

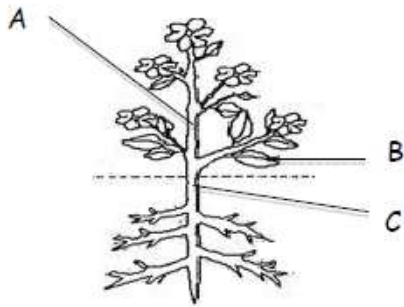


Biology
Leaving Certificate
Ordinary Level

Past Exam Questions on
Plant Structure

Q2 Section A 2013

2. The diagram shows the structure of a flowering plant.



- (a) Name the parts labelled A, B, and C.

Part A Part B Part C

- (b) Give one main function of each of the parts labelled A, B and C.

Function of part A

Function of part B

Function of part C

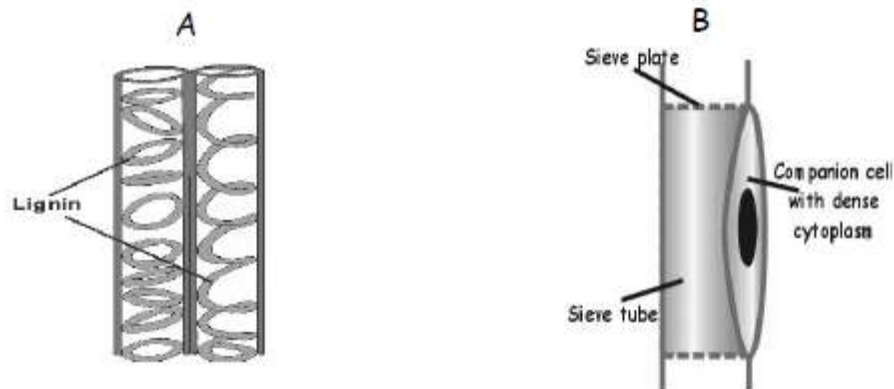
- (c) Flowers are the organs of which type of reproduction in the plant?

Q15 Part (b) Section C 2013

- (b) (i) What is meant by the term *vegetative propagation*?
(ii) Give one example of vegetative propagation in plants and state whether it involves a stem, a root, a leaf or a bud.
(iii) State two ways that vegetative propagation differs from reproduction by seed.
(iv) Artificial propagation is widely used in horticulture. Give two examples of artificial propagation carried out by gardeners or horticulturists.
(v) Give one advantage and one disadvantage of artificial propagation.

Q15 Part (c) Section C 2013

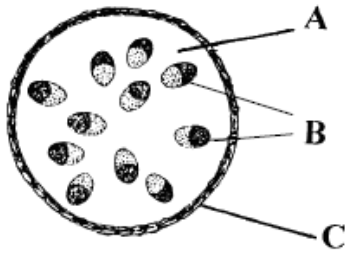
(c) The diagrams show two types of vascular tissue in plants.



- (i) Name the tissues A and B.
- (ii) Which of the above tissues transports water from the roots?
- (iii) Which of the above tissues transports food from the leaves?
- (iv) Is tissue A living or dead?
- (v) Suggest a role of the lignin in tissue A.
- (vi) Name **one** process that causes water to move upwards through a plant.
- (vii) Name the structures in the leaves through which water exits the plant.
- (viii) Vascular tissue is one type of plant tissue. Name two other plant tissues.

Q4 Section A 2012

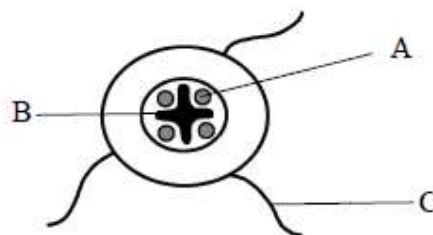
4. The diagram below represents a transverse section through part of a plant.



