

Q1 (1 mark)

Flow of electric charge

Q2 (1 mark)

Amperes (A)

Q3 (1 mark)

Volts (V)

Q4 (1 mark)

Ohms (Ω)

Q5 (2 marks)

Any two:

Bulb

Battery

Switch

Resistor

Motor

Buzzer

Q6 (2 marks)

Any two:

Series circuits have one loop

Parallel circuits have branches

Current is same in series circuit

Current splits in parallel circuit

Q7 (3 marks)

Current splits between branches (1)

Currents add together where branches meet (1)

Total current entering equals total current leaving (1)

Q8 (2 marks)

Conductors allow current to flow easily (1)
 Insulators resist flow of current (1)

Q9 (3 marks)

Resistance opposes current flow (1)
 Higher resistance reduces current (1)
 Measured in ohms (1)

Q10 (3 marks)

$6 \div 2$ correctly calculated (1)
 Resistance = 3 (1)
 Correct unit = Ω (1)

Q11 (3 marks)

5×3 correctly calculated (1)
 Potential difference = 15 (1)
 Correct unit = V (1)

Q12 (3 marks)

Correct rearrangement idea: $12 \div 3$ (1)
 Current = 4 (1)
 Correct unit = A (1)

Q13 (3 marks)

2×8 correctly calculated (1)
 Potential difference = 16 (1)
 Correct unit = V (1)

Q14 (3 marks)

$24 \div 6$ correctly calculated (1)
 Resistance = 4 (1)
 Correct unit = Ω (1)

Q15 (3 marks)

Correct rearrangement idea: $18 \div 6$ (1)
 Current = 3 (1)
 Correct unit = A (1)

Q16 (3 marks)

15 – 9 correctly calculated (1)

Current = 6 (1)

Correct unit = A (1)

Q17 (3 marks)

20 ÷ 4 correctly calculated (1)

Resistance = 5 (1)

Correct unit = Ω (1)

Q18 (6 marks)

Level 1 (1–2 marks)

- Basic statements about voltage, current or resistance
- Mentions batteries or bulbs
- Simple idea that voltage affects how components work

Level 2 (3–4 marks)

- Some explanation of relationship between voltage and current
- Mentions battery or bulb ratings correctly
- Resistance mentioned but not fully linked
- Some circuit understanding shown

Level 3 (5–6 marks)

- Battery provides potential difference (voltage)
- Bulb rating shows required/working voltage
- Potential difference drives current in a circuit
- Current depends on resistance in the circuit
- Resistance opposes current flow
- Higher resistance reduces current for the same voltage
- Clear link between all four ideas (battery, bulb, voltage, current, resistance)

Model Answer:

A battery provides a potential difference (voltage) that pushes current around a circuit. A bulb has a voltage rating that shows the potential difference it is designed to work with. The size of the current depends on both the potential difference and the resistance in the circuit. Resistance opposes the flow of current, so a higher resistance reduces the current for the same voltage. All of

these quantities are linked because voltage from the battery causes current to flow, and resistance controls how much current flows.