Chapter 3

Electrical basics lab

1. Calculate the voltage developed across a 6 kΩ resistor with 105 mA flowing through it.
2. The current on a server PSU's 5 V rail is measured as 4 A. What power is being delivered by the PSU?
3. Write an expression for P using only R and I.
4. A load consumes 60 W of power from a 12 V battery. Calculate the current.
5. The AC mains supply in Ireland has a frequency of 50 Hz. Calculate the period of the AC waveform.
6. Trains in parts of Europe are supplied with 15 kV AC at $16\frac{2}{3}$ Hz. How often does the AC cycle repeat?
7. An unknown mains supply is measured to be sinusoidal with an amplitude of 339.4 V and a frequency of 50 Hz. Describe this supply in the conventional form.