# **39 Lecture - PHY101**

## **Important Mcqs**

#### Which of the following is a unit of heat?

a. Joule

b. Kelvin

c. Ampere

d. Newton

Answer: a. Joule

#### What is thermal expansion?

- a. The ability of a material to transfer heat
- b. The change in temperature of a material
- c. The expansion or contraction of a material due to changes in temperature
- d. The measure of how well a material can resist heat transfer

#### Answer: c. The expansion or contraction of a material due to changes in temperature

#### What is the specific heat of water?

a. 1 J/kg·K

b. 4.18 J/kg·K

c. 10 J/kg·K

d. 100 J/kg·K

Answer: b. 4.18 J/kg·K

#### Which of the following materials is a good insulator?

- a. Copper
- b. Aluminum

c. Glass

d. Silver

Answer: c. Glass

#### What is the first law of thermodynamics?

- a. Energy cannot be created or destroyed
- b. Energy always flows from hot to cold
- c. The total entropy of an isolated system always increases
- d. The efficiency of a heat engine cannot be 100%

#### Answer: a. Energy cannot be created or destroyed

#### Which process occurs at a constant temperature in a thermodynamic system?

- a. Adiabatic process
- b. Isothermal process
- c. Isobaric process
- d. Isochoric process

#### Answer: b. Isothermal process

#### What is thermal conductivity?

- a. The measure of how well a material can resist heat transfer
- b. The ability of a material to transfer heat
- c. The measure of the temperature of a material
- d. The measure of the average kinetic energy of the particles in a substance

#### Answer: b. The ability of a material to transfer heat

### Which of the following is a type of thermal radiation?

- a. Visible light
- b. Ultraviolet radiation
- c. Infrared radiation

#### d. X-rays

### Answer: c. Infrared radiation

#### What is a heat engine?

- a. A device that converts thermal energy into mechanical energy
- b. A device that converts mechanical energy into thermal energy
- c. A device that converts electrical energy into thermal energy
- d. A device that converts thermal energy into electrical energy

#### Answer: a. A device that converts thermal energy into mechanical energy

# Which law of thermodynamics states that the total entropy of an isolated system always increases over time?

- a. First law of thermodynamics
- b. Second law of thermodynamics
- c. Third law of thermodynamics
- d. None of the above

#### Answer: b. Second law of thermodynamics