CHE101_03_QUIZ_2_Fall_2023

rejwan.shafi.wasef@g.bracu.ac.bd Switch account

Draft saved

* Indicates required question

Email *

Record rejwan.shafi.wasef@g.bracu.ac.bd as the email to be included with my response

NAME *

Your answer

ID *

Your answer

SECTION *

Choose

1 point

For the reaction $2NO_2 + F_2 \rightarrow 2NO_2F$, following mechanism has been provided,

$NO_2 + F_2 \rightarrow NO_2F + F$ …. (Slow)

$NO_2 + F \rightarrow NO_2F$ …. (Fast)

The rate law expression for the reaction is:

$r = K [NO_2]^2 [F_2]$

Option 1

$r = K [F_2]$

Option 2

$r = K [NO_2]$

Option 3

$r = K [NO_2] [F_2]$

Option 4

If the initial concentration of a reactant was reduced from 4M to 2M in 1 hour and from 2M to 1M in 0.5 hours, the order of the reaction is 1 point

- One
- Two
- Zero
- Three

The addition of a catalyst during a chemical reaction alters which of the following quantities? 1 point

- Entropy
- Internal energy
- Enthalpy
- Activation energy

A reaction is first-order with respect to A and second-order with respect to B. The concentration of B is increased three times. The new rate of the reaction would: 1 point

- Decrease 9 times
- Increase 9 times
- Increase 6 times
- Decrease 6 times

Order of a reaction can have a fractional value. 1 point

- True
- False

1 point

K for a zero-order reaction is 2×10^{-2} mol L^{-1} s^{-1}. If the concentration of the reactant after 25 sec is 0.5 M, the initial concentration must have been:

- 0.5 M
- 1.25 M
- 12.5 M
- 1.0 M

1 point

In the reaction, $A + 2B \rightarrow 6C + 2D$, if the initial rate $-d[A]/dt$ at $t = 0$ is 2.6×10^{-2} M s^{-1}, what will be the value of $-d[B]/dt$ at $t = 0$?

- 0.085 M/s
- 0.025 M/s
- 0.052 M/s
- 0.075 M/s

Which of the following expressions is correct for zero order and first order respectively [where 'a' is the initial concentration]? 1 point

$t_{1/2} \propto a$; $t_{1/2} \propto 1/a$

Option 1

$t_{1/2} \propto a$; $t_{1/2} \propto a^0$

Option 2

$t_{1/2} \propto a^0$; $t_{1/2} \propto a$

Option 3

$t_{1/2} \propto a$; $t_{1/2} \propto 1/a^2$

Option 4

1 point

Consider the following rate expression, Rate = $K[C_2H_5OH]^{7/2}$.
The order of reaction and unit of the rate constant are, respectively-

$7/2$; $K = mol^{-1}\ L\ s^{-1}$

Option 1

$5/2$; $K = mol^{-1}\ L\ s^{-1}$

Option 2

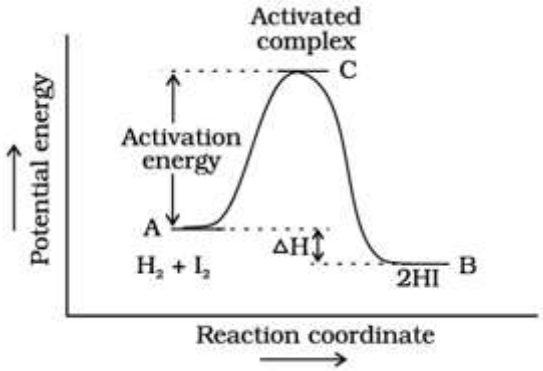
$7/2$; $K = mol^{5/2}\ L^{-5/2}\ s^{-1}$

Option 3

$7/2$; $K = mol^{-5/2}\ L^{5/2}\ s^{-1}$

Option 4

The nature of the reaction represented in the graph is: 1 point



- Endothermic reaction
- Exothermic reaction
- Both endothermic and exothermic reactions are represented by the same graph
- None of the above

Submit Clear form