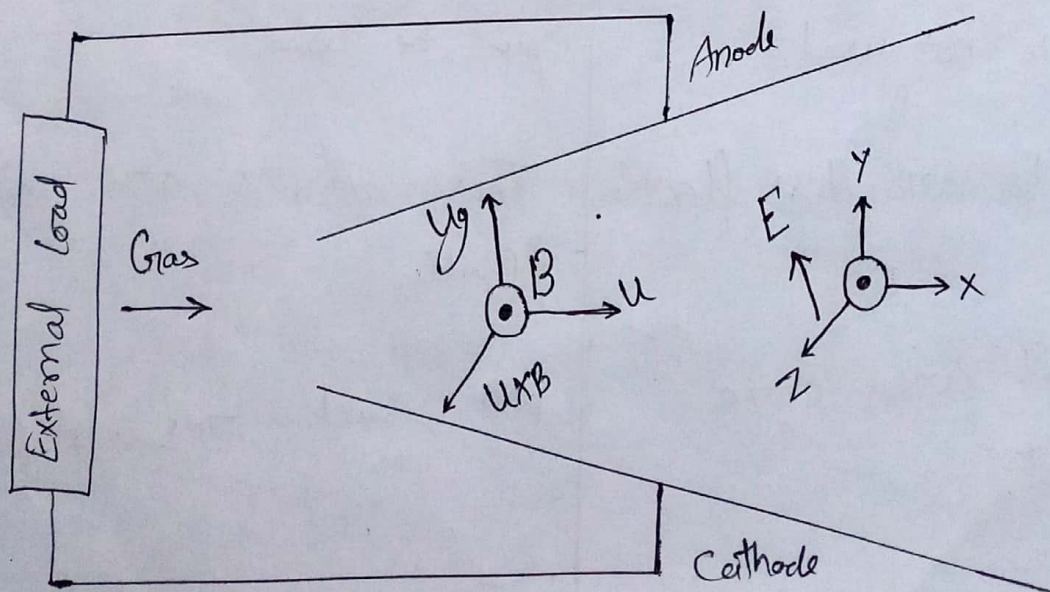


Q.2 ⇒ Magneto hydrodynamic Power generation (MHD) ⇒

- In MHD Power generation conversion process depends upon Faraday's law of electromagnetic induction, which states that when a conductor and a magnetic field move relative to each other, a voltage is induced in the conductor. This induced voltage produces an electric current.
- The conductor may be solid, liquid or gas.
- In MHD generator solid conductors are replaced by hot ionized gas.
- The hot ionized gas (3000°C) is passed through the MHD duct across which a strong magnetic field is applied.
- The power generated by MHD generator is in the direct current form.



[fig ⇒ working principle of MHD generator]

* Ocean Thermal Energy \Rightarrow It is a means of converting ocean thermal energy into useful energy. OTEC is a technology that converts solar radiation into electric energy. It uses the ocean's temperature gradient (the ocean layers of water have different temperatures) to generate the power, based on second law of thermodynamics.

OTEC System \Rightarrow There are three basic types of OTEC power plant cycle.

1. Open cycle,
2. Closed cycle, and
3. Hybrid cycle.

- The principle of ocean thermal energy conversion (OTEC) is that there is a temperature difference between water at the bottom of the sea and the water at the top.
- This temperature difference can be used to operate a heat engine and most of the radiation is being absorbed at the surface layer of water.