



Agricultural Science Past Exam Questions

Plant Physiology

Higher Level

2013 – Question 6 – Part (b)

- (b) (i) Explain the term crop rotation.
- (ii) Name **two** crops that are commonly used in crop rotation and give a reason why each is used.

2013 – Question 6 – Part (c)

- (c) (i) Draw a clearly labelled diagram of the internal structure of a leaf.
- (ii) List **four** features of a leaf that enable it to maximise photosynthesis.

2013 – Question 8 – Part (b)

- (b) Photosynthesis plays an important role in the carbon cycle.
- (i) Outline the role of photosynthesis in the carbon cycle.
- (ii) Write a balanced equation for photosynthesis.
- (iii) Name and describe any **two** other stages in the carbon cycle.

2012 – Question 1 – Part (c)

- (c) (i) Mention **two** methods by which weed seeds are dispersed.
- (ii) For **each** method, name a common weed that uses this method of dispersal.

2012 – Question 1 – Part (i)

- (i) State the function of **each** of the following plant tissues.
- (i) Xylem.
- (ii) Meristem.
- (iii) Palisade.

2010 – Question 1 – Part (h)

- (h) Explain how a seed obtains energy during germination.

2010 – Question 8 – Part (b)

(b) Outline the differences between photosynthesis and respiration in plants.

2009 – Question 1 – Part (i)

(i) Draw a labelled diagram of a transverse section of a monocot stem.

2008 – Question 1 – Part (b)

(b) In the case of **each** of the following, name the part of the plant that is modified and give an example of a plant with this modification;

(i) bulb,

(ii) tuber

2008 – Question 8 – Part (b)

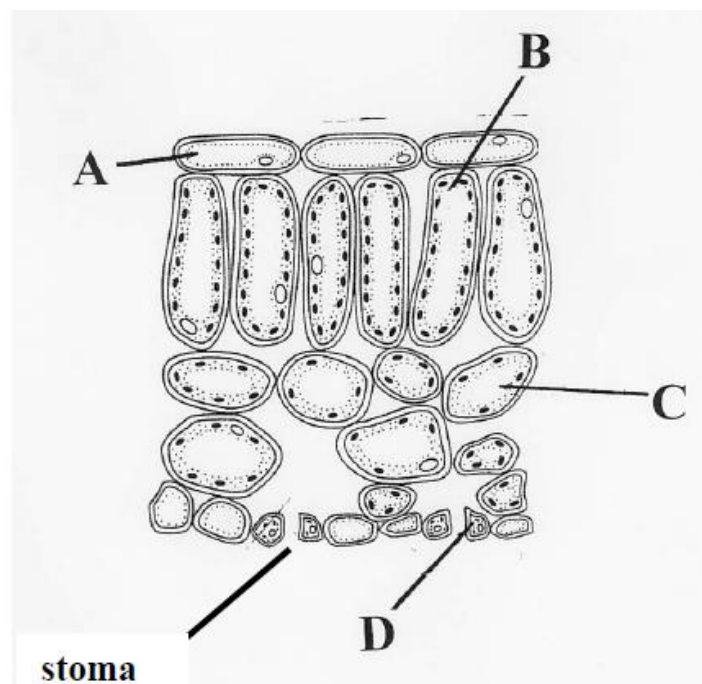
(b) The diagram shows a section through part of a leaf.

(i) Name the cells labelled A, B, C, D.

(ii) Give **two** features of the leaf that are related to its role in photosynthesis.

(iii) Name **two** gases that may leave the leaf through the stoma.

(iv) Write a balanced chemical equation for the process of photosynthesis.



2008 – Question 8 – Part (c)

(c) Write a short note on **each** of the following terms:

- (i) Monocotyledons and dicotyledons.
- (ii) Osmosis and diffusion.
- (iii) Aerobic respiration and anaerobic respiration.
- (iv) Mitosis and meiosis.

2007 – Question 1 – Part (c)

(c) Name (i) a polysaccharide and (ii) a mineral element which form the main structural units of the cell wall of plants.

2007 – Question 1 – Part (j)

(j) Distinguish between the following:

- (i) transpiration and translocation,
- (ii) osmosis and active transport.

2007 – Question 8 – Part (b)

- (b)
- (i) Describe a laboratory **or** field experiment to assess the effect of a named major mineral element on plant growth.
 - (ii) State the role in the plant of the element you have named.

2006 – Question 1 – Part (d)

(d) Give one example, in **each** case, of a plant that reproduces using one of the following:

- (i) Runners
- (ii) Rhizomes
- (iii) Tubers
- (iv) Bulbs.

2006 – Question 3 – Part (b) – Option 1

- (b) (i) State **one** function of nitrogen in plants.
- (ii) Describe in detail any **two** steps in the nitrogen cycle