

# 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**