8.2 - Magnetic Properties of Materials

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- (1999) With the help of clear diagrams, explain briefly how you would convert a sensitive galvanometer into:
  - an ammeter
  - a voltmeter
- (2007) List three (3) classes of magnetic materials on the basis of magnetic susceptibility and give one example for each class.
- (2007) How are the magnetic susceptibility and relative permeability of a magnetic material related to each other?
- (2007) State the main differences between.
  - diamagnetism and paramagnetism.
  - ferromagnetism and auntiferromagnetism.
  - ferromagnetism and ferrielectricity.
- (2007) Draw hysteresis loops diagrams for soft iron and hard steel and use them to discuss:
  - permanent magnets.
  - electromagnets.
  - transformer cores.
- (2016) Draw hysteresis loops diagram for soft iron and hard steel and use them to discuss permanent magnets.
- (2016) Define permeability constant.
- (2018) Mention the three magnetic materials and briefly explain each one.
  - Give the differences between the magnetic materials mentioned above in terms of their magnetic susceptibility.
- (2018) Define the following terms:
  - Ampere
  - Hysteresis
- (2019) Distinguish the terms magnetically soft and magnetically hard materials.