

# REACTION MECHANISM

- Actual pathway of reaction is called reaction mechanism
- Mechanism is only suggestive not conclusive
- Mechanism is based on available evidences

## **TYPES OF MECHANISMS**

1. **HETEROLYTIC MECHANISMS** If a bond breaks in such a way that both electrons remain with one fragment
  - Nucleophilic Reactions • Electrophilic Reactions
2. **HOMOLYTIC OR FREE-RADICAL MECHANISMS**  
If a bond breaks in such a way that each fragment gets one electron Free radicals are formed
3. **PERICYCLIC MECHANISMS**

Electrons move in a closed ring No intermediates, ions or free radicals are form

## **CONFIRMATIONS**

1. Nature of Products
2. Thermodynamics and Kinetic Requirements
3. Study of Intermediates
  - Isolation of intermediates
  - Detection of intermediates
  - Trapping of Intermediates
  - Addition of Suspected intermediates
4. Stereochemical studies
5. Isotopic Studies
  - Isotopic labelling
  - Isotopic effect
  - Isotopic scrambling