

8. Transport in Plants

Question Paper

Course	CIE IGCSE Biology
Section	8. Transport in Plants
Topic	N/A
Difficulty	Hard

Time allowed: 10

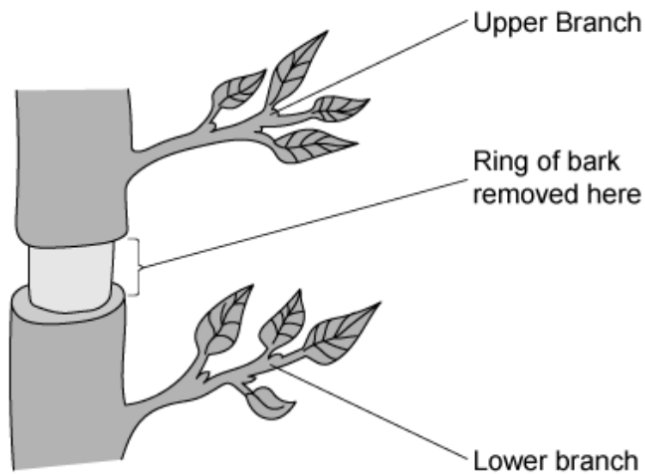
Score: /6

Percentage: /100

Question 1

The diagram below shows part of the trunk of a small dicotyledonous tree with a ring of bark removed.

Removing the ring of bark removes one type of transport tissue but leaves the other type intact.



What effect does removing the bark have on the two branches?

	Upper branch		Lower branch	
	Leaves	Growth	Leaves	Growth
A	normal	normal	normal	reduced
B	wilted	normal	wilted	normal
C	wilted	reduced	normal	normal
D	normal	reduced	wilted	reduced

[1 mark]

Question 2

The xylem has specific adaptations to allow it to transport water and mineral ions from the roots of a plant to the leaves as a result of transpiration.

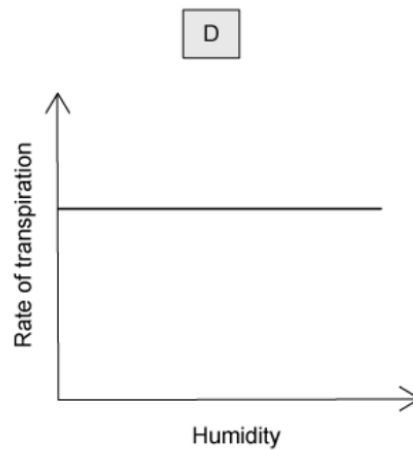
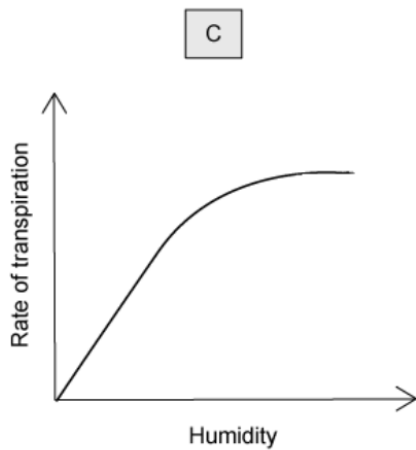
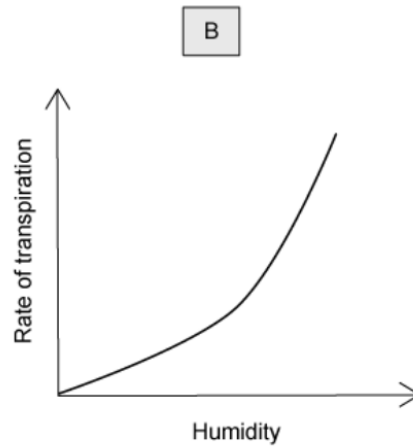
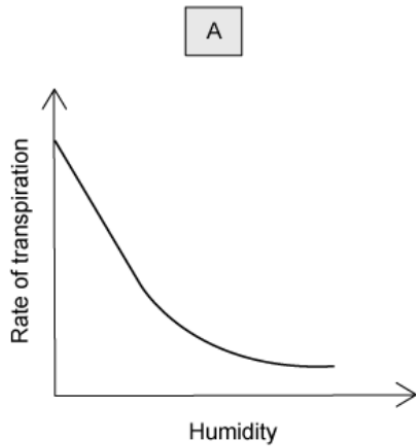
Which processes produce the adaptations in xylem vessels to allow the continuous flow of water?

