

Code No: 55034

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. I Sem., I Mid-Term Examinations, September – 2011

CHEMICAL REACTION ENGINEERING-I

Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

- The units of second order rate constant is []
(a) moles/m²-sec (b) lit/mole-sec (c) lit/atm-sec (d) none
- The reaction proceeds by $2A+3B \rightarrow R$, then the rate constants are related as []
(a) $3k_A=2k_B$ (b) $2k_A=3k_B$ (c) $k_A=k_B$ (d) none
- The rate constant is a _____ dependent term of rate equation. []
(a) Temperature (b) Pressure (c) Concentration (d) none
- The overall rate of a catalyzed reaction is considered as _____ of the rates of Catalyzed and un catalyzed reaction []
(a) sum (b) subtraction (c) multiplication (d) division
- The time required to reduce the concentration of the reactant substance to half of its original value is known as []
(a) half life of rxn (b) fractional life of rxn (c) either(a)or(b) (d) none
- The rate constant 'k' and abs. temperature 'T' are related by transition theory as []
(a) $k = k_0 \exp(-E/RT)$ (b) $k = k_0 T^{1/2} \exp(-E/RT)$ (c) $k = k_0 T \exp(-E/RT)$ (d) none
- When a catalyst used in a reaction, the activation energy []
(a) increases (b) decreases (c) unaffected (d) none
- Constant volume batch reactor means []
(a) vol. of reaction mixture is const (b) Vol. of reactor is const (c) either(a)or(b) (d) none
- The method used to analyzing the kinetic data is []
(a) integral method (b) differential method (c) either (a)or(b) (d) none
- A liquid reaction is takes place in a reactor, the initial conc. Of A is 8mol/lit and final conc. of A is 2mol/lit, then the conversion of reaction is []
(a) 25% (b) 75% (c) 80% (d) 20%

Cont.....2

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Set No. 1

II Fill in the blanks

11. A photo chemical reaction is initiated by_____
12. In CSTR, The concentration is _____ throught out the reactor.
13. There is no mixing in longitudinal direction, and the mixing takes place in radial direction. Such reactor is known as _____
14. The fractional change in volume between complete conversion and zero conversion is known as _____
15. The velocity profile of a PFR is _____
16. If a reaction proceeds with $2A+B \rightarrow C$, then the order of the elementary reaction is _____
17. A PFR is characterized by presence of _____ mixing
18. The performance equation of batch reactor is _____
19. In a flow reactor, four reactor volumes of feed at specified conditions are being treated per hour. Then the space velocity is _____
20. Constant volume system is also called _____

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Set No. 2

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. I Sem., I Mid-Term Examinations, September – 2011

CHEMICAL REACTION ENGINEERING-I

Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

- The overall rate of a catalyzed reaction is considered as _____ of the rates of Catalyzed and un catalyzed reaction []
(a)sum (b)subtraction (c)multiplication (d)division
- The time required to reduce the concentration of the reactant substance to half of its original value is known as []
(a)half life of rxn (b)fractional life of rxn (c)either(a)or(b) (d)none
- The rate constant 'k' and abs. temperature 'T' are related by transition theory as []
(a) $k = k_0 \exp(-E/RT)$ (b) $k = k_0 T^{1/2} \exp(-E/RT)$ (c) $k = k_0 T \exp(-E/RT)$ (d)none
- When a catalyst used in a reaction, the activation energy []
(a)increases (b)decreases (c)unaffected (d)none
- Constant volume batch reactor means []
(a)vol. of reaction mixture is const (b)Vol. of reactor is const (c)either(a)or(b) (d)none
- The method used to analyzing the kinetic data is []
(a)integral method (b)differential method (c)either (a)or(b) (d)none
- A liquid reaction is takes place in a reactor, the initial conc. Of A is 8mol/lit and final conc. of A is 2mol/lit, then the conversion of reaction is []
(a)25% (b)75% (c)80% (d)20%
- The units of second order rate constant is []
(a)moles/m²-sec (b)lit/mole-sec (c)lit/atm-sec (d)none
- The reaction proceeds by $2A+3B \rightarrow R$, then the rate constants are related as []
(a) $3k_A=2k_B$ (b) $2k_A=3k_B$ (c) $k_A=k_B$ (d)none
- The rate constant is a _____ dependent term of rate equation. []
(a)Temperature (b)Pressure (c)Concentration (d)none

Cont.....2

Code No: 55034

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Set No. 2

II Fill in the blanks

11. The fractional change in volume between complete conversion and zero conversion is known as _____
12. The velocity profile of a PFR is _____
13. If a reaction proceeds with $2A+B \rightarrow C$, then the order of the elementary reaction is _____
14. A PFR is characterized by presence of _____ mixing
15. The performance equation of batch reactor is _____
16. In a flow reactor, four reactor volumes of feed at specified conditions are being treated per hour. Then the space velocity is _____
17. Constant volume system is also called _____
18. A photo chemical reaction is initiated by _____
19. In CSTR, The concentration is _____ through out the reactor.
20. There is no mixing in longitudinal direction, and the mixing takes place in radial direction. Such reactor is known as _____

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Set No. 3

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. I Sem., I Mid-Term Examinations, September – 2011

CHEMICAL REACTION ENGINEERING-I

Objective Exam

Name: _____ Hall Ticket No.