- (a) Does the diagram represent a root or a stem? _____
- (b) The letters A, B, C in the diagram, represent three different tissue types. Match each letter with its correct tissue type in the following list:
- Ground tissue. _____
- Dermal tissue. _____
- Vascular tissue. _____
- (c) State a function of vascular tissue. _____
- _____
- (d) Name the two types of vascular tissue in plants.
1. _____
2. _____

Q15 Part (b) Section C 2011

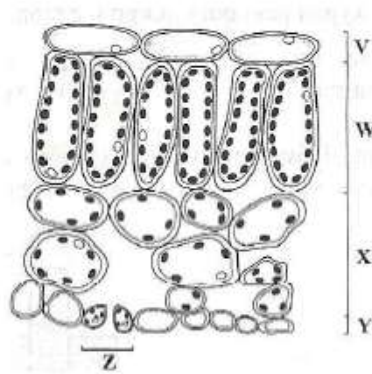
(b) The diagram shows a transverse section of a dicotyledonous (dicot) root.



- (i) Name the parts labelled A, B and C.
- (ii) State two functions of a root.
- (iii) From what part of a seed does the root develop?
- (iv) Give one example of a root modified for food storage.
- (v) Plants can be monocotyledonous or dicotyledonous. Give any one difference between a monocotyledonous plant and a dicotyledonous plant.
- (vi) Give one example of a monocotyledonous plant and one example of a dicotyledonous plant.

Q6 Section A 2010

6. The diagram below shows the internal structure of a leaf.



- (i) Name the **one** tissue type that is found at **both** V and Y.

- (ii) The cells at W contain many organelles that carry out photosynthesis.
Suggest why the cells at W contain more of these organelles than the cells at X.

- (iii) In layer X, gases can diffuse throughout the leaf.

Name **one** such gas. _____

- (iv) State **one** function of the opening at Z.

- (v) Name the cells which are responsible for controlling the size of the opening at Z.

Q9 Section B 2010

9. (a) (i) In biology, what is meant by the term *organ*? _____

(ii) In school, a light microscope is normally used to examine cells and tissues.
Name a more powerful type of microscope that is used to show what cells are made of in much greater detail (cell ultrastructure).

(b) Answer the following questions in relation to how you prepared and examined with a microscope a transverse section (T.S.) of a dicotyledonous stem.

(i) Name the plant that you used. _____

(ii) How did you make a section of the stem and prepare it for examination?

(iii) Describe how you examined your section of stem once you had placed the slide on the stage of the microscope.

(iv) Which of the following diagrams, A or B, best represents what was seen on your slide?

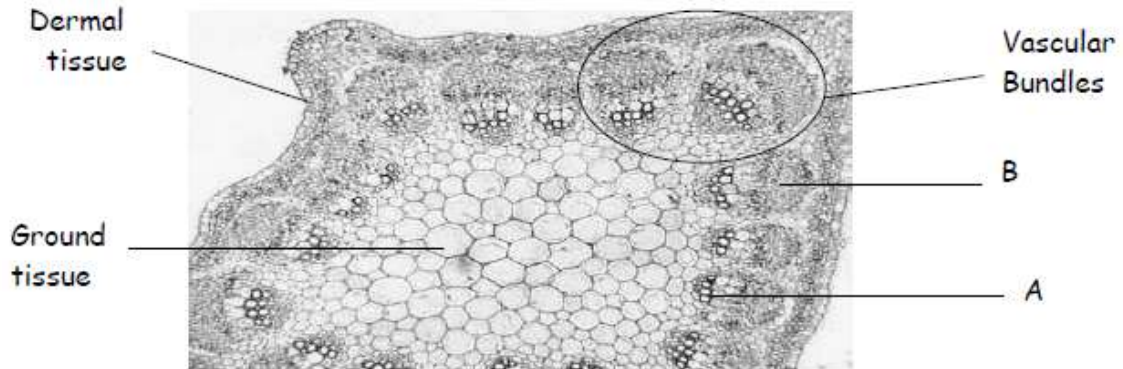


Q15 Part (a) Section C 2010

- (a) Water is vital for the survival of living things. Plants absorb water from the soil.
- (i) Through which microscopic structures does water enter a plant from the soil?
 - (ii) By what process does water enter a plant?
 - (iii) Name the tissue that water travels through in a plant.
 - (iv) Draw a labelled diagram of one cell of the tissue referred to in (iii) above.
 - (v) Name one process that causes water to move upwards in a plant.
 - (vi) Consider that night has fallen and the plant is in darkness.
Suggest what will happen to the amount of water moving through the plant and give a reason for your answer.
 - (vii) State two ways by which plants have adapted to protect themselves.

