

Ques 5:- Explain the Faraday's law of electromagnetic induction.

Ans:- It consists of two laws;

1) Faraday's First law of electromagnetic induction:-

Whenever a conductor is placed in a varying magnetic field, an electromotive force is induced. If the conductor circuit is closed, a current is induced which is called induced current.

Mentioned here are a few ways to change the magnetic field intensity in a closed loop;

- By rotating the coil relative to the magnet,
- By moving the coil into or out of the magnetic field,
- By changing the area of a coil placed in the magnetic field.

Date: \_\_\_\_\_  
Page: \_\_\_\_\_

cii) Faraday's Second law of electro-  
magnetic Induction:-

The induced emf in a coil is equal to the rate of change of flux linkage.

The flux is the product of the number of turns in the coil and the flux associated with the coil.

$$\boxed{\varepsilon = -N \frac{\Delta \phi}{\Delta t}}$$

Where,

$\varepsilon$  = electromagnet force,

$\phi$  = magnetic flux

$N$  = Number of turns,