Time: 3 hours **SUBJECT – CHEMISTRY (NEET|IIT-JEE)** Marks: 50

Chemical kinetics [Daily Practice Paper]

(D P P)

NAME OF STUDENT:-________________________________ DATE:- …./…../……….

❖ **INSTRUCTION:- ATTEMT ALL QUESTION.**

Q1. For a reaction of order n, the unit of the rate constant is : [July 27,2021 (I)]

(a) $\mathrm{mol}^{1-n}\ \mathrm{L}^{1-N}\ \mathrm{s}$ (b) $\mathrm{mol}^{1-n}\ \mathrm{L}^{2n}\ \mathrm{s}^{-1}$

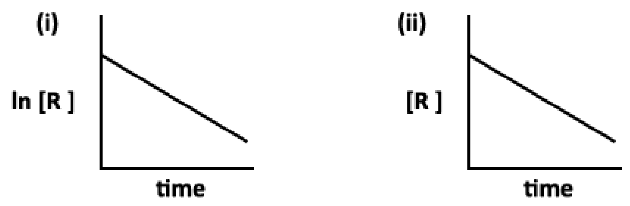
(C) $\mathrm{mol}^{1-n}\ \mathrm{L}^{n-1}\ \mathrm{s}^{-1}$ (d) $\mathrm{mol}^{1-n}\ \mathrm{L}^{1-n}\ \mathrm{s}^{-1}$

Q2. For the reaction 2A + 3B + $\frac{3}{2}$ C → 3P, which statement is correct ? [Sep.03,2020 (II)]

(a) $\frac{dn_A}{dt} = \frac{3}{2}\frac{dn_B}{dt} = \frac{3}{4}\frac{dn_C}{dt}$ (b) $\frac{dn_A}{dt} = \frac{dn_B}{dt} = \frac{dn_C}{dt}$

(C) $\frac{dn_A}{dt} = \frac{2}{3}\frac{dn_B}{dt} = \frac{4}{3}\frac{dn_C}{dt}$ (d) $\frac{dn_A}{dt} = \frac{2}{3}\frac{dn_B}{dt} = \frac{3}{4}\frac{dn_C}{dt}$

Q3. The given plots represents the variation of the concentration of a reactant R with time for two different reactions (i) and (ii). The respective orders of the reactions are: [April 9,2019 (I)]



(a) 1,0 (b) 1,1 (c) 0,1 (d) 0,2

Q4. for the reaction

$2H_2(g) + 2NO(g) \rightarrow N_2(g) + 2H_2O(g)$ the observed rate expression is, rate = $k_f[NO]^2 [H_2]$.

The rate expression for the reverse reaction is: [Jan.07,2020 (II)]

(a) $K_b[N_2][H_2O]^2$

(b) $K_b[N_2][H_2O]^2 / [NO]$

(C) $K_b[N_2][H_2O]$

(d) $K_b[N_2][H_2O]^2 / [H_2]$

Q5. In the following reaction : $xA \rightarrow yB$

$$\log_{10}\left[-\frac{d[A]}{dt}\right] = \log_{10}\left[\frac{d[B]}{dt}\right] + 0.3010$$

'A' and 'B' respectively can be: [April 12, 2019 (I)]

(a) n- Butane and Iso-butane

(b) C_2H_2 and C_6H_6

(C) C_2H_4 and C_4H_8

(d) N_2O_4 and NO_2

Q6. NO_2 required for a reaction is produced by the decomposition of N_2O_5 in CCl_4 as per the equation, $2N_2O_5(g) \rightarrow 4NO_2(g) + O_2(g)$.

the initial concentration of N_2O_5 is 3.00 mol L^{-1} and it is 2.75 mol L^{-1} after 30 minutes. The rate of formation of NO_2 is : [April 12, 2019 (II)]

(a) 4.167×10^{-3} mol L^{-1} min^{-1}

(b) 1.667×10^{-2} mol L^{-1} min^{-1}

(C) 8.333×10^{-3} mol L^{-1} min^{-1}

(d) 2.083×10^{-3} mol L^{-1} min^{-1}

Q7. For the reaction $2A + B \rightarrow C$, the values of initial rate at different reactant concentrations are given in the table below. The rate law for the reaction is : [April 8, 2019 (I)]

[A](mol L-1)	[B](mol L-1)	Initial Rate(mol L-1 s-1)
0.05	0.05	0.045
0.10	0.05	0.090
0.20	0.10	0.72

(a) Rate= $k[A][B]^2$

(b) Rate= $k[A]^2[B]^2$

(C) Rate= $k[A][B]$

(d) Rate= $k[A]^2[B]$

Q8. For a reaction scheme $A \xrightarrow{K_1} B \xrightarrow{K_2} C$, if the rate of formation of B is set to be Zero then the concentration of B is given by : **[April 8, 2019 (II)]**

(a) $(k_1 - k_2)$ [A]

(b) $k_1 k_2$ [A]

(C) $(k_1 + k_2)$ [A]

(d) $\left(\frac{k_1}{k_2}\right)$ [A]

Q9. The rate law for the reaction below is given by the expression k [A][B]

$$A + B \rightarrow \text{Product}$$

If the concentration of B is increased from 0.1 to 0.3 mole, keeping the value of A at 0.1 mole, the rate constant will be: **[Online April 10, 2016]**

(a) 3*k*

(b) 9*k*

(c) *k/3*

(d) *k*

Q10. $A + 2B \rightarrow C$, the rate equation for this reaction is given as Rate = k[A][B].
If the concentration of A is kept the same but that of B is doubled what will happen to the rate itself? **[Online April 11, 2015]**

(a) halved

(b) the same

(c) doubled

(d) quadrupled