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

- The rate constant 'k' and abs. temperature 'T' are related by transition theory as []
(a) $k = k_0 \exp(-E/RT)$ (b) $k = k_0 T^{1/2} \exp(-E/RT)$ (c) $k = k_0 T \exp(-E/RT)$ (d) none
- When a catalyst used in a reaction, the activation energy []
(a) increases (b) decreases (c) unaffected (d) none
- Constant volume batch reactor means []
(a) vol. of reaction mixture is const (b) Vol. of reactor is const (c) either (a) or (b) (d) none
- The method used to analyzing the kinetic data is []
(a) integral method (b) differential method (c) either (a) or (b) (d) none
- A liquid reaction is takes place in a reactor, the initial conc. Of A is 8mol/lit and final conc. of A is 2mol/lit, then the conversion of reaction is []
(a) 25% (b) 75% (c) 80% (d) 20%
- The units of second order rate constant is []
(a) moles/m²-sec (b) lit/mole-sec (c) lit/atm-sec (d) none
- The reaction proceeds by $2A + 3B \rightarrow R$, then the rate constants are related as []
(a) $3k_A = 2k_B$ (b) $2k_A = 3k_B$ (c) $k_A = k_B$ (d) none
- The rate constant is a _____ dependent term of rate equation. []
(a) Temperature (b) Pressure (c) Concentration (d) none
- The overall rate of a catalyzed reaction is considered as _____ of the rates of Catalyzed and un catalyzed reaction []
(a) sum (b) subtraction (c) multiplication (d) division
- The time required to reduce the concentration of the reactant substance to half of its original value is known as []
(a) half life of rxn (b) fractional life of rxn (c) either (a) or (b) (d) none

Cont.....2

Code No: 55034

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Set No. 3

II Fill in the blanks

11. If a reaction proceeds with $2A+B \rightarrow C$, then the order of the elementary reaction is _____
12. A PFR is characterized by presence of _____ mixing
13. The performance equation of batch reactor is _____
14. In a flow reactor, four reactor volumes of feed at specified conditions are being treated per hour. Then the space velocity is _____
15. Constant volume system is also called _____
16. A photo chemical reaction is initiated by _____
17. In CSTR, The concentration is _____ through out the reactor.
18. There is no mixing in longitudinal direction, and the mixing takes place in radial direction. Such reactor is known as _____
19. The fractional change in volume between complete conversion and zero conversion is known as _____
20. The velocity profile of a PFR is _____

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Code No: 55034

Set No. 4

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. I Sem., I Mid-Term Examinations, September – 2011

CHEMICAL REACTION ENGINEERING-I

Objective Exam

Name: _____ Hall Ticket No. _____

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

- Constant volume batch reactor means []
(a) vol. of reaction mixture is const (b) Vol. of reactor is const (c) either(a)or(b) (d) none
- The method used to analyzing the kinetic data is []
(a) integral method (b) differential method (c) either (a)or(b) (d) none
- A liquid reaction is takes place in a reactor, the initial conc. Of A is 8mol/lit and final conc. of A is 2mol/lit, then the conversion of reaction is []
(a) 25% (b) 75% (c) 80% (d) 20%
- The units of second order rate constant is []
(a) moles/m²-sec (b) lit/mole-sec (c) lit/atm-sec (d) none
- The reaction proceeds by $2A+3B \rightarrow R$, then the rate constants are related as []
(a) $3k_A=2k_B$ (b) $2k_A=3k_B$ (c) $k_A=k_B$ (d) none
- The rate constant is a _____ dependent term of rate equation. []
(a) Temperature (b) Pressure (c) Concentration (d) none
- The overall rate of a catalyzed reaction is considered as _____ of the rates of Catalyzed and un catalyzed reaction []
(a) sum (b) subtraction (c) multiplication (d) division
- The time required to reduce the concentration of the reactant substance to half of its original value is known as []
(a) half life of rxn (b) fractional life of rxn (c) either(a)or(b) (d) none
- The rate constant 'k' and abs. temperature 'T' are related by transition theory as []
(a) $k = k_0 \exp(-E/RT)$ (b) $k = k_0 T^{1/2} \exp(-E/RT)$ (c) $k = k_0 T \exp(-E/RT)$ (d) none
- When a catalyst used in a reaction, the activation energy []
(a) increases (b) decreases (c) unaffected (d) none

Cont.....2

Code No: 55034

:2:

Set No. 4

II Fill in the blanks

11. The performance equation of batch reactor is _____
12. In a flow reactor, four reactor volumes of feed at specified conditions are being treated per hour. Then the space velocity is _____
13. Constant volume system is also called _____
14. A photo chemical reaction is initiated by _____
15. In CSTR, The concentration is _____ through out the reactor.
16. There is no mixing in longitudinal direction, and the mixing takes place in radial direction. Such reactor is known as _____
17. The fractional change in volume between complete conversion and zero conversion is known as _____
18. The velocity profile of a PFR is _____
19. If a reaction proceeds with $2A+B \rightarrow C$, then the order of the elementary reaction is _____
20. A PFR is characterized by presence of _____ mixing

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