

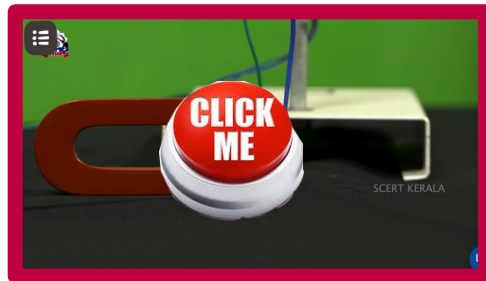
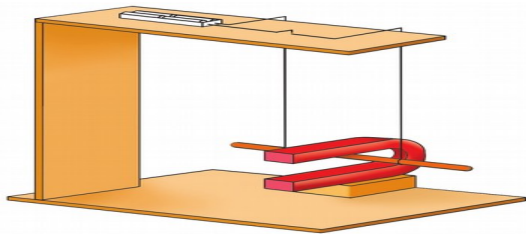
PHYSICS - X-PART-5 CLASS 13



2

Magnetic Effect of Electric Current

Use of magnetic effect of electricity



- ◆ A force is felt in a current carrying conductor located in a magnetic field.
- ◆ The conductor moves in the direction of that force.
- ◆ This is known as Motor principle

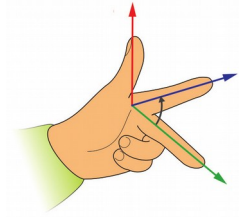
Motor principle

A conductor, which can move freely and which is kept in a magnetic field, experiences a force when current passes through it and it moves.

What are the factors that influence the direction of motion of the conductor?

- ◆ Direction of current
- ◆ Direction of magnetic field

Fleming established a rule that will help to find out the direction of motion of the conductor in the devices making use of magnetic effect of electricity.



Fleming's Left Hand Rule

Hold the forefinger, the middle finger and the thumb of the left hand in mutually perpendicular directions as shown in the figure. If the forefinger indicates the direction of the magnetic field and the middle finger, the direction of the current, then the thumb will indicate the direction of motion of the conductor.

- ◆ The working of electric motor is based on this principle.
- ◆ The motor principle is also used in devices like fan, mixie etc..

worksheet (Let us assess - 6)

The direction of movement of electrons through a magnetic field is depicted. "The force felt by the electrons due to the influence of the magnetic field is into the plane of the paper". Is this statement correct? Explain based on the Fleming's Left Hand Rule.

