

Fundamentals of Thermodynamics

Thermodynamics · Practice Test · 8 Questions

1. Which law of thermodynamics states that the entropy of a perfect crystal at absolute zero is exactly zero?

- A) The First Law
- B) The Second Law
- C) The Third Law
- D) The Zeroth Law

2. In an isobaric process, which physical property of a system remains constant?

- A) Pressure
- B) Volume
- C) Temperature
- D) Entropy

3. What is the SI unit of measurement for entropy?

- A) Joules per Kelvin
- B) Newtons per meter
- C) Watts per second
- D) Pascals per cubic meter

4. What concept is defined by the Zeroth Law of Thermodynamics?

- A) Internal energy
- B) Thermal equilibrium
- C) Enthalpy
- D) Heat capacity

5. Which form of energy transfer occurs specifically due to a temperature difference between two systems?

- A) Work
- B) Entropy
- C) Heat
- D) Mass

6. The First Law of Thermodynamics is essentially a specific statement of which fundamental physical principle?

- A) Conservation of momentum
- B) Conservation of mass
- C) Conservation of charge
- D) Conservation of energy

7. Which thermodynamic cycle represents the most efficient possible heat engine operating between two temperatures?

- A) Otto cycle
- B) Carnot cycle
- C) Diesel cycle
- D) Rankine cycle

8. What term describes a thermodynamic process that occurs without the exchange of heat with the surroundings?

- A) Isothermal
- B) Isochoric
- C) Adiabatic
- D) Polytropic