	Cells walls break down between adjacent cells	Cytoplasm and organelles removed from each cell
A	X	X
B	✓	✓
C	X	✓
D	✓	X

[1 mark]

Question 3

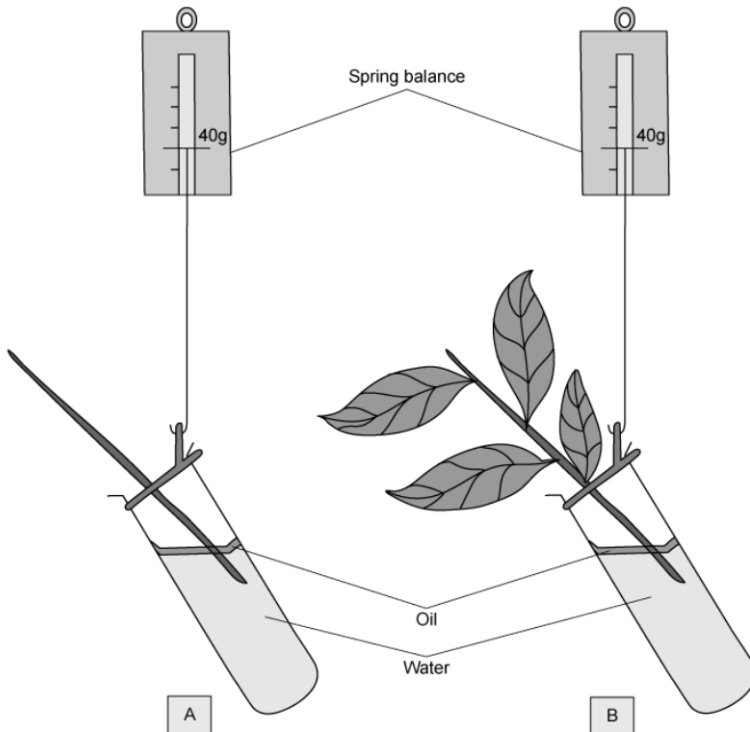
Which of the following graphs shows most clearly what would happen to the rate of transpiration as humidity decreases?



[1 mark]

Question 4

The diagram below shows two shoots at the start of an experiment set up by a group of students.



What are the likely readings on the spring balances after four days?

	shoot A	shoot B
A	40	40
B	40	34
C	34	40
D	34	34

[1 mark]

Question 5

The table below shows some characteristics of four different plants.

The plants are growing in the same environmental conditions.

Which plant will have the lowest rate of transpiration?

	Number of leaves on plant	Average surface area of one leaf / cm^2	Average density of stomata on leaves / per mm^2	Average diameter of one stoma / μm
A	36	53	276	19
B	21	51	247	18
C	24	45	249	15
D	17	40	151	16

[1 mark]

Question 6

Which row of the table below shows substances transported through the phloem and xylem, and the direction of transport, correctly?

	Phloem	Direction of transport	Xylem	Direction of transport
A	Sucrose and amino acids	Bi-directional (up and down)	Water and mineral ions	Bi-directional (up and down)
B	Sucrose	Unidirectional (up)	Water and mineral ions	Bi-directional (up and down)
C	Sucrose	Bi-directional (up and down)	Water	Unidirectional (up)
D	Sucrose and amino acids	Unidirectional (up)	Water	Unidirectional (up)

[1 mark]