PHYSICS - X-PART-06 CLASS 24

Mutual Induction

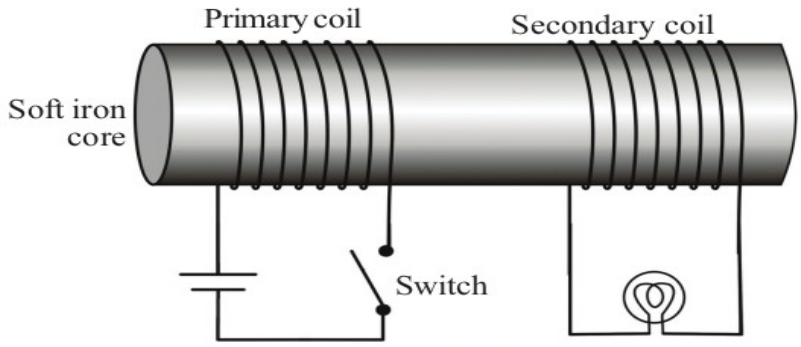


Fig. 3.8

1. Turn on & turn off the switch continuously. What do you observe?
* Bulb glows and then goes off

2. If the switch is kept in the on position what do you observe?
* Bulb does not glow

3. On what occasions do the flux change?
* Turn on & turn off the switch continuously.

4.What are the occasions when current flows through the second coil?
* When the switch in the first coil is kept on or off

The coil into which we give current for the production of magnetic field is the primary coil and the coil in which induced emf is generated is the secondary coil.

5. Can you suggest a method by which change can be brought in magnetic flux without switching on and off continuously?

* If AC is given to the primary coil instead of DC, emf will be continuously induced in the secondary coil.

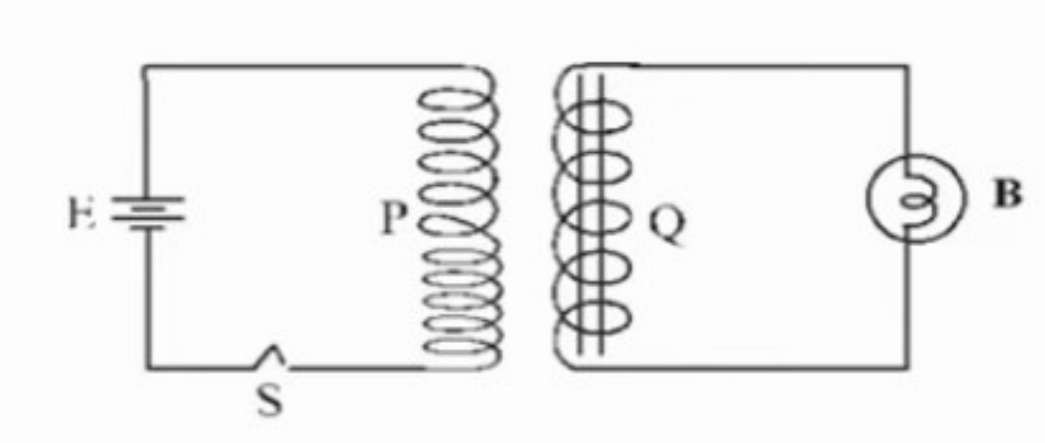
6. What is this phenomenon? Explain.

* Mutual induction

Consider two coils of wire kept side by side. When the strength or direction of the current in one coil changes, the magnetic flux around it changes. As a result, an emf is induced in the secondary coil. This phenomenon is the mutual induction

Assignment

Observe the figure.



When the switch S is turned on, the bulb suddenly glows and it turns off

1. Suggest a method for the continuous glowing of bulb.

2. Name the phenomenon behind this.

3. Define it.

4. What are the name of the coils P and Q ?