

Metallurgical Kinetics and Energy MCQ Questions and Answers

Question: 1

Which of the following is a controlling factor in very fast heterogeneous reaction?

- (A) Composition of reactant
- (B) Pressure
- (C) Temperature
- (D) Heat and mass transfer effects

Ans: D

Heat and mass transfer effects

Question: 2

The role of a catalyst in a chemical reaction is to change the

- (A) Activation energy
- (B) Heat of reaction
- (C) Equilibrium constant
- (D) Final products

Ans: A

Activation energy

Question: 4

When a catalyst increase the rate of forward reaction, the value of rate constant

- (A) Increases

(B) Decreases

(C) Becomes infinite

(D) Remains same

Ans: A

Increases

Question: 5

The rate of homogenous reaction is a function of

(A) Pressure and composition only

(B) Temperature and pressure only

(C) Temperature and composition only

(D) All temperature, pressure and composition

Ans: D

All temperature, pressure and composition

Question: 6

When a catalyst increases the rate of reaction, the value of rate constant

(A) Decreases

(B) Increases

(C) Remains same

(D) Becomes infinite

Ans: B

Increases

Question: 7

Arrhenious equation shows the variation of _____ with temperature.

- (A) Rate constant
- (B) Reaction rate
- (C) Frequency factor
- (D) Energy of activation

Ans: Rate constant

Question: 8

The rate constant of a reaction depends on the

- (A) Initial concentration of the reactants
- (B) Extent of reaction
- (C) Time of reaction
- (D) Temperature of the system

Ans: Temperature of the system

Question: 9

If the rate of a chemical reaction becomes slower at a given temperature, then the

- (A) Free energy of activation is higher
- (B) Entropy changes
- (C) Free energy of activation is lower
- (D) Initial concentration of the reactants remains constant

Ans: Free energy of activation is higher

Question: 10

Promotor is added to catalysts to improve its

- (A) Surface area
- (B) Fusion resistance
- (C) Porosity
- (D) Sensitivity

Ans: Sensitivity

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