

# FUSION

**S.C.F. 21, 22, 23, Phase -7, Mohali. Ph.9417009068.**

**Important Topic**

**+1**

**Part - I**

(By Er. Khurana Sir)

- Mole Concept
  - Definitions
  - \*Numerical of “number of atom & molecule” [one question of 2-marks]
  - \*Numerical of “ Empirical Formula” [one question of 3-marks]
  - Numerical of “Molarity, Molality ,Normality”
- Atomic Structure
  - All Definitions but these are must ( Abfua ,Hund’s,Paulis,Bhor-bury rule/(n+l)rule)
  - Spectrum
  - Derivation of De broglie’s Numerical on De broglie’s [one question of 2-marks]
  - Numerical of “Heisenberg Uncertainty principle”
  - Difference between orbit and orbital
  - Quantum numbers and electronic configuration.
- Periodic Table
  - Merit and Demerit of Mendeleev periodic table.
  - Modern periodic Law , periodicity and cause of periodicity,
  - Nomenclature of elements with atomic number more than 100 [one question of 1 mark ]
  - General electronic configuration of S,P,D,F-block and their properties.
  - All Definitions Ionization energy ,Electro negativity , Electron –affinity or Electron gain enthalpy and trends along the period and groups
  - Reasoning question of Ionization Energy
- Chemical Bonding
  - Definitions
  - Postulates of VSEPR theory and their questions with shapes.
  - Postulates of Hybridization and their questions with shapes.
  - \*Molecular Orbital theory(MOT) ,writing molecular configuration ,bond order ,stability with energy level [one 3-mark question]
  - Resonance, Hydrogen Bonding with their example.
  - Dipole – moment
- States of matter
  - Definitions
  - \*Numerical of Boyles law , Charles law , Ideal gas ,Daltons law .
  - Vander Wall gas equation / Real gas equation , cause of correction in real gas equation and units of Vander Wall gas constant . ‘a’ and ‘b’ with their significance.
  - Postulates of Kinetic gas theory
  - Compressibility factor and +ve and –ve deviation gases .
  - Theoretical questions on surface tension and Boiling point of liquid.
- Thermodynamics
  - \*Definitions with example
  - Derivations of equation  $\Delta H = \Delta E + P\Delta V$  ,  $\Delta H = \Delta E + \Delta ngRT$  ,  $C_p - C_v = R$ ,
  - Numerical of  $\Delta H = \Delta E + \Delta ngRT$ ,  $\Delta G = \Delta H - T\Delta S$ ,  $\Delta G = -2.203RT \log K_c$ .
  - Numerical of Bond Energy, Hess’s law ,Heat of formation and heat of combustions. Spontaneous reaction or not.
  - Theoretical questions Entropy and Theoretical questions Spontaneous reaction including explanation of Coupled reaction.
- Equilibrium
  - Definition’s
  - Characteristics of Equilibrium
  - Significance of Equilibrium Constant
  - Numerical of Equilibrium Constant, P-H , Buffer Solution, solubility Product and Ionic Product.
  - Le Chatelier's principle with all it types
  - Theoretical questions Conjugate Acid and Base including definitions of Acid and Base given by Lewis