XI- CHEMISTRY IMPORTANCE

(All Types of Questions)

Laws:

1. Periodic law
2. Modern periodic law
3. Dobereiner Law of triads
4. Newland's Law of octaves
5. A.E.B. de Chancourtios law
6. Boyle's law
7. Charles law
8. Gay Lussac's law
9. Avogadro's hypothesis
10. Ideal gas law (or) combined gas law
11. Dalton's law of partial pressure
12. Graham's law of diffusion and effusion
13. Zeroth law of thermodynamics
14. First law of thermodynamics
15. Second law of thermodynamics
16. Third law of thermodynamics
17. Hess's law of constant heat summation
18. Kelvin planck statement
19. Clausius statement
20. Gibbs free energy
21. Law of mass action
22. Henry's law
23. Van't Hoff factor
24. Markovnikoff's rule

25. Anti markovnikoff's rule or peroxide effect

Charge:

1. Effective nuclear charge
2. Formal charge
3. Isoelectronic ions
4. Dipole moment

Principle:

1. Heisenberg uncertainty principle (Ln-2)
2. Aufbau principle (Ln-2)
3. Pauli exclusion principle (Ln-2)
4. Diagonal relationship (Ln-3)
5. Distinctive or anamolous behaviour (Ln-5)
6. Le- Chatelier's principle

Method:

1. Davision Germer method (Ln-2)
2. Pauling method for the determination of ionic radius
3. Clarks method (Removing temporary hardness) (Ln-4)
4. Ion exchange method (Removing permanent hardness) (Ln-4)
5. Different methods of liquefaction of gases

6. Born- Haber cycle
7. LCAO (Linear Combination of Atomic Orbital) method
8. Estimation of sulphur and halogen, phosphorus by Carius method
9. Estimation of nitrogen by Dumas and Kjeldahls method
10. Green chemistry and it's routes
11. Various methods to protect our environment from pollution.

Derive:

1. Debroglie equation (Ln-2)
2. Time independent Schrodinger equation (Ln-2)
3. Ideal gas equation
4. Vander waals equation (P, V correction)
5. Critical constants from vander waals constant
6. The relationship between enthalpy (H) and internal energy (U)
7. The relationship between Kp and Kc
8. The Kp and Kc for the formation of HI
9. The Kp and Kc for the dissociation of PCl5
10. The Kp and Kc for the synthesis of ammonia
11. Van't Hoff equation
12. Raoults law

Rules:

1. n+l rule (Ln-2)

2. Hunds rule of maximum multiplicity (Ln-2)
3. Octet rule
4. Fajan's rule
5. Priority rules (IUPAC names)
6. Huckel's rule of aromaticity

Effect:

1. Zeeman effect
2. Stark effect
3. Screening effect
4. Inductive effect and it's types
5. Electromeric effect and it's types
6. Resonance or Mesomeric effect and it's types
7. Hyperconjugation
8. Green house effect
9. Harmful effects of acid rain
10. Environmental impact of ozone depletion

Process / Formation:

1. Solvay process (preparation of ammonia)
2. Castner-kellner cell process (preparation of sodium hydroxide)
3. Andrew's isotherm of carbon dioxide
4. Thermodynamic processes
    i. Reversible process
    ii. Irreversible process

iii. Adiabatic process
iv. Isothermal process
v. Isobaric process
vi. Isochoric process
vii. Cyclic process

5. Osmosis and osmotic pressure.
6. Reverse osmosis
7. Isotonic solutions
8. Hybridization
9. Sublimation
10. Paper and Column Chromatography
11. Fractional distillation
12. Depletion of ozone layer
13. Eutrophication
14. Chemical oxygen demand (COD)
15. Biochemical oxygen demand (BOD)
16. Lassiaigne's extract

Applications:

1. Biological importance of sodium and potassium.
2. Biological importance of magnesium and calcium
3. Applications of Dalton's law

Characteristics:

1. List the characteristics of internal energy
2. List the characteristics of gibbs free energy

Similarities:

1. Similarities between lithium and magnesium
2. Similarities between beryllium and aluminium

Limitations:

1. Limitations of Bohrs model of atom
2. Limitations of Henry's law

Theory:

1. Postulates of VSEPR theory
2. Postulates of VB theory
3. Types of hybridizations
4. Bonding in Ethylene and acetylene
5. Postulates of MO theory

Tests:

1. Test for alkene (Bromine water)
2. Test for unsaturation (acidified $KMnO_4$ & Bromine in CCl_4)

Factors influencing:

1. Factors influencing the equilibrium (Le-chatelier' principle)
2. Factors influencing the solubility
3. Factors influencing the deviation from raoults law

Diagrams:

1. Draw the MO diagrams of the following:
   i. O_2
   ii. N_2
   iii. CO

Structure:

1. Lewis dot structure of a various molecule
2. Elucidate the Structure of benzene
3. Conformers of n-butane
4. IUPAC name to structure
5. Resonance

Exception:

1. Lewis structure for exceptions to Octet rule.