I-Yoke:

A field yoke or frame is to give mechanical support to pole cores. It is made of cast iron or cast steel.

II- Pole cores and pole shoes:

The field magnets consist of pole cores and pole shoes. The pole shoes serve two purposes: (i) They spread out the flux in the air gap (ii) They support the exciting coils. In the past, the pole core itself was a solid piece of iron, but the pole shoe was laminated. In the modern design, the complete pole cores and pole shoes are built of thin laminations of annealed steel which are rivetted together under hydraulic pressure. The laminated poles may be secured to the yoke by means of screws bolted through the yoke and into the pole body.

III-Pole coils or Field coils:

These are placed around the pole cores. The coils of each pole are connected in series to form the field circuit. These coils consist of copper wire. When the current is passed through these coils, they electromagnetise the poles which produce the necessary flux and that is cut by the revolving armature conductors.

IV-Armature core:

The core is made of sheet-steel laminations and keyed to the shaft. The outer surface is slotted to secure the armature coils. The laminations are perforated for air ducts which permit axial flow of air through the armature for cooling purposes. The purpose of using thin laminations is to reduce the loss due to eddy currents.