

Shivaji College, University of Delhi
Department of Chemistry
Internal Test (Retest)

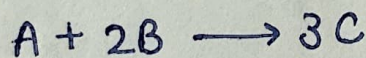
Name of the Course : GE
Semester : II
Name of the paper : Chemical kinetics & photochemistry
Faculty Name : Tamanna & Rangnath Ravi
Duration : 1 hour
Date of Test : 29-04-24
Maximum Marks: 16 Marks
(Scaled down to 8)

Attempt all questions :->

Que 1 Distinguish between order and molecularity (2 Marks)

Que 2 Show that for a first order reaction, the concentration of reactant A after n half time is given by
$$[A]_n = [A]_0 (1/2)^n$$
 (3 Marks)

Que 3 For a reaction



Rate of disappearing of A is $2 \times 10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$. Calculate

i) Disappearing rate of B

ii) Formation rate of C

(iii) Rate of reaction

(3 Marks)

Que 4 Deduce the integrated rate law of following reaction
$$aA + bB \longrightarrow \text{Product}$$

In the above reaction, it is 2nd order with respect to A and zero order with respect to B. What is unit of rate constant for above reaction, show that half life is inversely proportional to initial concⁿ A (5 Marks)

Que 5 For A first order reaction takes 5 hours for 90% completion. Calculate the time required for 80% completion
(log 5 = 0.698 ; log 10 = 1)

Tamanna (3 Marks)