

Chemical Kinetics

- 1) **Under the given set of experimental conditions with increase of concentration of the reactants, the rate of chemical reaction.**
 - a) always decreases
 - b) always increases
 - c) first decreases and then increases
 - d) first increases and then decreases
- 2) **Which one of the following statements is correct?**
 - a) order of reaction can't be negative
 - b) order of reaction is always a whole number
 - c) order of reaction never be zero
 - d) order of reaction is equal to the molecularity in case of elementary reaction.
- 3) **Molecularity of a reaction is**
 - a) same as its order
 - b) different then the order
 - c) may be same or different as compare to order
 - d) always two
- 4) **The rate constant of n^{th} order has unit**
 - a) $(\text{mol}/\text{dm}^3)^{n-1} \cdot \text{sec}$
 - b) $\text{mol}/\text{dm}^3)^{1-n} \cdot \text{sec}$
 - c) $\text{mol}/\text{dm}^3)^{n-1} \cdot \text{Sec}^{-1}$
 - d) $\text{mol}/\text{dm}^3)^{1-n} \cdot \text{sec}^{-1}$
- 5) **99% of a first order reaction was completed in 32 minutes. When will 99.9% of the reaction complete?**
 - a) 48 minutes
 - b) 46 minutes
 - c) 50 minutes
 - d) 49 minutes
- 6) **For producing the effective collisions the colliding molecules must have**
 - a) a certain minimum amount of energy
 - b) energy equal to or greater than threshold energy
 - c) proper orientation
 - d) threshold energy and proper orientation both
- 7) **The minimum amount of energy required by reacting molecules at the time of collisions in order to produce effective collisions is called**
 - a) threshold energy
 - b) activation energy
 - c) internal energy
 - d) potential energy
- 8) **Rate of reaction increases by 3 times when temperature is raised 310k to 320k, how many times the increase when the temperature increased from 290k to 320k.**
 - a) 27 times
 - b) 9 times
 - c) 3 times
 - d) 8 times
- 9) **In first order reaction the concentration of reactant, decreases from 0.8 to 0.4M in 15 minutes. Time taken for the concentration to change from 0.1M to 0.025M is**
 - a) 35 min
 - b) 30 min
 - c) 15 min
 - d) 60 min
- 10) **When a concentration of reactant increases sixteen times, the rate becomes two times of the reaction is of**
 - a) $\frac{1}{4}^{\text{th}}$ order
 - b) $\frac{1}{8}^{\text{th}}$ order
 - c) third order
 - d) fourth order