

Electromagnets

2. Current

CONCEPT 2

TEST YOURSELF

PARALLEL CIRCUITS

KNOW

Q1 Which of these circuits is a parallel circuit? Describe how you can tell.

**insert picture

APPLY

Q2 Consider the parallel circuit shown below. Describe what happens to each component in the circuit in each of the following scenarios:

- (a) All switches are open
- (b) All switches are closed
- (c) Switch S1 is closed
- (d) Switch S2 is closed
- (e) Switch S3 is closed
- (f) Switch S1 and S2 are closed

**insert picture

EXTEND

Q3 Complete the circuit diagrams below, filling in the values for potential difference and current for each voltmeter and ammeter. Explain your answers.

**insert pictures

Q4 Design a circuit for each of the following uses:

- (a) Emergency lighting in a restaurant, running from a 12V supply. Each bulb can withstand a maximum potential difference of 12V.
- (b) Festival lights with 20 bulbs. Each bulb can withstand a maximum potential difference of 12V.