Question. Consider the following figure and mark the correct option.

Activated complex

Energy →

E_1

E_2

Products

Reactants

Reaction coordinate →
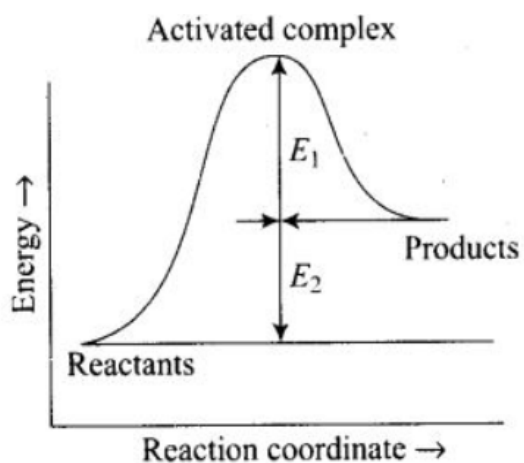
(a) Activation energy of forward reaction is E_1 + E_2 and product is less stable than reactant.

(b) Activation energy of forward reaction is E_1 + E_2 and product is more stable than reactant.

(c) Activation energy of both forward and backward reactions is E_1 + E_2 and reactant is more stable than product.

(d) Activation energy of backward reaction is E, and product is more stable than reactant.

Solution: (a) Ea(forward) = E_1 + E_2

Since energy of reactants is less than products and the product is less stable than the reactant.