Plant tissues & organs (xylem, phloem, stomata)

Q1. (2018)

0 3 . 5 **Figure 7** shows the root of a germinating seed.

Figure 7

Describe **two** ways the root is adapted to absorb water efficiently.

[2 marks]

1 _____

_____

2 _____

_____

Q2. (2019)

0 3 . 3 Which is a plant tissue?

[1 mark]

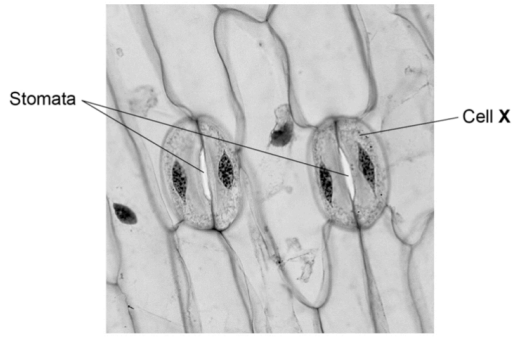
Tick (✓) **one** box.

- Flower ☐
- Leaf ☐
- Phloem ☐
- Root ☐

Q3. (2019)

Figure 7 shows stomata on the lower surface of a leaf.

Figure 7



0 4 . 2 What is the name of cell **X**?

[1 mark]

Tick (✓) **one** box.

- Epidermal cell ☐
- Guard cell ☐
- Palisade cell ☐
- Xylem cell ☐

Q4. (2020)

0 3 . 2 Which cells control the size of stomata?

[1 mark]

Tick (✓) **one** box.

- Guard cells ☐
- Phloem cells ☐
- Xylem cells ☐

Q5. (2021)

0 4 . 1 Which **organ** in a plant absorbs water from the soil?

[1 mark]

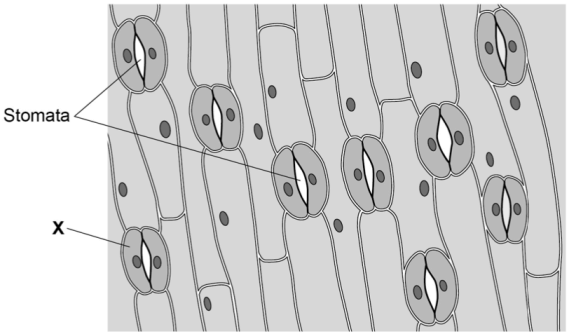
Q6. (2021)

Stomata are openings on the surface of a leaf.

Stomata allow gases to move into and out of a leaf.

Figure 5 shows the surface of a leaf.

Figure 5



A)

0 4 . 5 What is cell **X**?

[1 mark]

Tick (✓) **one** box.

- Guard cell ☐
- Meristem cell ☐
- Palisade cell ☐

B)

0 4 . 7 The area of the leaf shown in **Figure 5** is 0.25 mm^2.

Calculate the number of stomata per mm^2 for the leaf in **Figure 5**.

Use the equation:

$$\text{number of stomata per mm}^2 = \frac{\text{number of stomata}}{\text{area in mm}^2}$$

[2 marks]

Number of stomata per mm^2 = _____

Q7. (2021)

A student investigated the number of stomata per mm^2 on the upper and lower surfaces of leaves.

The leaves were taken from the same plant.

Table 1 shows the results.

Table 1

Leaf	Number of stomata per mm^2	
	Upper surface	Lower surface
1	0	37
2	1	36
3	2	30
4	1	32
5	1	35
Mean	1	**X**

0 4 . 8 Calculate mean value **X** in **Table 1**.

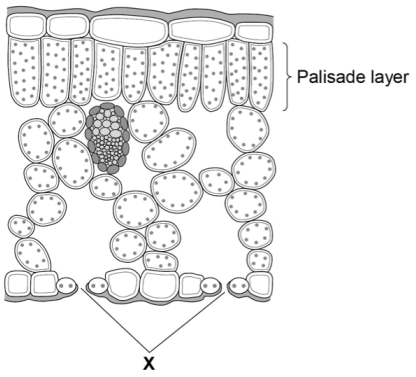
[2 marks]

X = _____

Q8. (2022)

0 2 **Figure 2** shows a section through a leaf.

Figure 2



A)

0 2 . 1 Give **one** way that the palisade layer is adapted for photosynthesis.

[1 mark]

B)

0 2 . 2 Gases pass into and out of the leaf through small pores in the surface of the leaf.

What are the small pores labelled **X** called?

[1 mark]

Tick (✓) **one** box.

- Guard cells ☐
- Stomata ☐
- Xylem vessels ☐

Q9. (2023)

0 3 . 1 Where do plants obtain water for photosynthesis from?

[1 mark]