Q14 Part (a) Section C 2009

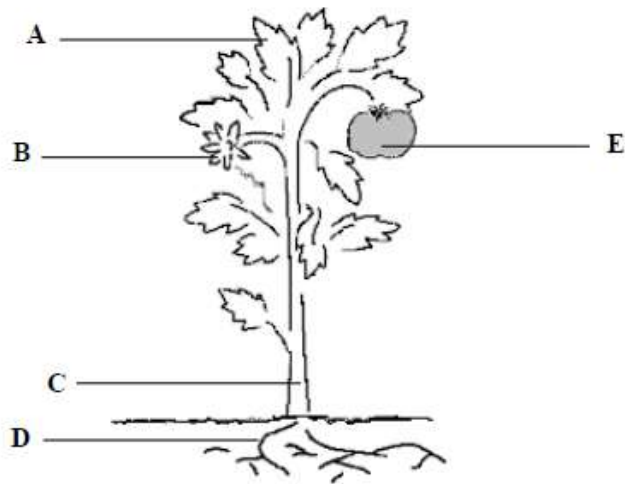
- (a) The photograph below shows the tissues in a **transverse** section of a dicotyledonous (dicot) stem.



- (i) Give **one** feature shown in the photograph that allows you to identify the section as a stem and not a root.
- (ii) Name the **two** vascular tissues, A and B, found in a vascular bundle.
- (iii) Draw a labelled diagram to show a **longitudinal** section of tissue B. Include the following labels in your diagram: sieve tube; sieve plate; companion cell.
- (iv) Give **one** function of **each** of the following:
1. Dermal tissue.
 2. Ground tissue.
- (v)
1. In which of the vascular tissues does water transport occur?
 2. State **one** way in which this tissue is adapted for water transport.
 3. In which direction does this transport take place?

Q5 Section A 2007

5. The diagram represents a tomato plant.



(a) Name the parts labelled B, C, and E.

Name of part B

Name of part C

Name of part E

(b) Give one main function each for the parts labelled A and D:

Function for part A

Function for part D

(c) What is the role of part E?

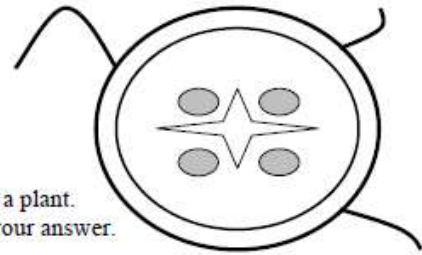
Role of part E

(d) Name the tube-like tissue found in part C in which water moves through the plant.

.....

Q14 Section C 2007

- (a) (i) What is meant by ground tissue?
 (ii) Give a function of ground tissue.
 (iii) What is a meristem?
 (iv) Give a location for a meristem.
 (v) The diagram shows a transverse section through part of a plant. Is this part the root or the stem? Give **two** reasons for your answer.
 (vi) Copy the diagram into your answer book. Place an X where you would find vascular tissue and place a Y where you would find ground tissue.

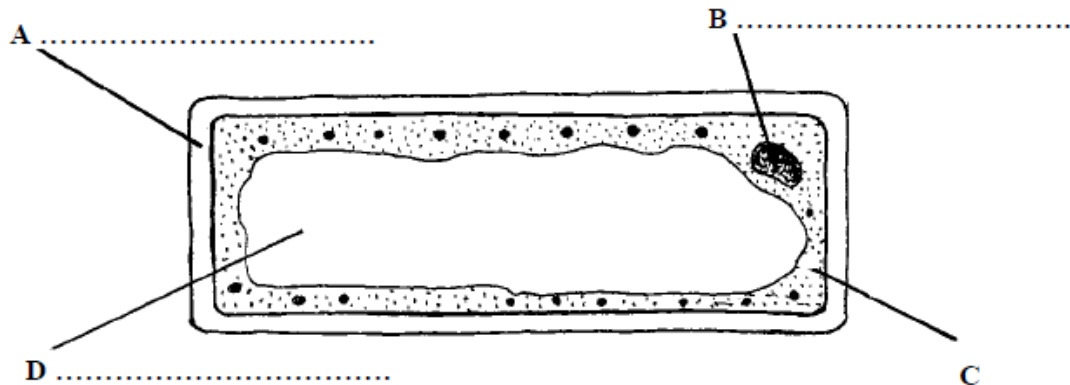


Q15 Part (b) Section C 2007

- (b) (i) Draw a diagram of a section through a leaf. Label a stoma and a guard cell.
 (ii) Give a function of the guard cell.
 (iii) Name **two** gases that enter or leave the leaf.
 (iv) Name the process by which the gases move in or out of the leaf.

