

PYQSide

NEET CHEMICAL KINETICS — REACTION MECHANISM, TRANSITION STATE, INTERMEDIATE AND ENERGY PROFILE DIAGRAM — PYQS

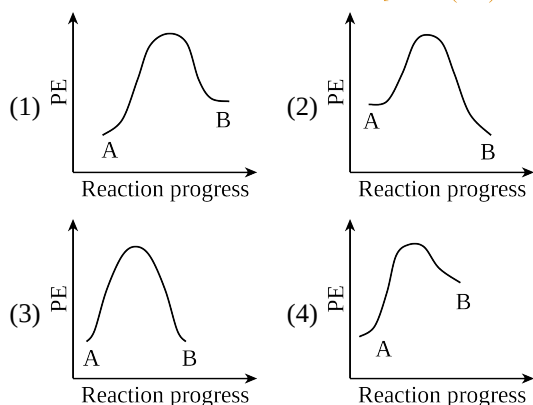
Max. Marks: 24

Questions: 6

Section A (MCQ)

- Q.1** For a reaction, $A \rightarrow B$, enthalpy of reaction is -4.2 kJ mol^{-1} and enthalpy of activation is 9.6 kJ mol^{-1} . The correct potential energy profile for the reaction is shown in option.

[NEET (UG) 2021]



Scan or tap for the full solution



- Q.2** Mechanism of a hypothetical reaction $X_2 + Y_2 \rightarrow 2XY$, is given below :
- (i) $X_2 \rightleftharpoons X + X$ (fast)
 (ii) $X + Y_2 \rightarrow XY + Y$ (slow)
 (iii) $X + Y \rightarrow XY$ (fast)

The overall order of the reaction will be

[NEET 2017]

- (1) 2 (2) 0 (3) 1.5 (4) 1

Scan or tap for the full solution



- Q.3** A reaction having equal energies of activation for forward and reverse reactions has [NEET 2013]
- (1) $\Delta H = 0$ (2) $\Delta H = \Delta G = \Delta S = 0$
 (3) $\Delta S = 0$ (4) $\Delta G = 0$

Scan or tap for the full solution



- Q.4** For an endothermic reaction, energy of activation is E_a and enthalpy of reaction is ΔH (both of these in kJ/mol). Minimum value of E_a will be

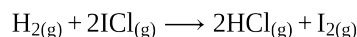
[AIPMT 2010 (Prelims)]

- (1) less than ΔH (2) equal to ΔH
 (3) more than ΔH (4) equal to zero

Scan or tap for the full solution



- Q.5** The reaction of hydrogen and iodine monochloride is given as:

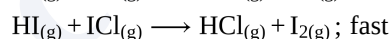
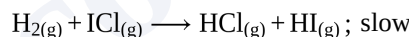


This reaction is of first order with respect to $H_{2(g)}$ and $ICl_{(g)}$. The following mechanisms were proposed.

Mechanism A:



Mechanism B:



Which of the above mechanism(s) can be consistent with the given information about the reaction?

[AIPMT 2007]

- (1) A and B both (2) Neither A nor B
 (3) A only (4) B only

Scan or tap for the full solution



- Q.6** The activation energy for a simple chemical reaction $A \rightleftharpoons B$ is E_a in forward direction. The activation energy for reverse reaction [AIPMT 2003]

- (1) is negative of E_a
 (2) is always less than E_a
 (3) can be less than or more than E_a
 (4) is always double of E_a

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6					
Ans.	2	3	1	3	4	3					