**Revision**

An AC generator is an electric generator that converts mechanical energy into electrical energy in the form of an alternative emf or alternating current. AC generator works on the principle of “Electromagnetic Induction.”

An Ac generator consists of two poles i.e., the north pole and the south pole of a magnet so that we can have a uniform magnetic field. There is also a coil that is rectangular/circular in shape that is the armature. These coils are connected to the slip rings and attached to them are carbon brushes.

Working: When the armature rotates between the poles of the magnet upon an axis perpendicular to the magnetic field, the flux which links with the armature changes continuously. Due to this, an emf is induced in the armature. This produces an electric current through the galvanometer and the slip rings and brushes.

**e = NBA(2πv) sin(2πv)t**

**Displacement current**: ∮**B.dl** = μO(Ic + εO dΦ/dt)

This is Ampere’s law. The second term in the RHS, that comes in this Maxwell equation is the displacement current.