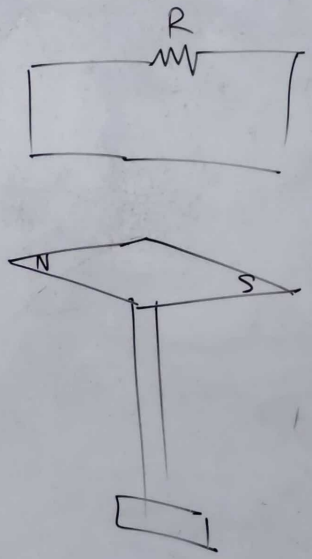
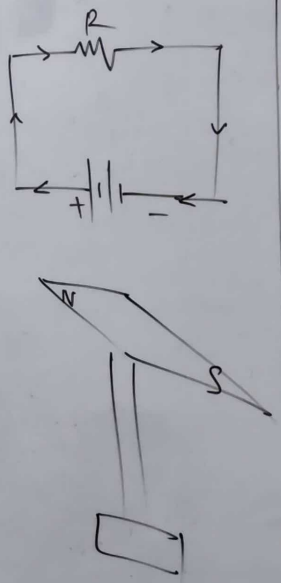
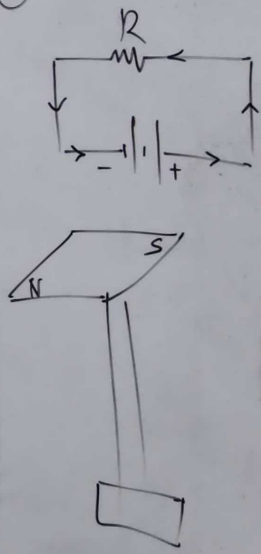
Magnetic Effect of Electric Current.

① 

② 

③ 

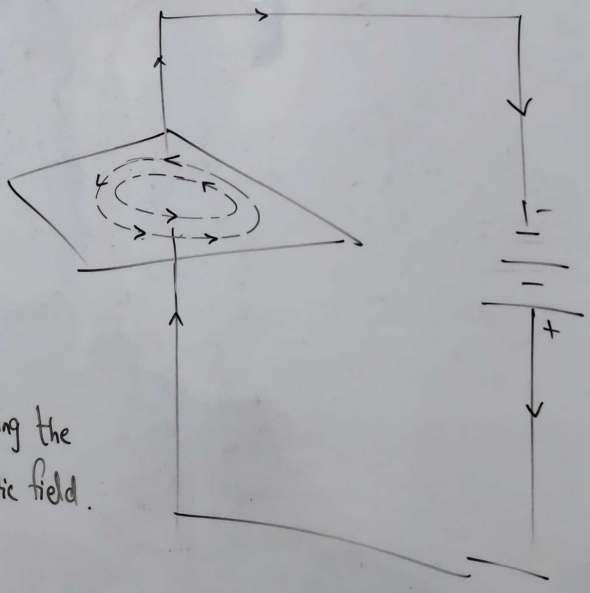
Magnetic Field Due to a Straight Conductor.

Right Hand Thumb Rule

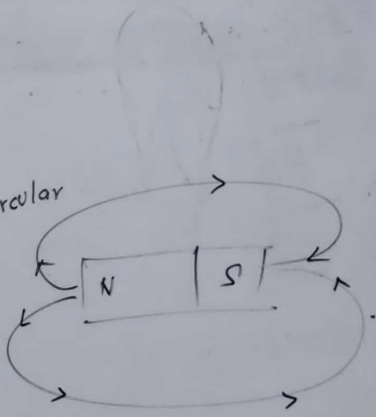
Thumb is showing the direction of current

