

# 8. Transport in plants

## 8.2 Water uptake

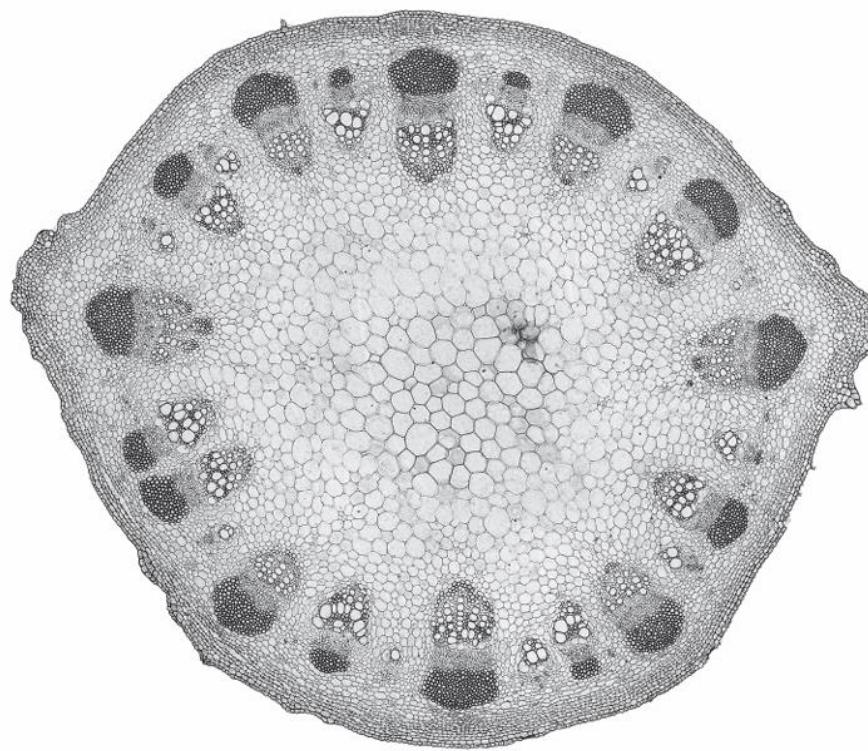
### Paper 3

#### Question Paper

## Paper 3

**Questions are applicable for both core and extended candidates**

1 Fig. 3.1 is a photomicrograph of a section through the stem of a plant.



**Fig. 3.1**

(a) Use a label line and label to identify **and** name a structure that transports sucrose in Fig. 3.1. [2]

(b) Complete the sentences about water uptake in a plant using words or phrases from the list.

You may use the words or phrases once, more than once or not at all.

active transport	cuticle	mesophyll	osmosis
photosynthesis	respiration	root cortex	root hair
stomata	transpiration		

Plants absorb water molecules from the soil through ..... cells by the process of .....

Water molecules then move into ..... cells and then into the xylem.

From the xylem, the water molecules move into ..... cells in the leaf.

Water vapour diffuses out of the leaves through the ..... The loss of water vapour from leaves is called .....

[6]

[Total: 8]

2 (a) Fig. 6.1 is a diagram showing the pathway of water into a plant. The arrows show the direction of water movement.

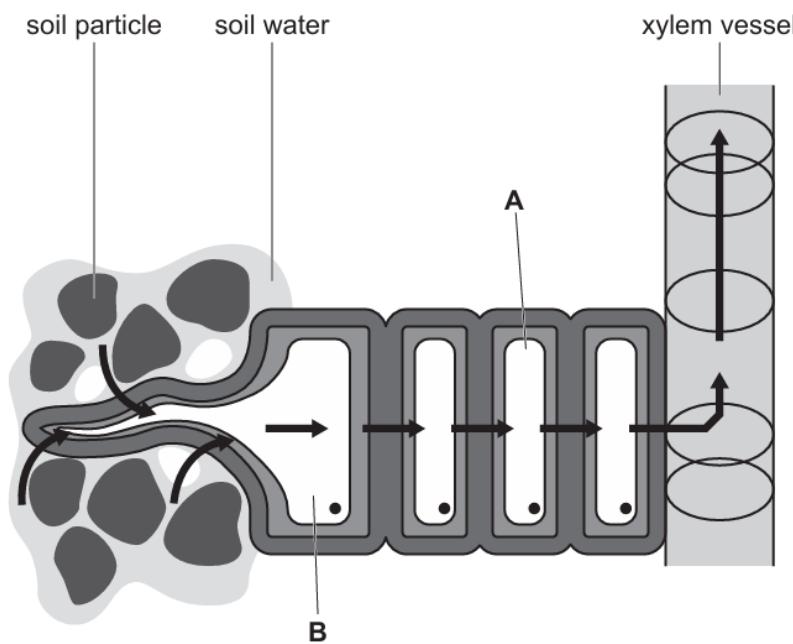


Fig. 6.1

(i) State the name of the cell labelled **A** in Fig. 6.1.

..... [1]

(ii) State the name of cell **B** and describe how it is adapted for absorption of water.

name .....

adaptation .....

.....

.....

[2]

(iii) State the name of the process by which cell **B** absorbs water.

..... [1]

**(b)** State **two** uses of water in plants.

1 .....

2 .....

[2]

**(c)** State **two** environmental factors that will affect the rate of water loss from a plant.

1 .....

2 .....

[2]

[Total: 8]

3 Fig. 1.1 is a photograph of a plant.



**Fig. 1.1**

**(a) (i)** Draw **two** arrows on Fig. 1.1 to show the direction of movement of water into and out of the plant. [2]

**(ii)** State the name of the type of tissue that transports water in a plant.

..... [1]

4 All organisms must maintain a balance between water gain and water loss.

(a) (i) State the name of the type of cell which absorbs water into a plant.

..... [1]

(ii) State the name of the tissue in a plant that transports water.

..... [1]

(iii) State the name of the organ in a plant where most water loss occurs.

..... [1]

5 (d) Describe the pathway water takes in a plant, as it moves from the soil to a leaf.

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[4]

6 (c) Water is required for the process of photosynthesis.

(i) Describe where **and** how water enters a plant.

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[3]

(ii) Describe **one** function of water in a plant other than for photosynthesis.

.....

[1]

(iii) State the name of the tissue in a plant that transports water.

.....

[1]

(iv) State the name of the part of a leaf through which water vapour is lost from the plant.

.....

[1]