

Shivaji College, University of Delhi
Department of Chemistry
Internal Test (2023-24)

Name of the Course : GE

Semester : **II** (First Year)

Name of the Paper : Chemical Kinetics and Photo Chemistry.

Faculty Name : Tamanna & Rangnath Ravi

Duration : 1 hr

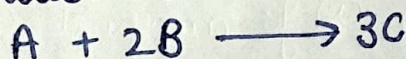
Date of Test : 16-04-2024

Maximum Marks : 16 Marks
(Scaled down to 8 Marks)

Attempt all Questions

Que 1 Distinguish between order and Molecularity. (2 marks)

Que 2 For a reaction



Rate of disappearing of A is $10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$. Calculate

- (i) Disappearing Rate of B
- (ii) Formation rate of C
- (iii) Rate of reaction.

(3 Marks)

Que 3 a) Deduce the integrated rate law of following Reaction
 $aA + bB \longrightarrow \text{Product}$.

In the above reaction, it is 1st order with respect to A and zero order with respect to B. (3 Marks)
What is unit of rate constant for above reaction.

b) Show that for first-order reaction, half life has a constant value. (2 Marks)

Que 4 a) The reaction $aA \longrightarrow \text{Product}$ is second order with respect to A. Show that the half life of the above reaction is inversely proportional to the initial concentration A.

b) A First order reaction takes 8 hours for 90% completion. Calculate the time required for 80% completion.
($\log 5 = 0.6989$; $\log 10 = 1$).

Tamanna (3x2 = 6 Marks)