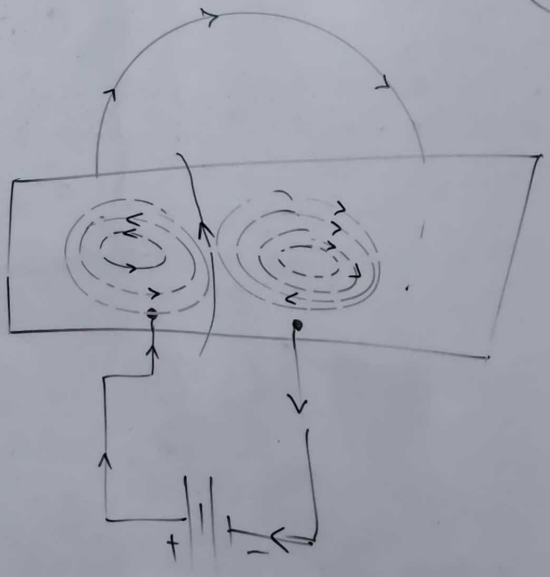
↓

Curled fingers are showing the direction of magnetic field.

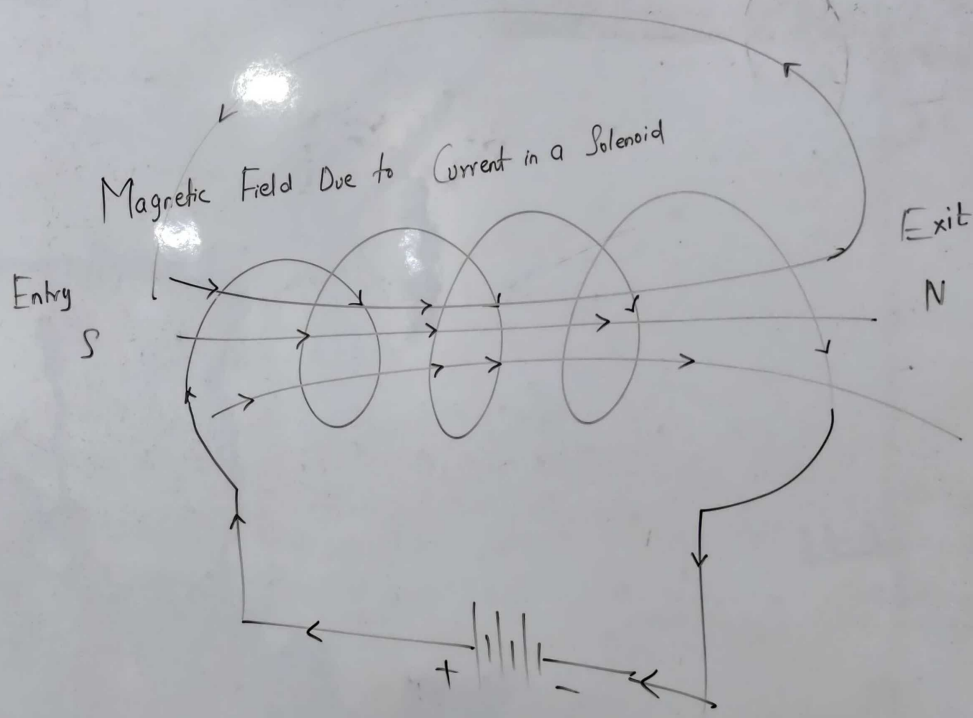


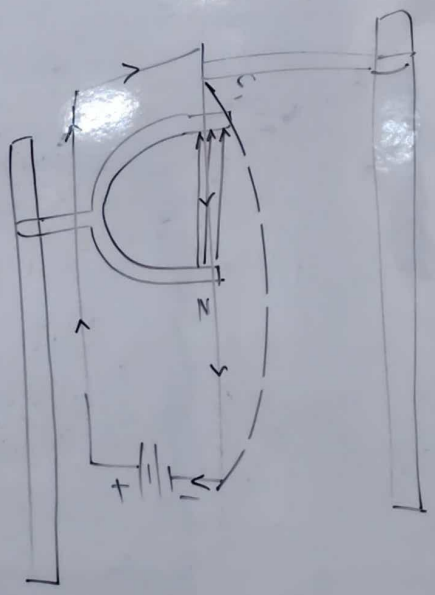
Magnetic Field Produced by Current through a Circular Loop of a Conducting Wire.