Q2 Section A 2006

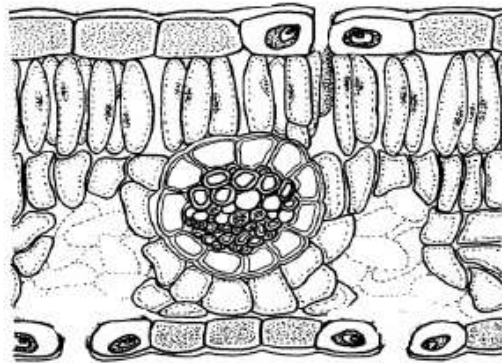
2. The diagram shows a plant cell.



- (a) Label A, B, C and D.
 (b) Name **two** features shown in the diagram which are not normally associated with an animal cell.
 1.
 2.
 (c) What is usually found in D?
 (d) Name a carbohydrate found in A.

Q4 Section A 2006

4. The diagram shows part of a section through a leaf.

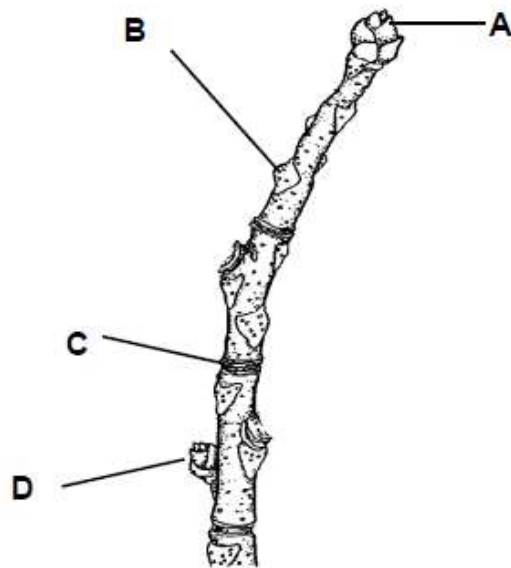


[Adapted from Livingstone © BIODIDAC]

- (a) Use the letter **A** to show a point of entry of carbon dioxide.
Name this point
- (b) Name a gas that leaves the leaf at this point
- (c) Use the letter **B** to show the part of the leaf in which most photosynthesis occurs.
- (d) Name the structures in plant cells in which photosynthesis occurs.
- (e) In addition to carbon dioxide another small molecule is needed for photosynthesis.
Name this other molecule.....

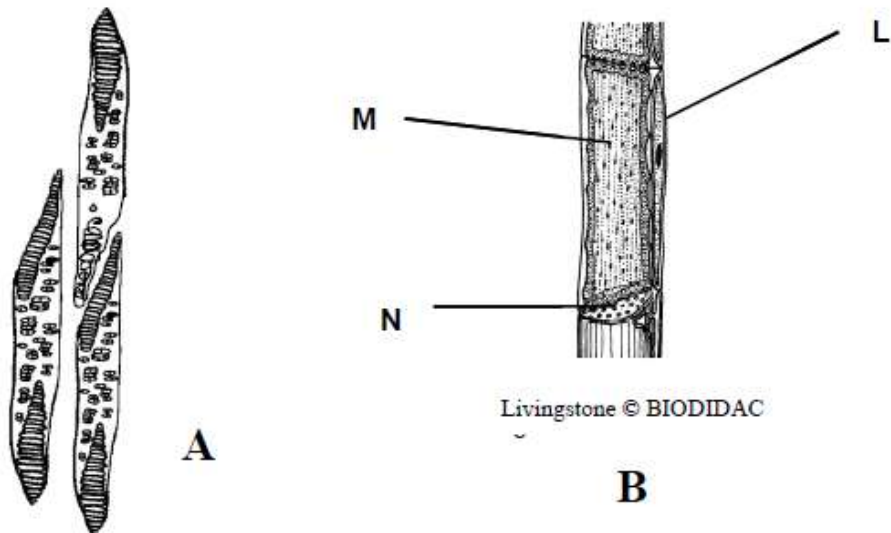
Q14 Section C 2006

- (a) The diagram shows the structure of part of a stem.



