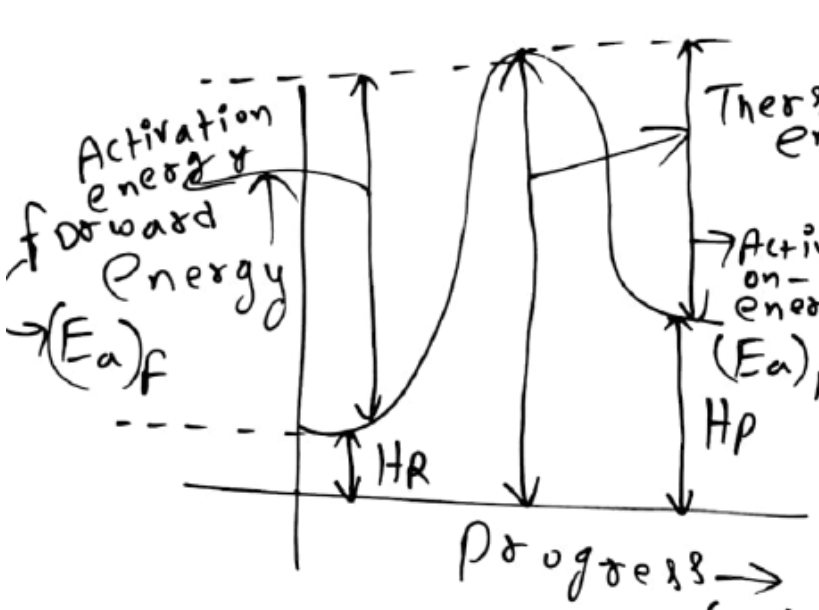
Threshold energy :-

The minimum energy which must be possed by reacting molecules for a chemical Reaction occur.

Activation energy :-

The minimum extra Amount of energy required by reacting molecules (reactant) for convert into product.

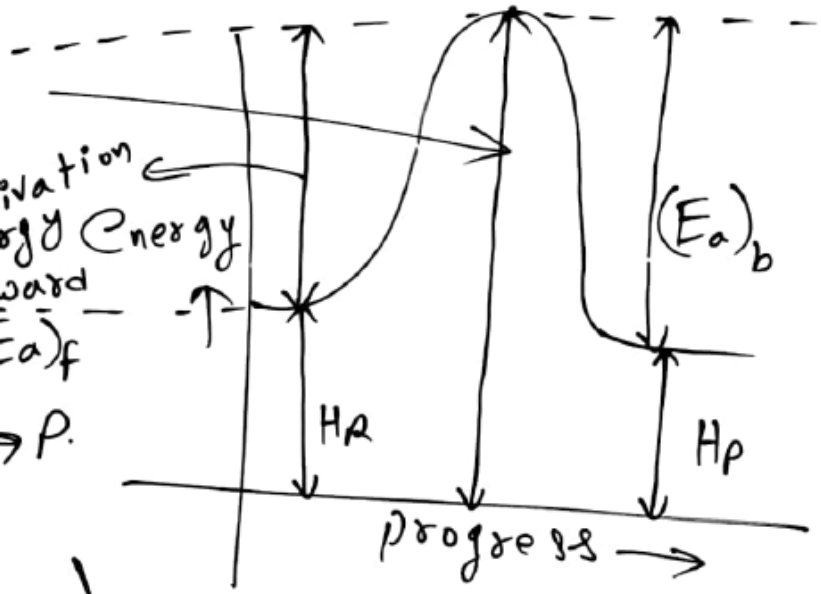


$R \longrightarrow P$

$\Delta H = H_P - H_R = (E_a)_f - (E_a)_b$

$\boxed{\Delta H \Rightarrow +ve} \Rightarrow \boxed{H_P > H_R}, (E_a)_f > (E_a)_b$

