

# 30 Lecture - PHY101

## Important Subjective

### What is electromagnetic induction?

Electromagnetic induction is the phenomenon of generating an electromotive force (emf) or voltage in a closed circuit due to the change in magnetic flux through the circuit.

### What is Faraday's law of electromagnetic induction?

Faraday's law states that the emf induced in a circuit is proportional to the rate of change of magnetic flux through the circuit.

### What is Lenz's law?

Lenz's law states that the direction of the induced emf is such that it opposes the change that produced it.

### What is self-induction?

Self-induction is the phenomenon of inducing an emf in a coil due to the change in current flowing through it.

### What is mutual induction?

Mutual induction is the phenomenon of inducing an emf in a coil due to the change in magnetic flux linked with it, produced by a current flowing in another nearby coil.

### What is an induced current?

An induced current is a current that is produced in a closed circuit due to the presence of an induced emf.

### What is an inductor?

An inductor is a passive electrical component that is designed to store energy in its magnetic field. It is typically made up of a coil of wire.

### What is an inductance?

Inductance is a measure of the ability of an inductor to store energy in its magnetic field. It is measured in units of henries.

**What is a transformer?**

A transformer is a device that is used to transfer electrical energy from one circuit to another through the principle of electromagnetic induction.

**What is eddy current?**

Eddy currents are the currents that are induced in a conductor due to the change in magnetic field linked with it. They are often seen as unwanted effects in electrical machines and can cause energy loss in the form of heat.