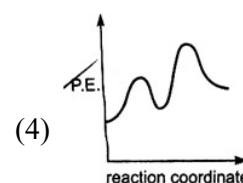
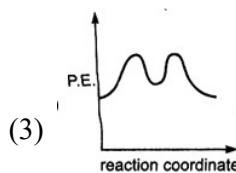
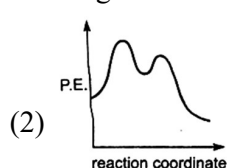
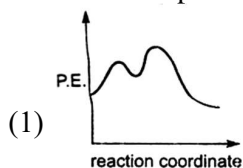
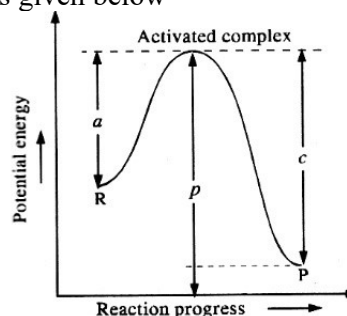


CHEMISTRY

61. The rate of reaction,
 $2\text{NO} + \text{Cl}_2 \rightleftharpoons 2\text{NOCl}$
 becomes double when the concentration of Cl_2 is doubled. When the concentration of both the reactants is doubled, the rate becomes eight times. What will be the order of the reaction?
- (1) Zero (2) First
 (3) second (4) Third
62. In the reaction $\text{A} \rightarrow \text{B}$ when the concentration of reactants is increased by 8 times, the rate of reaction increases only 2 times. The order of reaction would be
- (1) 2 (2) $\frac{1}{3}$
 (3) 4 (4) $\frac{1}{2}$
63. If a substance with half life 3 days is taken to another place in 12 days. What amount of substance is left now?
- (1) $\frac{1}{4}$ (2) $\frac{1}{8}$
 (3) $\frac{1}{16}$ (4) $\frac{1}{32}$
64. For a second order reaction rate at a particular time is x . If the initial concentration is tripled, the rate will become
- (1) $3x$ (2) $9x^2$
 (3) $9x$ (4) $27x$
65. The rate constant of a reaction is found to be $3 \times 10^{-3} \text{ mol L}^{-1} \text{ min}^{-1}$. The order of the reaction is
- (1) Zero (2) 1
 (3) 2 (4) 1.5
66. Select the correct diagram for an endothermic reaction that proceeds through two steps, with the second step is rate determining



67. The rate constant, the activation energy and the Arrhenius parameter of a chemical reactions at 25°C are $3.0 \times 10^{-4} \text{ s}^{-1}$, $104.4 \text{ kJ mol}^{-1}$ and $6.0 \times 10^{14} \text{ s}^{-1}$ respectively. The value of rate constant at $T \rightarrow \infty$ is
- (1) $2.0 \times 10^{18} \text{ s}^{-1}$
 (2) $6.0 \times 10^{14} \text{ s}^{-1}$
 (3) infinity
 (4) $3.6 \times 10^{30} \text{ s}^{-1}$
68. For reaction, the activation energy is zero. What is the value of rate constant at 300 K is $k = 1.6 \times 10^6 \text{ s}^{-1}$ at 280 K ($R = 8.31 \text{ J K}^{-1} \text{ mol}^{-1}$)?
- (1) $1.6 \times 10^6 \text{ s}^{-1}$
 (2) $3.2 \times 10^6 \text{ s}^{-1}$
 (3) $\frac{1}{1.6 \times 10^6 \text{ s}^{-1}}$
 (4) $4.8 \times 10^6 \text{ s}^{-1}$
69. The potential energy diagram for reaction $\text{R} \rightarrow \text{P}$ is given below



ΔH^0 of this reaction corresponds to the energy

- (1) a (2) b
 (3) $c - a$ (4) $a + b$
70. Copper crystallises in fcc lattice with a unit cell edge of 361 pm . The radius of copper atom is
- (1) 181 pm (2) 108 pm
 (3) 128 pm (4) 157 pm