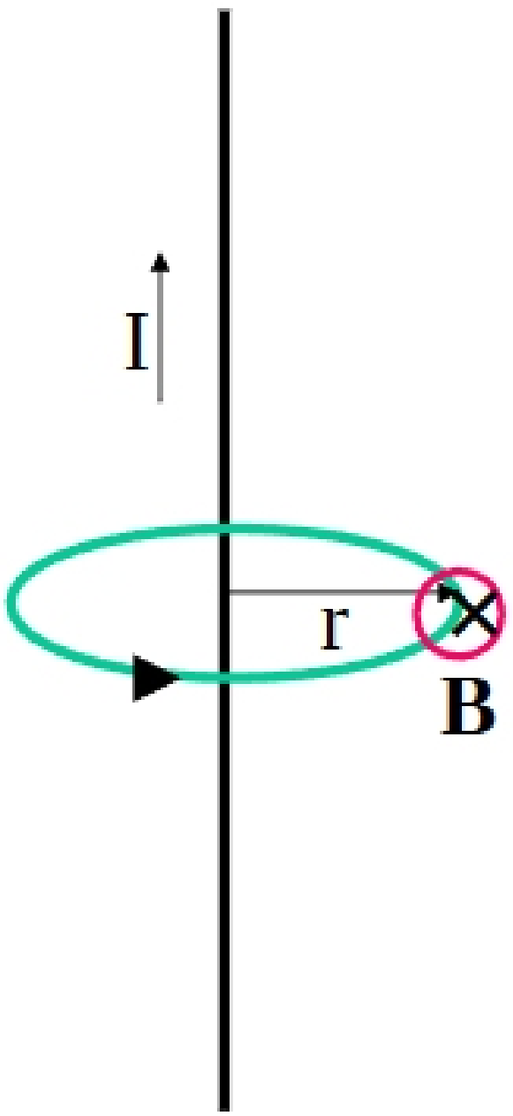
A current generates magnetic field

Magnetic field generated by

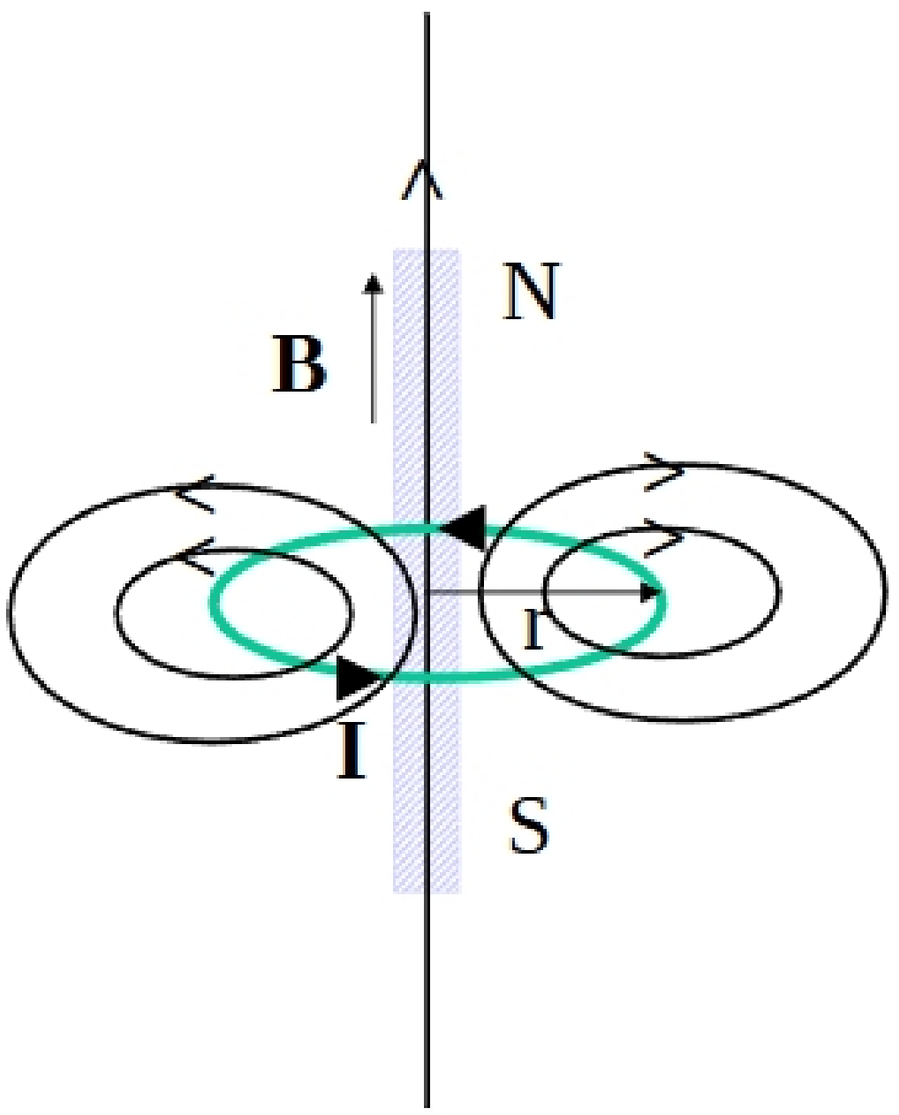
A long, straight current

$B=\mu_o I/2\pi r$



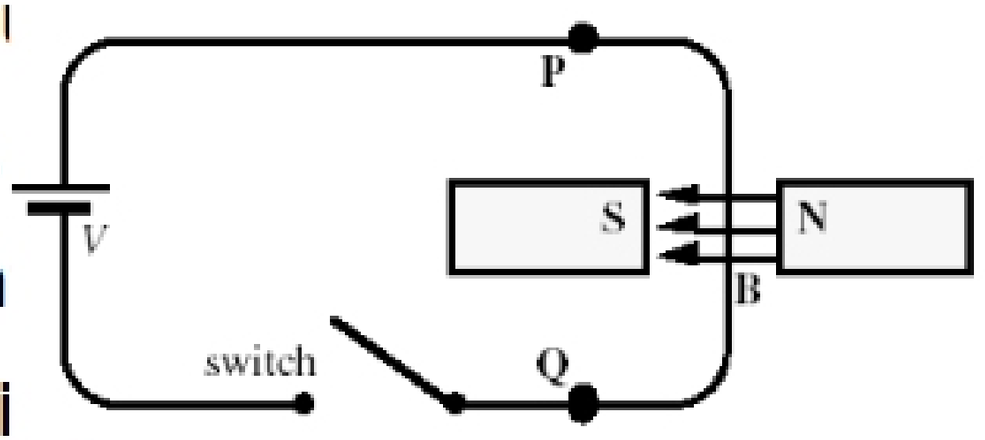
A current loop

$B=\mu_o I/2r$



A long straight vertical segment of wire traverses a magnetic field of magnitude 2.0 T in the direction shown in the diagram. The length of the wire that lies in the magnetic field is 0.060 m. When the switch is closed, a current of 4.0 A flows through the wire from point **P** to point **Q**.

1. Which one of the following statements concerning the effect of the magnetic force on the wire is tr



(a) The wire will be pushed to the left.

(b) The wire will be pushed to the righ

(c) The wire will have no net force acti

(d) The wire will be pushed downward, into the plane of the screen.

(e) The wire will be pushed upward, out of the plane of the screen.

2. What is the magnitude of the magnetic force acting on the wire?

(a) 0.12 N (c) 0.48 N (e) 0 N

(b) 0.24 N (d) 67 N