
- (33) The grading of motor oil is done on the basis of its:
(a) Boiling point (b) Vapour pressure
(c) Viscosity (d) Surface tension
- (34) One atomic unit is equal to 1/12 th of the mass of:
(a) C^{12} (b) C^{13} (c) C^{14} (d) All of these
- (35) The S.I Unit of dipole-moment is:
(a) Debye (b) esu cm (c) Coloumb meter (d) Joule
- (36) The unit of rate constant for zero order reaction is:
(a) s^{-1} (b) $mol l^{-1}s^{-1}$ (c) $l^2 mol^{-2} s^{-1}$ (d) $1 mol^{-1} s^{-1}$
- (37) If value of $l = 3$ then orbital is:
(a) s (b) p (c) d (d) f
- (38) Isomorphism is the property of:
(a) Crystalline solids (b) Amorphous solids
(c) Liquids (d) Gases
- (39) Rate of reaction is directly proportional to:
(a) Concentration of Reactant (b) Concentration of Product
(c) Inhibitor (d) Order of Reaction
- (40) Hydrolysis may be the reverse of:
(a) Hydration (b) Neutralization
(c) Ionization (d) None of these
- (41) The ability of an ion to be hydrated, depends upon its:
(a) Charge (b) Size (c) Both (a) and (b) (d) None of these
- (42) At equilibrium state, the composition of equilibrium mixture:
(a) Continuously changes (b) Remains constant
(c) Continuously changes (d) Remains constant
- Vapour pressure of liquid is measured by:
(a) Viscometer (b) Manometer
(c) Stalagmometer (d) Calorimeter