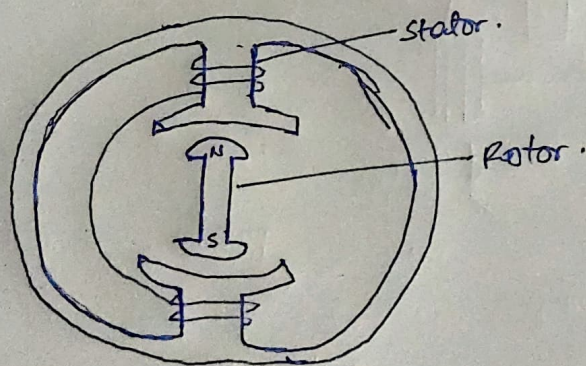


Q3) Construction & working principle of Brushless Motor BLDC

Construction →

- * The construction is similar to the traditional D.C motor with difference being the absence of brushes.
- * The stator is made of a series of electromagnets that are arranged in a circular pattern around the stator.
- * The stator winding is made up of copperwires, which is wound around an iron core.
- * The stator core is laminated to reduce eddy current loss & improve efficiency.
- * The permanent magnets is made up of neodymium or samarium cobalt which is very strong & provide high magnetic flux density.
- * The motor controller is housed in separate unit & is connected to the motor through series of wires. The motor controller includes the microcontroller, power electronics, & feedback sensor.



Used in E.V's due to high efficiency & torque density
In EV or HEV the BLDC motor used to drive the wheels or provide additional power to the battery.

Working Principle -

- * The working principle of motor is based on interaction b/w rotor flux & stator flux.
- * The stator consist of series of electromagnets that are given to controller.
- * The motor controller uses electronic signals to energise the motor star windings which interacts with rotor & ~~turn~~ ^{ex} the expense of torque.