[Adapted from Livingstone © BIODIDAC]

- (i) Identify A, B, C and D.
 - (ii) What is a meristem?
 - (iii) Give a location of a meristem in the diagram.
 - (iv) How many years' growth are shown in the diagram? Explain your answer.
 - (v) Give two functions of a stem.
- (b) The diagrams are of two tissues of a flowering plant.

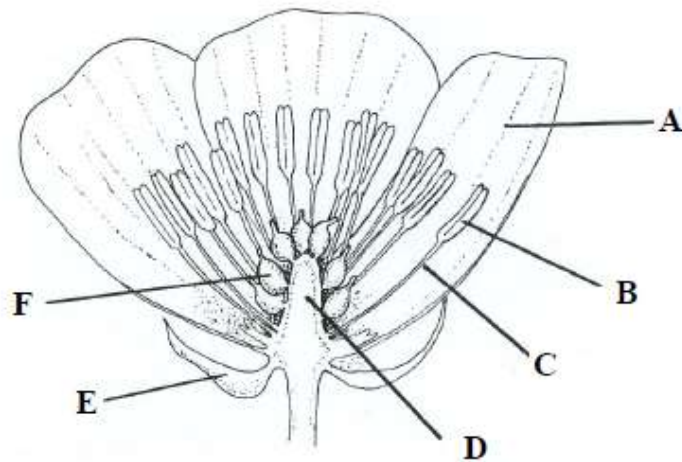


Livingstone © BIODIDAC

- (i) Identify tissues A and B.
- (ii) To which tissue type do A and B belong?
- (iii) Identify cells L and M and part N in tissue B.
- (iv) Name a substance transported in tissue A.
- (v) Name a substance transported in tissue B.
- (vi) Tissue A has another function in addition to transport. What is this other function?
- (vii) Where in a young root would you find tissues A and B?

Q14 Part (c) Section C 2006

(c) The diagram shows a vertical section through a flower.



- (i) Identify parts A, B, C, D, E and F.
- (ii) What is the function of A? Give two ways in which it may be adapted for this function.
- (iii) In which part is pollen produced?
- (iv) Give two ways in which pollen may be transported to another flower.
- (v) What forms in F after pollination and fertilization?

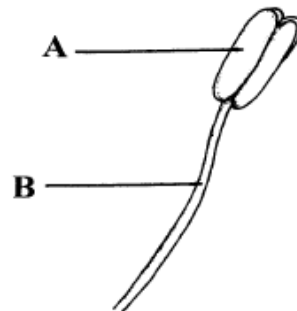
Q2 Section A 2005

2. Use ticks (✓) to show if the named structure is present in an animal cell, in a plant cell or in both. The first has been completed as an example.

Structure	Cytoplasm	Cell Wall	Chloroplast	Nucleus	Vacuole
Animal Cell	✓				
Plant Cell	✓				

Q3 Section A 2005

3. The diagram shows the external structure of a stamen.



- (a) Name A and B
 A B
- (b) Where is pollen produced, in A or in B?
- (c) To which part of a flower is pollen carried?
- (d) What is meant by cross-pollination?
-
- (e) Name two methods of cross-pollination.
 1.
 2.

Q15 Part (a) Section C 2005

- (a) (i) Which of the two diagrams 1 or 2 represents a transverse section of a young root?
 (ii) State two features of the diagram that indicate it is a root.
 (iii) The letters A, B, C in the diagram represent three different tissue types. State which tissue type in the following list is represented by each letter;
 ground tissue, vascular tissue, dermal tissue.
 (iv) Name two vascular tissues and give one way in which they differ.
 (v) State a function of ground tissue.

