CHAPTER 13

Electromagnetism

Electric Generator:

In an electric generator, mechanical energy is used to rotate a conductor in magnetic field of produce electricity.

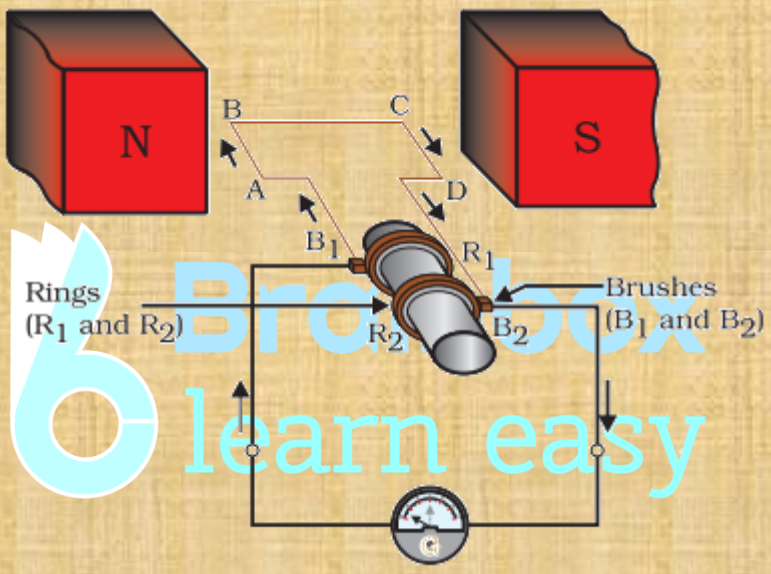


***Fig**. Illustration of the principle of electric generator*

As shown in figure ABCD is a rectangular coil placed in a magnitude field.

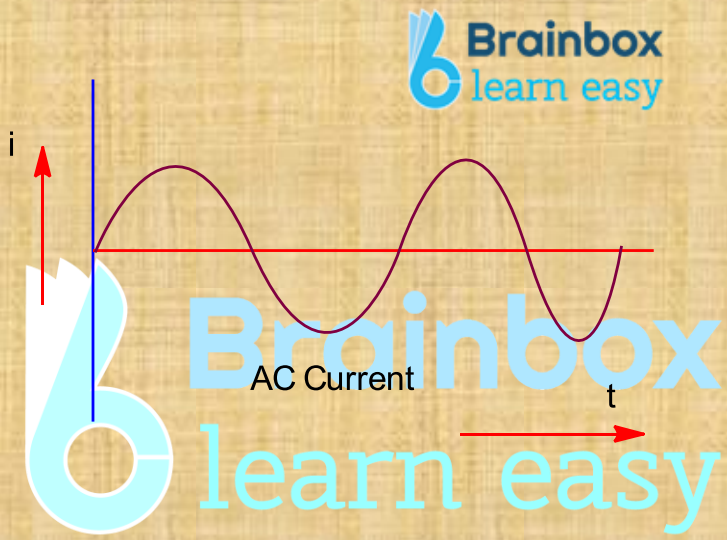
The two ends of the coil are connected to rings R_1 and R_2, which are internally attached to axle.

B_1 and B_2 are kept pressed separately on rings R_1 and R_2 respectively. Outer ends of B_1 and B_2 are connected to galvanometer to show the flow of current.

Here when axle is rotated by means of motor AB and CD will have currents in opposite direction because AB moves up and CD moves down.

After half rotation CD starts moving up and AB moves down. Therefore current changes its direction. The same process continues further and in every half rotation the direction of current changes which is called an alternating current (AC).

The generator hence called AC generator.



If we use split rings as commutator, the direction of current will be only in one direction called Direct current (DC).