Model Question paper

Chemical Kinetics - I 2

11th Standard

Chemistry

Reg.No. : | | | | | | |

I. Answer all the questions.

II. Use blue pen only.

Time : 00:45:00 Hrs

Total Marks : 30

Part - A

2 x 1 = 2

1) The elementary step with slow rate represents

(a) rate determining step (b) maximum rate step (c) third order rate (d) overall order

2) Molecularity is determined for

(a) an elementary reaction (b) an overall reaction (c) an over all stoichiometric reaction (d) a fraction order reaction

Part - B

1 x 2 = 2

3) What is molecularity?

Part - C

2 x 3 = 6

4) Define the rate of a reaction.

5) Write the rate law of $pA + qB \rightarrow lC + mD$ reaction.

Part - D

4 x 5 = 20

6) Discuss the rate of the reaction

$2N_2O_{5(g)} \rightarrow 4NO_2 + O_{2(g)}$

7) One ml of methyl acetate was added to 20 ml of 0.5 N sulphuric acid. 2 ml of the reaction mixture was with drawn at various time intervals and titrated against a solution of standard alkali. The titre values are tabulated. Show that the reaction is first order and calculate the rate constant and half life period of the reaction.

Time (s)	0	600	1200	2400	∞
Volume of alkali (ml)	19.3	19.9	20.5	21.7	41.9

8) In I order reaction the initial concentration of the reactant as 0.05 mole/litre and the rate constant 1.5x10-3 min-1. What is the initial rate of the reaction.

9) If a reaction with the t½=69.3 second has a rate constant value of 10^{-2} per second. Calculate the order of the reaction.

****