Section-3- Q.2.

M.H.D- Magneto-hydro Dynamics principle.

Outline

→ Introduction
→ principle
→ M.H.D.-power cal.
→ merits / Demerits
→ Applications

Introduction:

→ Convert heat energy directly into electrical energy without conventional electric generator.

→ Heat engine — Heat taken up → Useful work
→ rejected

→ To increase efficiency

Heat
- Supply at highest practical temp.
- Rejected at lowest practical temp.

→ Faraday's law: when a conductor moves through a m.f. it creates an electric field ⊥ m.f. & the direction of movement of conductor.

principle: → The flow (motion) of the conducting plasma through a m.f. causes a voltage to be generated (& an associated current to flow) across the plasma, ⊥ to both the plasma flow & the m.f. acc. to fleming's Right hand rule.

Section #3-Q.2.

Q1 → Principal of OTEC.

Ocean thermal Energy Conversion uses the ocean thermal gradient b/w cooler deep and warmer shallow or surface sea waters to run a heat engine and produce useful work, usually in the form of electricity. OTEC can operate with a very high capacity factor and so can operate in base load mode.