UNIT 14 READING A

The Magnetic Field of a Current Carrying Wire

The magnetic field of a current carrying wire depends on the current through the wire, I, and the distance from the wire, r. The magnitude of the magnetic field can be calculated. It is

$$B = \frac{\mu_0 I}{2\pi r}$$

where I is the current through the wire, r is the distance from the wire, and μ_0 is a constant. The value of μ_0 is $\mu_0 = 4\pi \times 10^{-7} Tm/A$.