

LECTURE 9

RELATED PROBLEMS

Q)

Column I	Column II
P. Zero order reaction	1. $t_{1/2} \propto \frac{1}{[A]_0}$
Q. First order reaction	2. $t_{100\%} = [A]_0 / k$
R. Second order reactions	3. Involves at least two reactants
S. Pseudo unimolecular reaction	4. $[A] = [A]_0 e^{-kt}$

Code:

	P	Q	R	S
(a)	2	1	4	2
(b)	2	4	1	3
(c)	2	1	3	4
(d)	3	2	1	4

ANSWER : **B**

SOLUTION:

1) FOR ZERO ORDER REACTION $t_{1/2} = [A]/2K$

SO FULL LIFE = $[A]/K$

OPTION 2 IS CORRECT

2)FOR FIRST ORDER $T_{1/2} = \ln 2/k$

And from rate law A can be written as $A_0 \exp(-kt)$

3) 2nd order $t_{1/2} = 1/k[A]_0$

4)pseudo unimolecular involves at least 2 reactants