Magnetic Field Due to Current in a Solenoid





Fleming's Left Hand Rule

F = Force

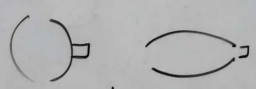
B = Magnetic Field

I = Current

Electric Motor.

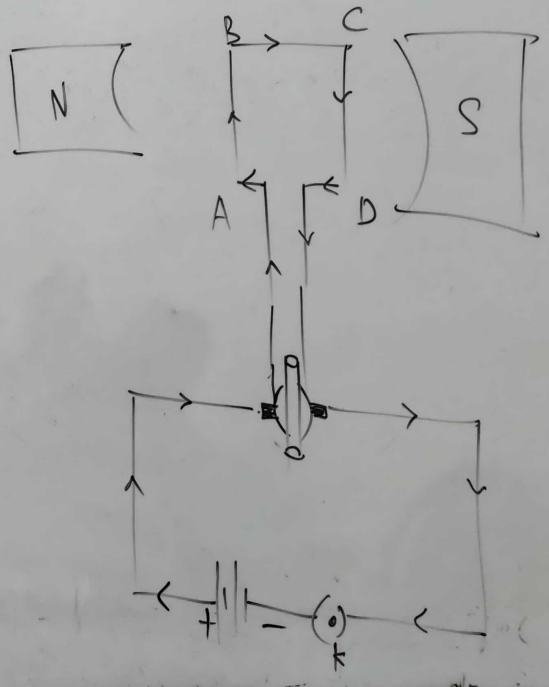
A device which converts electrical energy into mechanical energy

Construction:



Force on AB → Downwards.

Force on CD → Upwards.

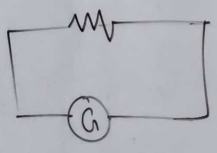


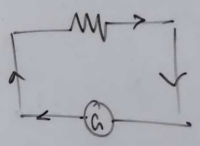
Electromagnetic Induction.

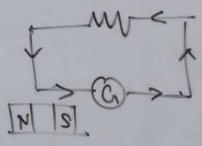
Galvanometer.

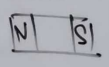
↓

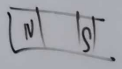
Used to detect or measure weak current











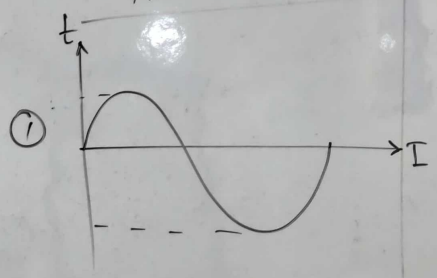
Fleming's Right Hand Rule.

M_o = Motion of conductor.

B = Magnetic field

I = Current.

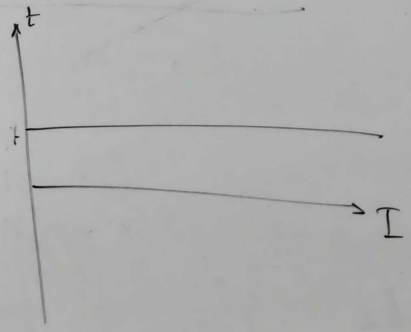
Alternating Current



①

② 50 Hz

Direct Current.



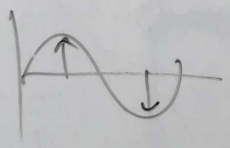
② f = 0 Hz.

AC Generator.

A device which converts mechanical energy into electrical energy.

AB = Upwards

CD = Downwards



AB → CD

CD → AB