

AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Plant Tissues and Organ Systems Answers

Name:

M M E

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Total Marks: /25

Q1: Explain the role of xylem in plants.

A= Plant Transport (Water)

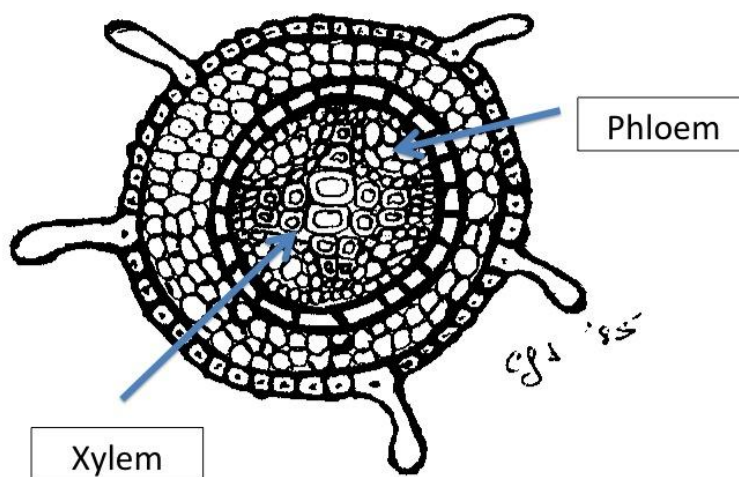
(1 mark)

Q2: What is the role of mesophyll?

A= Carry out photosynthesis

(1 mark)

Q3: Figure 1 shows a cross section of a root. Label the xylem and phloem.



A= 1 mark for each correct label.

(2 marks)

Q4: The leaf is a major plant organ, which has multiple adaptations to carry out its function. Give 3 examples of an adaptation and state its role in the leaf.

A= 3 marks awarded for any 3 of the following adaptations and 3 marks for the corresponding role.

- Chlorophyll – Absorbs light
- Large surface area – Absorb more light
- Stomata – Let CO_2 diffuse into the leaf
- Thin – Short distance for CO_2 diffusion
- Network of veins – Support/ Transport water

(6 marks)

Q5: The internal structure of the leaf is also adapted to its function. Fill in the following table.

Adaptation	Purpose
Thin epidermis	Allows more light in
Layer of palisade cells	Absorbs light
Thin waxy Cuticle	Protect leaf/ without blocking the light

A= 1 mark awarded for each purpose

(3 marks)

Q6: i) Where would meristem be found within the plant?

A= 1 mark for each of the following:

- Growing tips
- Roots/ Shoots

(2 marks)

ii) What is the role of meristems?

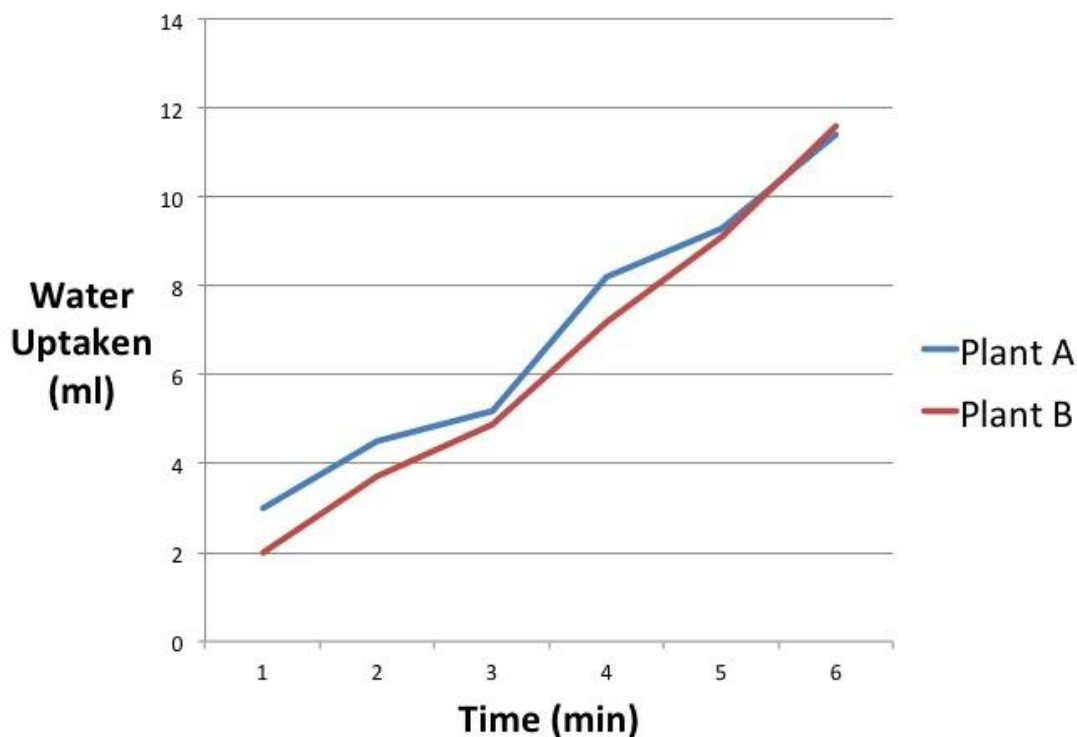
A= Trigger growth of new cells

(1 marks)

Q7: The table below gives the amount of water taken up by 2 plants.

Time (Min)	Water uptaken (ml)	
	Plant A	Plant B
2	3	2
4	4.5	3.7
6	5.2	4.9
8	8.2	7.2
10	9.3	9.1
12	11.4	11.6

i) Plot the data shown in table 2.



A= 1 mark awarded for the correct plotting of each plant

(2 mark)

ii) What does the graph show for the water uptake in plant B?

A= 1 mark for any of the following points:

- Regular uptake of water
- Plant requires constant water

(1 mark)

Q8: What is the role of stomata and guard cells within the leaf?

A= Control gas and water loss

(1 mark)

Q9: What is the purpose of transpiration?

A= Pull/ more water through xylem vessels/ Roots of the plant

(1 mark)

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Q10: Give 3 factors that can affect the rate of transpiration.

A= 1 mark for any 3 of the following:

- Temperature
- Wind Speed
- Humidity
- Light Intensity

(3 marks)

Q11: What is the purpose of translocation in plants?

A= Movement of materials from leaves to other areas of the plant.

(1 mark)