

7 Plants are complex organisms that contain different tissues and organs.

(a) Explain what is meant by the term **tissue**.

(2)

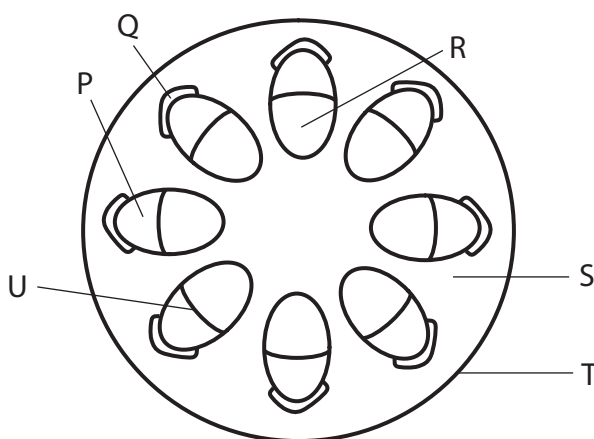
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(b) The diagram below shows a section through one organ of a plant and some of its tissues labelled P to U.



For each of the following statements place a cross (☒) in the box next to the correct answer.

(2)

(i) The organ shown in the diagram is a

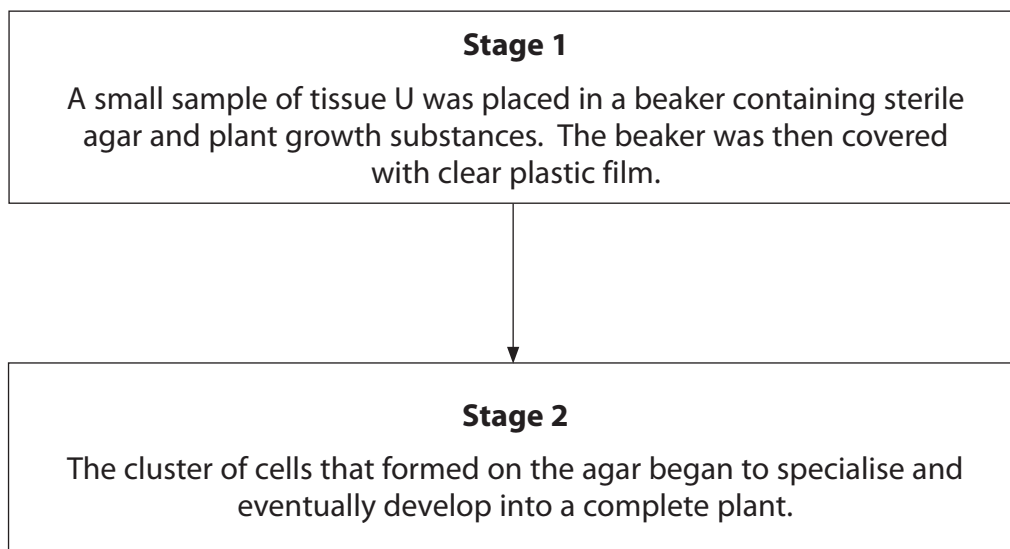
- ☐ A leaf
- ☐ B root
- ☐ C stem
- ☐ D vascular bundle

(ii) **Two** tissues that contain lignin are labelled

- ☐ A P and Q
- ☐ B Q and R
- ☐ C R and S
- ☐ D S and T



- (c) The diagram below shows two of the stages in a plant tissue culture technique, used to demonstrate totipotency in the plant tissue labelled U on the diagram on page 19.



- (i) Suggest **one** safety reason for covering the beaker with clear plastic film in stage 1.

(2)

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- (ii) Suggest **one** reason, other than for safety, for covering the beaker with clear plastic film.

(1)

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- (iii) No plant would develop if the plant tissue labelled R, on page 19, was used instead of plant tissue U.

Suggest reasons why no plant would develop if tissue R was used.

(3)

(Total for Question 7 = 10 marks)

