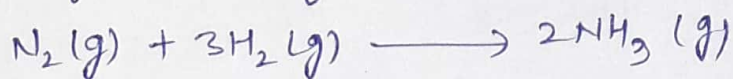Chemical Kinetics :   Chapter - 4

Q1. express the rate of following reaction in terms of the formation of ammonia :

$$N_2(g) + 3H_2(g) \longrightarrow 2NH_3(g)$$

Q2: Write difference between (i) molecularity and rate of reaction. (ii) Average rate & instantaneous rate

Q3: Write the unit of rate constt. for a zero order and first order Reactions.

Q.4: Define :
   a) Pseudo first order Reaction
   b) Half-life period of reaction
   c) Rate constant
   d) Rate law

Q5: For the reaction A → B, the rate of reaction becomes three times when the conc. of A is increased by 9 times. What is the order of reaction ?

Q6: For a chemical reaction R → P, the variation in the concentration (R) vs. time (t) is given as
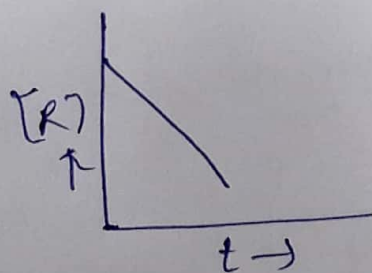
(i) Predict the order of reaction.
(i) what is the slope of curve ?

Q7. Identify the order of a reaction if the units of its rate constant are :
   (i) $L^{-1} mol\, s^{-1}$
   (ii) $L\, mol^{-1} s^{-1}$

Q8: The overall order of reaction having rate law expression

$$r = K[A]^{3/2} [B]^{-1}$$

a) 3/2   b) 1/2   c) 0   d) -1

Q.9: If the rate of reaction is not affected by concentration then it will be ___ order reaction.

a) first   b) Third   c) Second   d) zero.

Q10: The rate of reaction is determined by

a) fastest step   b) slowest step   c) any elementary step
d) both a) & b)

Q11: A first order reaction has a rate const. 1.15×10^{-3} sec^{-1}. How long will $5g$ of this reactant take to reduce to $3g$?

Q12: Time required for decomposition SO_2Cl_2 to half of its initial amount is 60 minutes. If the decomposition is 1st order reaction, calculate the rate constant.