

CHEMICAL KINETICS

Std. XII
CHEMISTRY

Time : 1 Hr
Max. Marks: 50

PART - I

Choose the best answer

(10 × 1 = 10)

- The plot of $\ln K$ vs $\frac{1}{T}$ is linear with slope equal to
 - $\frac{E_a}{R}$
 - $-\frac{E_a}{R}$
 - $\frac{E_a R}{a}$
 - None of these
- The unit of rate constant for the first order reaction is
 - sec^{-1}
 - $\text{mol lit}^{-1} \text{sec}^{-1}$
 - $\text{dm}^3 \text{mol}^{-1} \text{sec}^{-1}$
 - $\text{dm}^3 \text{sec}^{-1}$
- For a reaction $aA \rightarrow bB$ the rate of a reaction is doubled when the concentration of A is raised by four times the rate reaction is equal to
 - $K [A]^a$
 - $K [A]^{1/2}$
 - $K [A]^{1/4}$
 - $K [A]$
- The half life period of a first order reaction is 10 min. The rate constant is
 - $6.93 \times 10^2 \text{min}^{-1}$
 - $0.693 \times 10^{-2} \text{min}^{-1}$
 - $6.93 \times 10^{-2} \text{min}^{-1}$
 - $69.3 \times 10^{-2} \text{min}^{-1}$
- For a reaction $E_a = 0$ and $k = 4.2 \times 10^5 \text{sec}^{-1}$ at 300 K. The value of K at 310 K will be.
 - $4.2 \times 10^5 \text{sec}^{-1}$
 - $8.4 \times 10^5 \text{sec}^{-1}$
 - $8.4 \times 10^{-5} \text{sec}^{-1}$
 - unpredictable
- When the activation energy is high then the rate of chemical reaction is
 - high
 - moderate
 - low
 - cannot be predicted.
- The excess energy which a molecule must possess to become active is known as
 - Kinetic energy
 - Threshold energy
 - Activation energy
 - Potential energy

