

Metallurgical Engineering Thermodynamics and Kinetics Objective Questions

1. Reynolds number is the ratio of
 - a. Inertia forces to viscous forces
 - b. Inertia forces to buoyancy forces
 - c. Viscous forces to buoyancy forces
 - d. Viscous forces to surface tension

Ans: A

2. In Laminar flow, the friction factor
 - a. Increases with Reynolds number
 - b. Decreases with Reynolds number
 - c. Depends only upon the velocity of the fluid and increases with the velocity of the fluid
 - d. Depends only upon the density of the fluid and increases with the density of the fluid

Ans: B

3. The activity co-efficient of the solute in a dilute solution
 - a. Decreases with increase of concentration of the solute
 - b. Increases with increase of concentration of the solute
 - c. Remains constant
 - d. Is unity at infinite dilution

Ans: C

4. In thermodynamics, the law of conservation of energy is expressed in the form of
 - a. Zeroth law of thermodynamics
 - b. First law of thermodynamics
 - c. Second law of thermodynamics
 - d. Third law of thermodynamics

Ans: B

5. Which one of the following is NOT an intensive property?

- a. Temperature
- b. Pressure
- c. Volume
- d. Refractive index

Ans: C

6. Intensive thermodynamic variables are
- a. Independent of the number of moles in the system
 - b. Dependent on the volume of the system
 - c. Dependent on the mass of the system
 - d. Independent of the temperature of the system

Ans: A

7. In one Fcc unit cell, there are
- a. 4 tetrahedral and 8 octahedral sites
 - b. 8 tetrahedral and 4 octahedral sites
 - c. 12 tetrahedral and 4 octahedral sites
 - d. 4 tetrahedral and 4 octahedral sites

Ans: B

8. Which law of the thermodynamics provides basis for measuring thermodynamic property?
- a. First law
 - b. Zeroth law
 - c. Third law
 - d. Second law

Ans: B

9. Second law of thermodynamics is concerned with the
- a. Amount of energy transferred
 - b. Direction of energy transfer
 - c. Irreversible processes only
 - d. Non cyclic processes only

Ans: B

10. Isobaric process means a constant _____ process.

- a. Temperature
- b. Process
- c. Volume
- d. Entropy

Ans: B

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