Assignments 4

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Due on 2021-02-17, 23:59 IST.

1. For second order reaction the unit of the rate constant is

- A point
  - 1/min
  - 1/min^2
  - 1/(mol*min)
  - 1/(mol*min^2)
  - 1/(mol^2*min)
  - 1/(mol^2*min^2)

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

2. The correct rate equation for irreversible single reaction system can be written as

For first order reaction the rate equation is (A + kA) / A
For zero order reaction the rate equation is (A + kA)
For second order reaction the rate equation is (A + kA^2) / A

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

3. For second order reaction with equilibrium feed concentration the rate is directly proportional to square of the concentration term in the rate law

- A point
  - True
  - False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

4. The slope of graph in between t/CA versus time t is in second order irreversible reaction with equilibrium feed concentration is

- A point
  - k
  - A
  - kA
  - kA^2
  - kA^2

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

5. A certain first order reaction is half completed in 20 minutes. The rate constant for the reaction must be

- 0.0045s^-1
- 0.0045min⁻¹
- 0.0045s⁻¹
- 0.0045s^2

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

6. For the ideal batch reactor which is correct in the following statements

In the ideal batch reactor the composition of the product changes with time in the reactor so, it is an unsteady state operation.
The composition remaining constant at a time in the ideal batch reactor.
There is variation of product quality per batch.
All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

7. For ideal batch reactor which is correct for rate balance equation

- The input and output both are zero but rate of generation and accumulation terms have some values.
- Input is zero but output is not zero.
- Input is not zero but output is zero.
- The rate of generation and rate of accumulation equal to zero.

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

8. For ideal reactors which statement is not correct

- Ideal mixed flow reactor is used for liquid phase reaction.
- Ideal mixed flow reactor operates in steady state condition.
- In batch reactor the reactants are charged and following with mixed thoroughly, react for certain period of time and then discharged.
- In plug flow reactor there are variation of rate of reaction, concentration and temperature only in radial direction.

No, the answer is incorrect.
Score: 0
Accepted Answers:
None of the above

9. If there is given space time of 2 hours then it means that

- A point
  - There are required 2 hours to process one reactor volume of feed to convert it into the product.
  - There is required of one hour to process two reactor volume of feed to convert it into the product.
  - There are required of 2 hours to process two reactor volume of feed to convert it into the product.
  - None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
None of the above

10. For multiple reactor system select the incorrect statement

- A point
  - If Plug flow reactors of different volumes are connected in series then a single Plug flow reactor having same volume as the sum of all n different volume reactors gives the same conversion.
  - All irreversible reaction with n=2 and whose rate increases with reactant concentration then plug flow reactor is more preferable than mixed flow reactor.
  - For all n<0 for desired conversion and same flow rate the volume of the mixed flow reactor is always lesser than the plug flow reactor.
  - None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
None of the above