

→ Enzymes and how enzyme works:

* Enzymes: - Enzymes are macromolecular biological catalyst that accelerate chemical reactions. The molecules upon which enzymes may act are called substrate, and enzymes converts the substrate into different molecules known as products. The study of enzyme is called enzymology.

Almost all metabolic processes in the cell need enzyme catalysis in order to occur at rates faster enough to sustain life.

* → Most Enzymes are proteins, although a few are RNA molecules.

* → Enzymes have specific 3-d structure

* → Enzymes increase the reaction rate by lowering its activation energy.

* → Enzymes doesn't consume in chemical reaction and do not alter the equilibrium of reaction.

* → Enzymes also used commercially, for example → Synthesis of antibiotics.

* → Enzymes are generally globular proteins acting alone or in large complex.

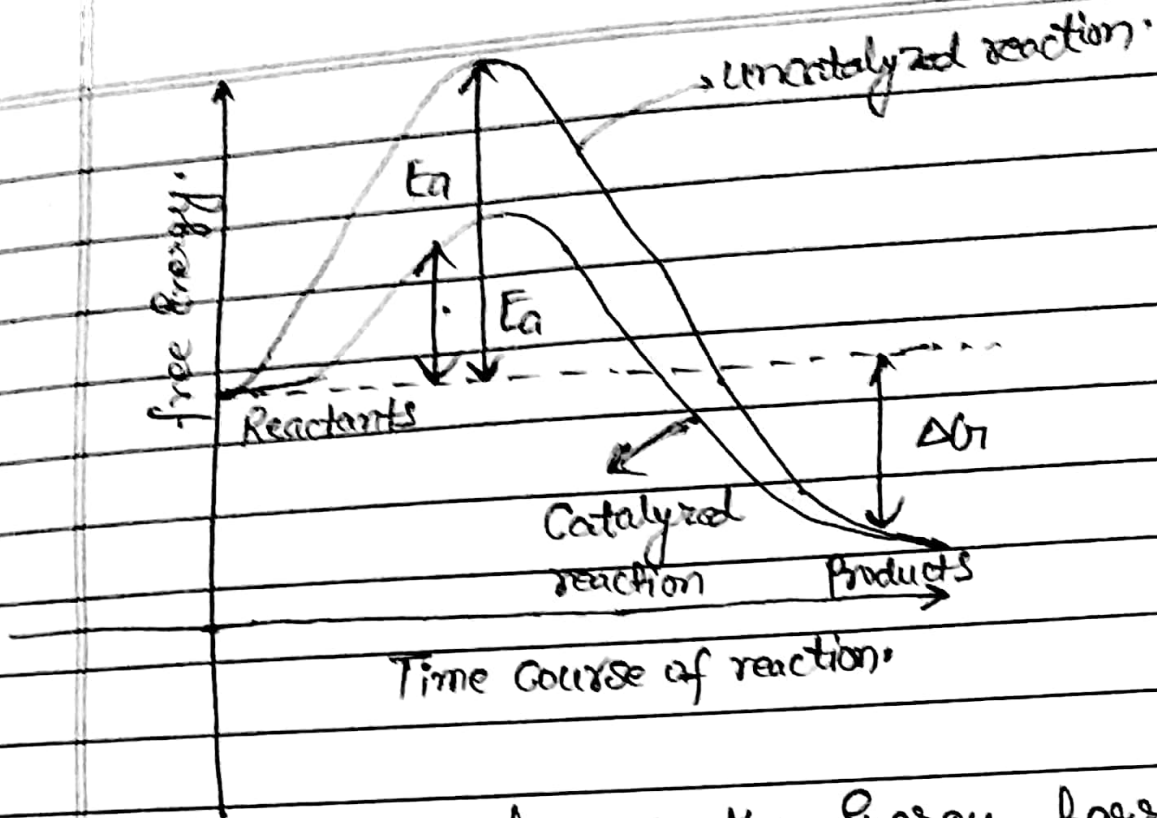
→ Enzymes can accelerate reactions in

Several ways: →

- (i) By stabilizing the transition state
- (ii) By providing an alternative reaction pathway.
- (iii) By destabilizing the substrate ground state.

* Co-Enzymes: → Coenzymes are small organic molecules that can be loosely or tightly bound to an enzyme. Co-enzymes transport chemical group from one enzyme to another. Examples are:

NADH, NADPH and ATP.



→ Enzymes lowers the Energy barrier.

∴ How Enzyme works:-

→ Enzymes Can orient structures:-

→ Enzymes temporarily add chemical groups to substrates.

→ Enzymes Can induce strain in the substrate.