

Electric Current and Potential Difference

Chapter 11: Electricity · Topic 1

Key Concept

Current flows from a region of higher potential to lower potential within an external circuit, driven by a cell or battery that maintains this potential difference through chemical energy conversion. A galvanometer detects the presence and direction of small currents, while an ammeter (connected in series) measures current magnitude, and a voltmeter (connected in parallel) measures potential difference across a component — each instrument designed for its specific measurement role in a circuit.

Quick Revision Notes

- Electric current (I) = Q/t , measured in amperes (A).
- Potential difference (V) is the work done per unit charge, measured in volts (V).
- Current flows from higher to lower potential in an external circuit, driven by a cell/battery.
- Ammeter (series) measures current; voltmeter (parallel) measures potential difference.

Practice Questions

- 1 Define potential difference in your own words.
- 2 Explain the difference between how an ammeter and a voltmeter are connected in a circuit.
- 3 What role does a cell or battery play in maintaining current flow?