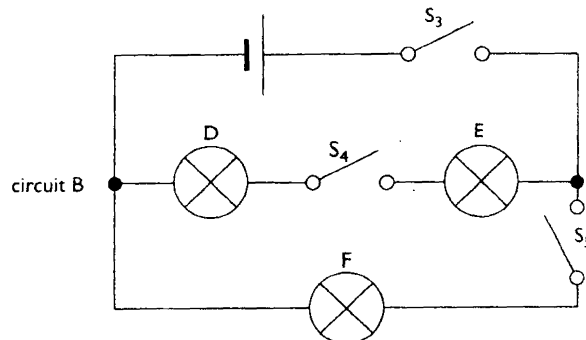
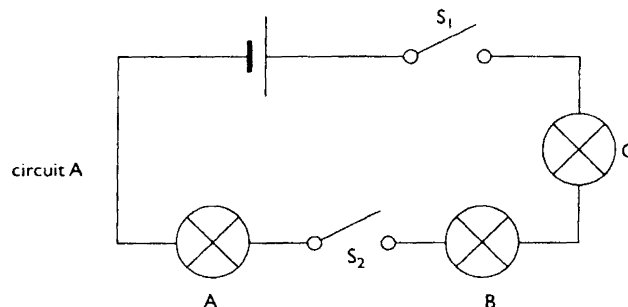


## Questions

More questions on electrical circuits can be found at the end of Section B on page 72.

- 1 Current is flow of charge.
  - a) What are the charge carriers in metals?
  - b) Explain why charges are able to flow through metals but not through a plastic.
  - c) If the current flowing through a heater is 3 A, calculate the charge that flows through it in i) 1 s, ii) 10 min and iii) 1 hour.
- 2 Currents flow around circuits.
  - a) Explain the differences between:
    - i) a complete circuit and an incomplete circuit
    - ii) a series circuit and a parallel circuit.
  - b) Look carefully at the circuits shown. Assuming that all switches are initially closed, decide which of the bulbs go out when each of the switches in turn is opened.



- c) In circuit A, which bulb(s) glow the brightest when all the switches in all the circuits are closed?
- d) Explain your answer to c).