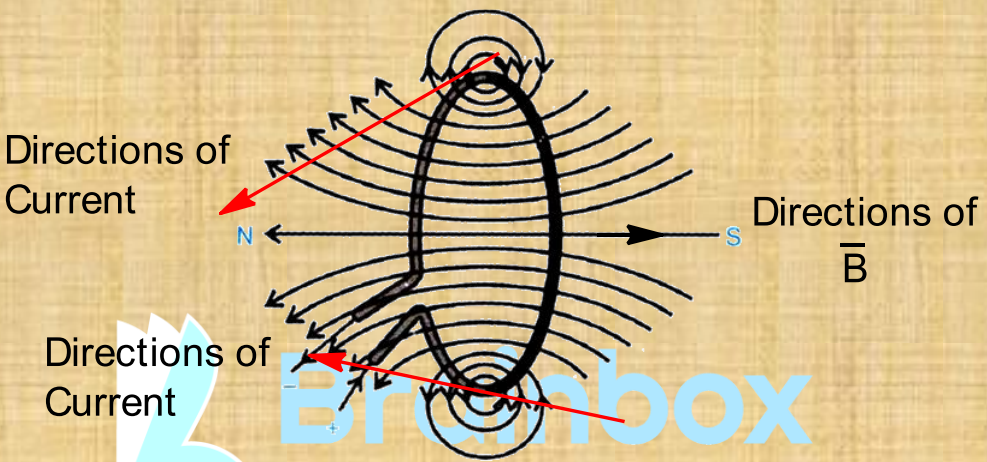


CHAPTER 13

Electromagnetism

Magnetic field due to a current through circular loops:



Magnetic field due to Solenoid:

Solenoid:

"A coil of many circular turns of insulated copper wire wrapped closely in the shape of a cylinder is called Solenoid".

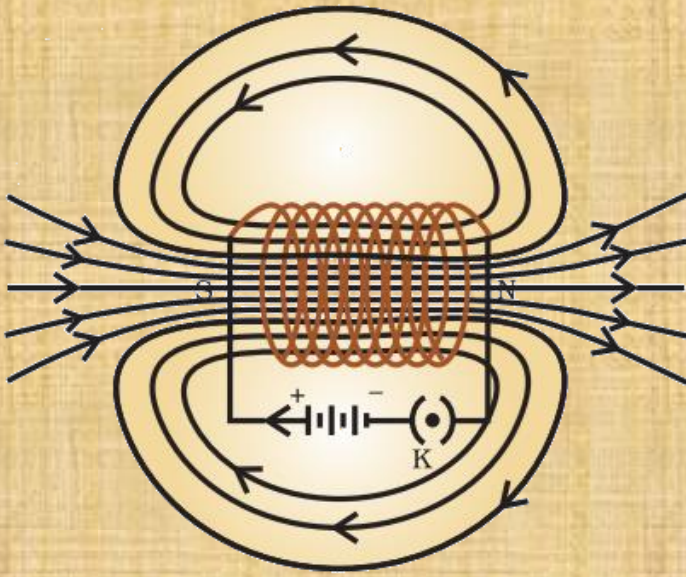


Fig. Field lines of the magnetic field through and around a current carrying solenoid

A strong magnetic field produced inside a solenoid is used to magnetize a piece of magnetic material then formed magnet is called an Electro magnet.

Force on a current carrying conductor in a magnetic field:

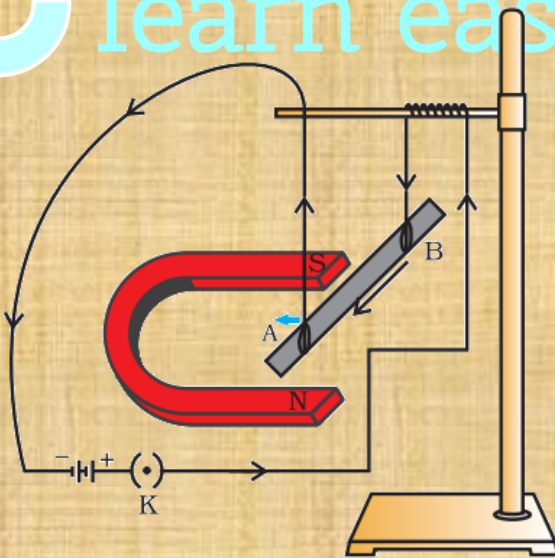


Fig. A current-carrying rod, AB, experiences a force perpendicular to its length and the magnetic field.

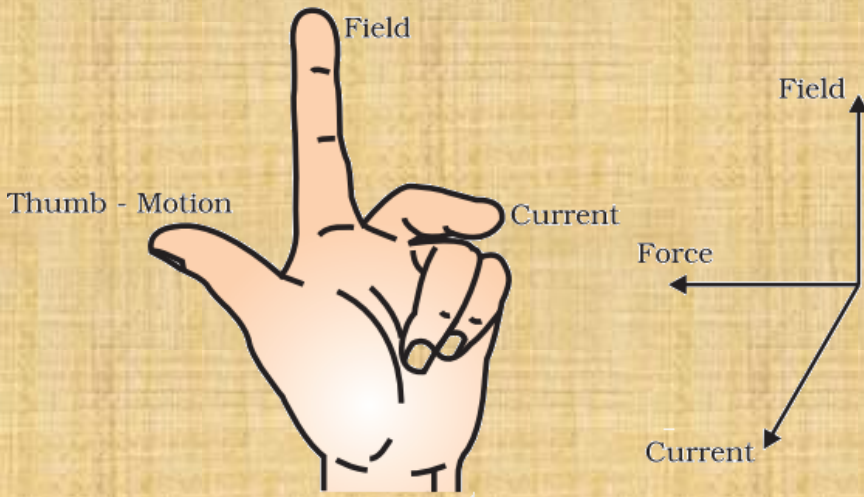
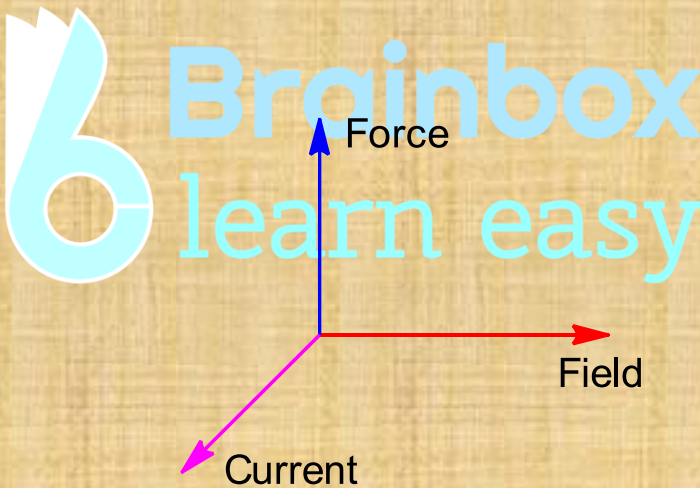


Fig. Fleming's left-hand rule



Force finger $\longrightarrow$ Field

Central finger $\longrightarrow$ Current

Thumb finger $\longrightarrow$ Thrust means force

The above notations are due to Fleming's left hand rule (FLR).