[Question -1 section -3]

Answer

⇒ Open cycle MHD system

→ An elementry open cycle MHD system is a system in which a high pressure, high temperature combustion gas is forced through a strong magnetic field.

→ coal is processed and burnt in the combustor at high temperature of about 2,600°c and pressure of about 12 atmospheres with Pre-heated air to form the plasma. Then a seeding material, such as potassium carbonate, is injected to the plasma in order to increase the electrical conductivity.

⇒ Closed cycle MHD system; —

As the name suggests, the working fluid, in a closed cycle, is circulated in a closed loop. The closed cycle MHD system may be either a plasma converter or a liquid metal converter. The plasma converter uses an ionized gas (helium or argon seeded with cesium) and the liquid metal converter uses the vapour of the metal in a liquid form (metal may be an alkali or some other metal).