

SECTION B

Answer **all** the questions.

- 21 Fig. 21.1 shows some of the apparatus used in an experiment investigating water potential in potato tuber tissue.

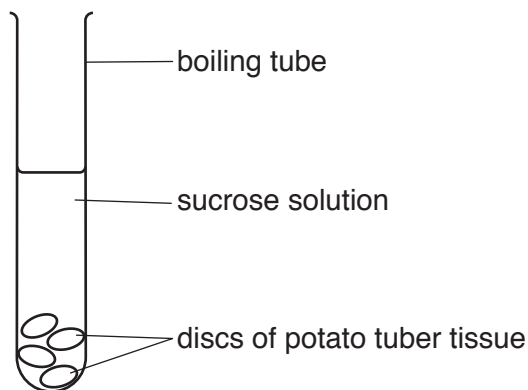


Fig. 21.1

The discs were placed in boiling tubes containing sucrose solutions of different concentrations for four hours. The percentage change of mass was then calculated.

The results are shown in Table 21.2.

Concentration of sucrose solution (mol dm ⁻³)	Change in mass of potato discs (%)
0.00	+18.00
0.10	+12.50
0.20	+ 2.50
0.30	- 3.00
0.40	- 8.00
0.45	-11.50

Table 21.2

- (a) (i) State **two** details of the procedure that must be followed to obtain valid results.

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2

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[2]

- (c) Halophytes are plants that have the ability to live in soils with a very low water potential. In the UK these plants form part of salt marsh communities.

Suggest **and** explain how the root hairs of halophytes are able to absorb water by osmosis from the soil of the salt marsh.

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