

11 Lecture - PHY101

Important Subjective

What is the law of conservation of energy?

Ans: The law of conservation of energy is a fundamental principle of physics that states that the total amount of energy in a closed system remains constant.

What is the first law of thermodynamics?

Ans: The first law of thermodynamics states that the change in the internal energy of a system is equal to the heat added to the system minus the work done by the system.

What are some applications of the conservation of energy in physics?

Ans: Conservation of energy has many applications in physics, including mechanics, thermodynamics, and electromagnetism.

How is conservation of energy used in the design of engines?

Ans: In the design of engines and other devices that convert thermal energy into mechanical work, the principle of conservation of energy is used to ensure that the heat energy added to the system is equal to the work done by the system.

How does conservation of energy apply to electromagnetism?

Ans: In electromagnetism, the energy stored in a magnetic field is equal to the work that can be done by the field. When the current is turned off, the energy stored in the magnetic field is released and can be used to do work.

Is energy created or destroyed in a closed system?

Ans: Energy cannot be created or destroyed in a closed system, only transformed from one form to another.

What happens to the potential energy of an object as it falls?

Ans: The potential energy

