

12 Electromagnetic induction – Part 2

—Answers

Answers

Work through these after you have tried the questions yourself.

2.1 the magnetic flux through it must **change** (for example, a magnet moving in or out).

2.2 $\varepsilon = \frac{\Delta\Phi}{\Delta t} = \frac{0.030 - 0.010}{0.040} = \frac{0.020}{0.040} = 0.50 \text{ V}.$

2.3 $50 \times 0.40 = 20 \text{ V}.$

2.4 the induced current flows so as to oppose the change that produced it.

2.5 with the magnet still, the flux through the coil is constant, so there is no change in flux and therefore no induced voltage or current.