

Foundation Combined — only core Foundation content included.

**Q1. Describe the differences between xylem and phloem in terms of structure and function.**

**[4 marks]**

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**Q2. Explain how root hair cells are adapted for their function.**

**[3 marks]**

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**Total: 7 marks**

## Q1 (4 marks)

*Describe the differences between xylem and phloem in terms of structure and function.*

- Xylem: dead hollow cells, lignified walls — structural support and water transport [1]
- Xylem: carries water and mineral ions from roots upward only (transpiration stream) [1]
- Phloem: living cells with sieve plates [1]
- Phloem: carries dissolved sugars (sucrose) from leaves to all parts of plant (translocation) — both directions [1]

## Q2 (3 marks)

*Explain how root hair cells are adapted for their function.*

- Long extension greatly increases surface area [1]
- Water absorbed by osmosis (soil water potential > root cell water potential) [1]
- Mineral ions absorbed by active transport (requires ATP from mitochondria) [1]