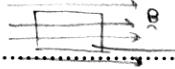


Question 26 (3 marks)

Some materials become superconductors when cooled to extremely low temperatures.

3

Identify THREE properties of superconductors.

- 1) No electrical resistance below critical temperature \therefore conducts electricity without loss
- 2) When in external magnetic field at normal temperature (ie above T_c), magnetic field inside superconductor similar to magnetic field outside. $\therefore e^-$ unimpeded

- 3) When placed in external magnetic field ~~at~~ ^{under} critical temperature magnetic field expelled \therefore magnetic field created to cancel out external magnetic field \therefore when small magnet brought above superconductor, its weight force is balanced by magnetic force, ie levitated.
