

Unit–1

Basic Concepts and first law Thermodynamics

1. Thermodynamics deals with the study of:

- A) Motion of bodies
- B) Heat and energy transfer
- C) Electrical circuits
- D) Sound waves

Answer: B) Heat and energy transfer

2. The SI unit of temperature is:

- A) Celsius
- B) Fahrenheit
- C) Kelvin
- D) Joule

Answer: C) Kelvin

3. Which law states energy can neither be created nor destroyed?

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

Answer: B) First Law

4. A closed system allows:

- A) Mass transfer only
- B) Energy transfer only
- C) Both mass and energy transfer
- D) Neither

Answer: B) Energy transfer only

5. The device used to measure pressure is:

- A) Thermometer
- B) Manometer
- C) Calorimeter
- D) Barometer

Answer: B) Manometer

6. Internal energy is represented by:

- A) H
- B) U
- C) P
- D) T

Answer: B) U

7. The unit of work is:

- A) Watt
- B) Joule
- C) Kelvin
- D) Pascal

Answer: B) Joule

8. Entropy is represented by:

- A) S
- B) E
- C) Q
- D) V

Answer: A) S

9. A process occurring at constant pressure is called:

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

Answer: C) Isobaric

10. Heat flows naturally from:

- A) Cold body to hot body
- B) High pressure to low pressure
- C) Hot body to cold body
- D) None

Answer: C) Hot body to cold body

Part B: Fill in the Blanks

1. Thermodynamics is the science of **heat and energy**.
2. The SI unit of pressure is **Pascal (Pa)**.
3. The first law of thermodynamics is based on **conservation of energy**.
4. Energy crossing the system boundary due to temperature difference is called **heat**.
5. A system exchanging both mass and energy is called an **open system**.
6. The symbol of entropy is **S**.
7. Absolute temperature is measured in **Kelvin**.
8. Enthalpy is represented by **H**.
9. Work done per unit time is called **power**.
10. A process with no heat transfer is called an **adiabatic process**.