

Thermodynamics Principles

Thermodynamics · Answer Key · 10 Questions

1. Which process describes the transfer of thermal energy through the movement of fluids like liquids or gases?

- A) Conduction
- B) Radiation
- C) Convection**
- D) Sublimation

2. What is the physical term for the temperature at which a liquid turns into a gas throughout the entire volume of the substance?

- A) Condensation
- B) Boiling point**
- C) Freezing point
- D) Deposition

3. Which phase change occurs when a solid turns directly into a gas without passing through the liquid phase?

- A) Sublimation**
- B) Evaporation
- C) Fusion
- D) Solidification

4. In thermodynamics, what happens to the average kinetic energy of particles when the temperature of a substance increases?

- A) It decreases
- B) It remains constant
- C) It increases**
- D) It reaches absolute zero

5. Which material property describes how much thermal energy is required to raise the temperature of one kilogram of a substance by one degree Celsius?

- A) Thermal conductivity
- B) Latent heat
- C) Specific heat capacity**
- D) Thermal expansion

6. What type of heat transfer occurs when energy is emitted as electromagnetic waves, requiring no medium?

- A) Conduction
- B) Convection
- C) Radiation**
- D) Insulation

7. According to the kinetic molecular theory, what is the motion of particles like at absolute zero (0 Kelvin)?

- A) Maximum speed
- B) Vibrational motion only
- C) Complete cessation of motion**
- D) Random chaotic motion

8. What is the primary method of heat transfer through a solid object, such as a metal spoon in hot soup?

- A) Conduction**
- B) Convection
- C) Radiation
- D) Advection

9. Which state of matter has the highest degree of particle movement and the least amount of intermolecular attraction?

- A) Solid
- B) Liquid
- C) Gas
- D) Plasma**

10. What term defines the energy required to change a substance from a solid to a liquid at its melting point?

- A) Latent heat of fusion**
- B) Latent heat of vaporisation
- C) Sensible heat
- D) Thermal equilibrium