

SOME BASIC CONCEPTS  
Empirical formula,  
molecular formula,  
Limiting agent, selected  
problem of mole  
concept, Molarity only ,  
NCERT problems based upon  
stoichiometry and limiting  
reactant



## STRUCTURE OF ATOM

Rules for configurations (Cu , Cr )

Numericals on -

deBroglie ,Heisenberg,Raydberg &  
energy of electron AND Rydberg  
formula.

Some basic & simple properties on

Quantum number. NCERT hots

Question like "Why electron does  
not exist in nucleus "?

# CLASSIFICATION & PERIODIC PROPERTIES

Isoelectronic species, Ionisation energy, Electron gain enthalpy only. Difference between Electron gain enthalpy and electronegativity . NCERT questions based upon above topics.

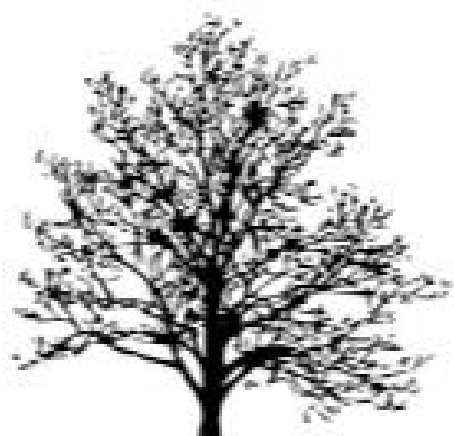
## CHEMICAL BONDING

Hybridisation and structure of ethane, ethyne,  $\text{SF}_4$ ,  $\text{ClF}_3$ ,  $\text{H}_2\text{O}$ ,  $\text{H}_2\text{S}$ ,  $\text{PCl}_5$ .

Molecular orbital theory – Bond order & its application for –  
(a)  $N_2, N_2^-, N_2^+$  (b)  $O_2$ , peroxide, superoxide

Dipole moment , Bond angle , ( H-Bond ).

NCERT questions based upon above topics.



1st LAW OF THERMODYNAMICS  
Definition like state function , state  
variable , Limitation of first law ,  
Numerical on Hess,s law , Bond  
Energy , Free energy and Entropy  
and Spontaneity.



## STATES OF MATTER

Numerical on Ideal gas equation and

Dalton law ( with density relation)

Theory part questions on Charles  
law, Definition of viscosity . surface  
tension etc.

Significance of  $a$  and  $b$ .

NCERT questions on above topics,



## EQUILIBRIUM

$K_c$  and  $K_p$  , relation between  $K_c$  &  $K_p$ ,

Numerical based upon equilibrium constant,

Le-chatelier principal and Henry's Law and application.

Acid - base concept, Amphoteric substance , Conjugate acid and base , numerical is based upon pH , solubility product and ionic product with the numerical, salt hydrolysis.



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Definition of Law of Multiple  
proportion , Gay lussacs law .

