Weekly Test 12th Chemistry

Chapter – Chemical kinetics

M. Marks :- 30

Time :- 55 minutes

1. For the reaction, $2X + Y + Z \longrightarrow$ Products
If the rate law is : Rate = $k[X][Y]^2$
what happens to the rate of a reaction, if the conc. of Y is doubled. (1)

2. For a rxn. $A_2 + 2B_2 \longrightarrow 2AB_2$, write the rate law expression in terms of rate of disappearance of A_2. (1)

3. What are the orders of the reactions :—
(i) when the rate constant for a reaction is 2.45×10^{-3} $mol\,L^{-1}s^{-1}$. ($\frac{1}{2} \times 2 = 1$)
(ii) Rate = $k[X]^{1/2}[Y]^{3/2}$

4. For a reaction $A + B \longrightarrow$ Products, the rate law is Rate = $k[A][B]^{3/2}$. Can the reaction be an elementary reaction ? Explain. (1)

5. Differentiate b/w the rate of a chemical reaction and rate constant for the reaction. (1.5)

6. Consider the following data :—

$X + Y \longrightarrow$ Products

Exp.	[X]	[Y]	Initial Rate
1.	0.12	0.35	0.1
2.	0.24	0.70	0.8
3.	0.24	0.35	0.1
4.	0.12	0.70	0.8

Write the correct rate law expression ? (1.5)