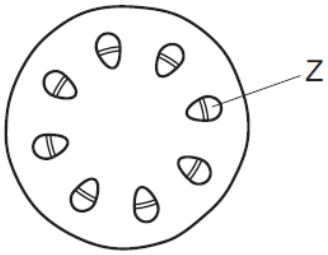
Transport in flowering plants – 2021 O Level 5090

1. Nov/2021/Paper_11/No.11

The diagram shows a section through a plant stem.



Which process is responsible for moving substances in region Z?

A diffusion

B osmosis

C translocation

D transpiration

2. Nov/2021/Paper_11/No.12

Which statement describes why a leaf wilts?

A Less water is absorbed by the root hairs when the stomata are closed.

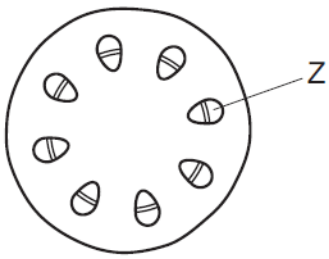
B Less water is absorbed by the root hairs than is lost through the stomata.

C More water is absorbed by the root hairs when the stomata are closed.

D More water is absorbed by the root hairs than is lost through the stomata.

3. Nov/2021/Paper_12/No.11

The diagram shows a section through a plant stem.



Which process is responsible for moving substances in region Z?

A diffusion

B osmosis

C translocation

D transpiration

4. Nov/2021/Paper_12/No.12

What is transpiration?

A evaporation of water from the stomata

B evaporation of water at the surface of mesophyll cells and its loss through the stomata

C the movement of water through the cuticle

D the movement of water in the xylem from the roots to the leaves

5. Jun/2021/Paper_11/No.11

Which feature of a root hair cell helps it take up ions from water in the soil?

A The cell has a partially permeable cell wall.

B The cell is able to provide a source of energy.

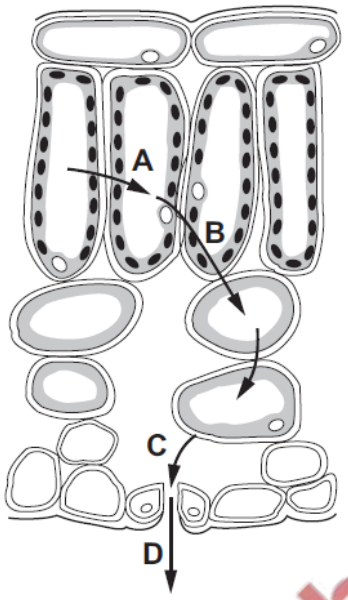
C The cell vacuole has a high ion concentration.

D The cell vacuole has a low water potential.

6. Jun/2021/Paper_11/No.12

The diagram shows the pathway of water molecules through part of a leaf, seen under a microscope, in transverse section.

Where does water evaporate?

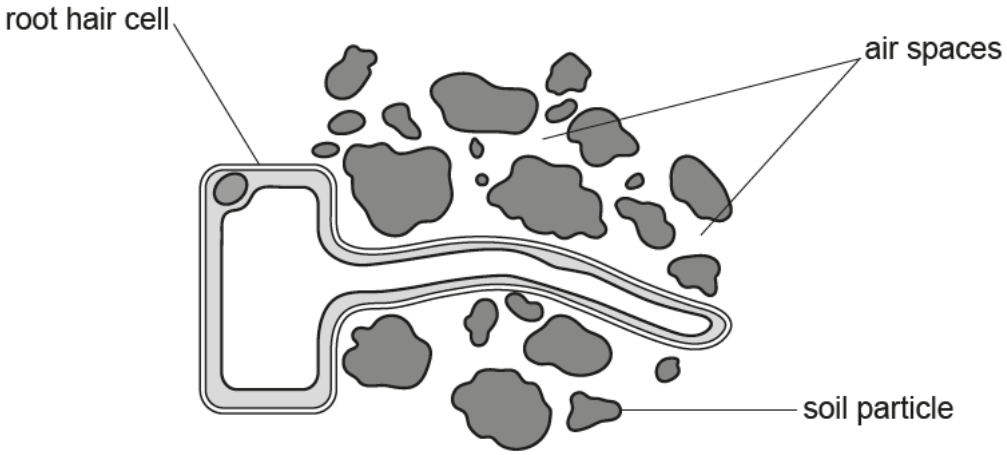


Which row describes the functions of the blood components?

	plasma	platelets	white blood cells
A	antibody formation	clotting	transport of nutrients
B	clotting	transport of nutrients	antibody formation
C	clotting	antibody formation	transport of nutrients
D	transport of nutrients	clotting	antibody formation

7. Jun/2021/Paper_21/No.1

The diagram shows a root hair cell from a lemon tree and some soil particles.



(a) (i) State **one** feature, visible in the diagram, which shows that a root hair cell is a plant cell.

..... [1]

(ii) Describe how mineral ions pass from the soil into the root hair cell.

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..... [4]

(b) The lemon tree has grown in the same soil for many years so the soil now lacks magnesium.

Describe and explain the effect on the lemon tree of a lack of magnesium.

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..... [2]

[Total: 7]

8. Jun/2021/Paper_22/No.3

The diagram shows an elm tree.

(a) Elm trees may be infected by a fungus that causes a disease.

State **two** characteristics of a fungus.

1 .....

2 .....

[2]

(b) The fungus moves through an infected tree inside the xylem vessels.

The tree responds to stop the movement of the fungus by producing substances that block the xylem vessels. This causes the leaves of the tree to wilt and to become yellow.

Explain how the response of the tree to infection leads to these symptoms of disease.

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..... [5]

(c) An insect called the elm bark beetle is the vector of this disease.

Describe what is meant by the term **vector**.

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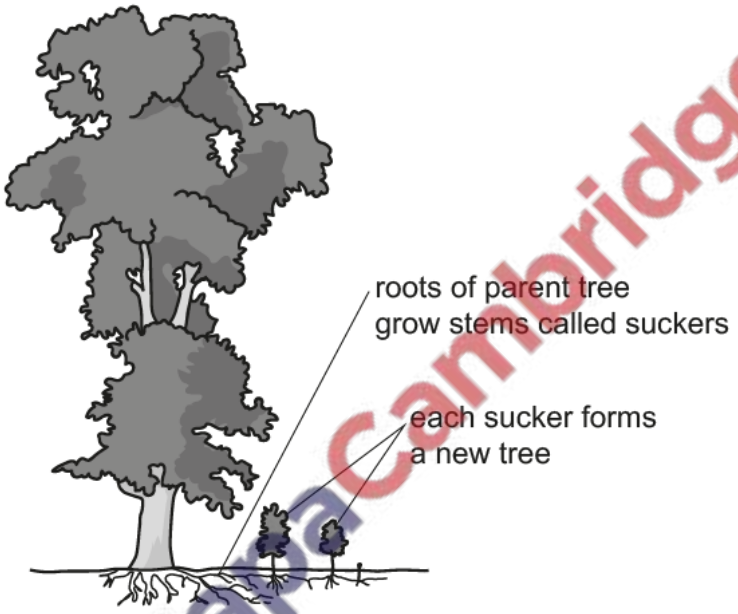
..... [2]

(d) Elm trees can reproduce when the roots from one parent tree spread out near the surface of the soil. This is shown in the diagram below.



(i) Name the type of reproduction shown in the diagram.

..... [1]

(ii) Suggest why this type of reproduction makes it difficult to control the spread of the disease caused by the fungus.

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..... [3]

[Total: 13]