Thermodynamics Principles and Concepts

Thermodynamics · Answer Key · 5 Questions

1. Which law of thermodynamics formally defines temperature through the concept of thermal equilibrium?

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

2. The First Law of Thermodynamics is an expression of which fundamental conservation principle?

A) Conservation of Mass
B) Conservation of Energy
C) Conservation of Momentum
D) Conservation of Charge

3. According to the Second Law of Thermodynamics, what property of an isolated system always increases or remains constant during a spontaneous process?

A) Enthalpy
B) Gibbs free energy
C) Entropy
D) Internal energy

4. The Third Law of Thermodynamics states that the entropy of a perfect crystal approaches zero as the absolute temperature approaches which value?

A) 0 °C
B) 0 K
C) -273.15 K
D) 100 K

5. Which French physicist established the theoretical maximum efficiency limit for heat engines operating between two temperatures?

A) James Clerk Maxwell
B) Sadi Carnot
C) Ludwig Boltzmann
D) Rudolf Clausius

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