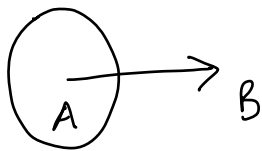


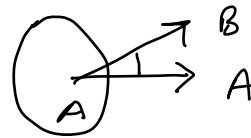
Electromagnetic Induction

What is Magnetic flux? What is the unit of magnetic flux? What is meant by positive and negative flux?

The total number of magnetic lines of force passing normally through any area is called Magnetic flux



(a)



(b)

Consider a plane surface of area A placed normal to a magnetic field B Fig(a). Then magnetic flux

ϕ is given by $\phi = BA$

If B is not perpendicular to the surface, the flux through A is given by

$$\phi = BA \cos \theta$$

where θ is the angle which the normal to the surface makes with the magnetic field as in Fig(b)

SI unit of magnetic flux is Weber.

C.G.S. unit of magnetic flux is Maxwell

$$1 \text{ Weber} = 10^8 \text{ Maxwells.}$$

Positive flux: When the normal to the surface points in the direction of magnetic field the flux is called positive

Negative flux: When the normal to the surface points in the direction opposite to the magnetic field, the flux is called Negative.