Question 2. Consider the following figure and mark the correct option.

Activated complex

Reaction coordinate →
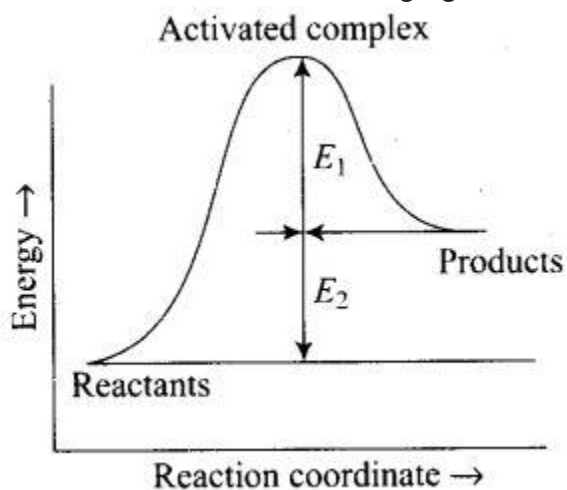
(a) Activation energy of forward reaction is $E_1 + E_2$ and product is less stable than reactant.
(b) Activation energy of forward reaction is $E_1 + E_2$ and product is more stable than reactant.
(c) Activation energy of both forward and backward reactions is $E_1 + E_2$ and reactant is more stable 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.