

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