$\Rightarrow$ endothermic Rexn



$\Delta H = H_P - H_R = (E_a)_f - (E_a)_b$

$\boxed{\Delta H = -ve}$ $\boxed{H_P < H_R}$

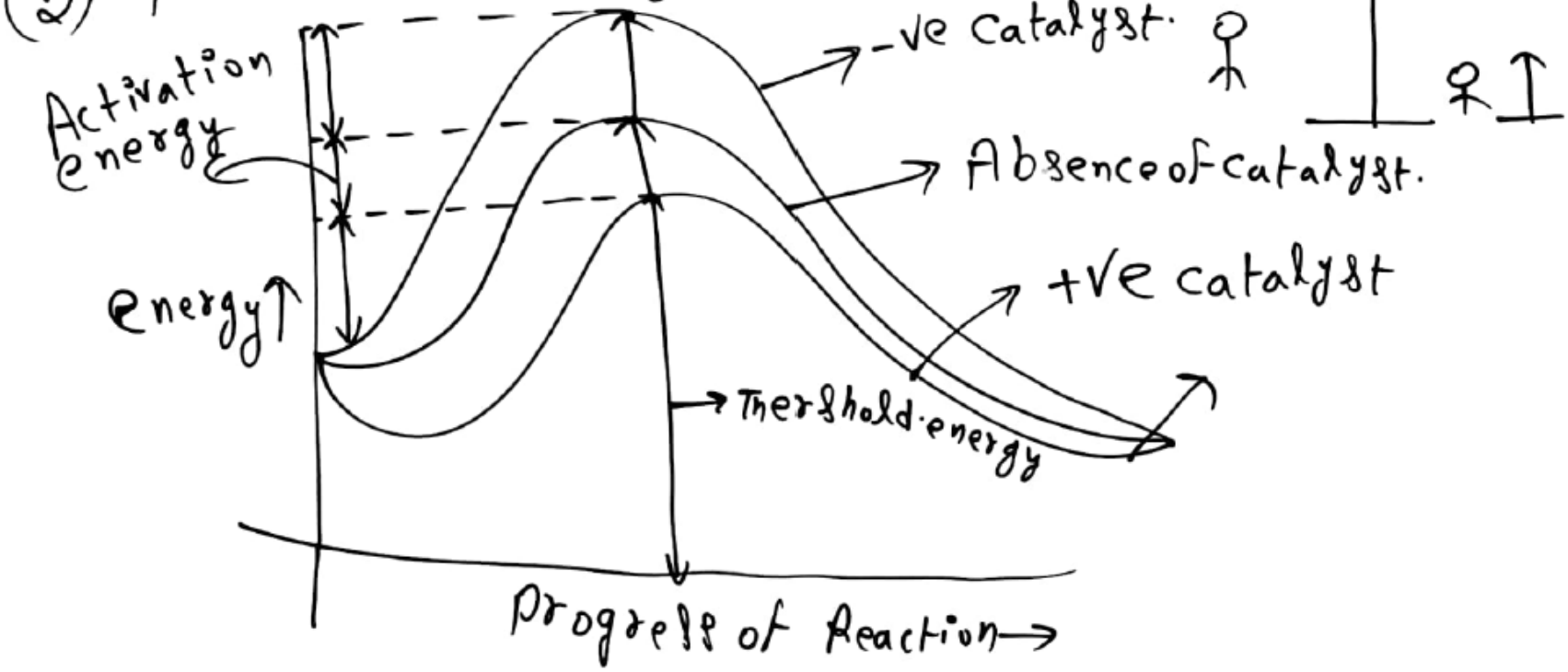
$i\ (E_a)_f < (E_a)_b$

$\Rightarrow$ exothermic Rexn.

Factors affecting Activation energy :-

(1) Nature of reactants { Solid < liq. < Gas } (Rate of rexn)

(2) Presence of Catalyst.



Generally, it is found of every 10°C rise in Temp. rate of reaction Becomes 2 to 3 times.

Temperature Coefficient (μ) :-

It is defined rate of rate Constant (rate) at two differen temp. which will be differ by 10°C.

$$\frac{\gamma_2}{\gamma_1} = \frac{k_2}{k_1} = \mu^{\Delta T/10}$$

$\Delta T = T_2 - T_1$

$\mu \Rightarrow$ Temperature Coefficient

= generally its equal 2.