Biology
Leaving Certificate
Ordinary Level

Past Exam Questions on
Plant Responses and Seed Growth

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 involve 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** example of artificial propagation carried out by gardeners or horticulturists.
(v) Give **one** advantage **and one** disadvantage of artificial propagation.

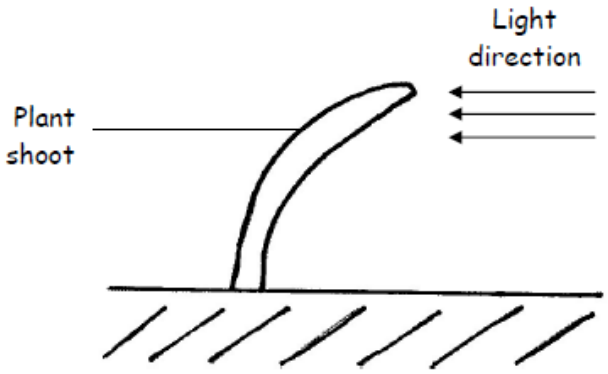
Q15 Part (b) Section C 2012

(b) (i) In relation to plant responses:
1. What name is given to a plant's response to light?
2. Name **one** growth regulator produced in plants.
3. Where in a plant are growth regulators produced?
4. Give **one** way by which plants can protect themselves from attack.

(ii) In relation to animal responses:
1. Name the **two** main parts of the central nervous system in humans.
2. Messages are carried around the body by neurons (nerve cells).
   Name any **two** types of neuron.
3. What name is given to the area where one neuron ends and another begins?
4. Name the type of chemical that carries messages between two neurons.
5. What happens to this chemical once the messages have been transmitted?

Q6 Section A 2009

6.



(a) Give the term used for the growth response shown by the plant shoot in the diagram above.

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(b) Why is this growth response of benefit to plants?

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(c) Name the group of substances that controls such responses.

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(d) Name the tissue through which the substances named in (c) are transported in the plant.

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(e) Name another growth response found in plants.

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Q9 Section B 2009

9. (a) (i) What is meant by the term *digestion*?

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(ii) Why does digestion occur in seeds during germination?

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(b) Answer the following questions in relation to practical work you carried out to investigate digestive activity in germinating seeds.

(i) Name a plant that provides suitable seeds for this investigation.

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(ii) The seeds were divided into two batches. One batch was used untreated.
How did you treat the other batch of seeds before using them in the investigation?

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(iii) Explain why you treated the second batch of seeds in the way described in (ii).

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(iv) Describe how you carried out the investigation. In your description outline how you demonstrated that digestion had occurred.

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(v) Give the results of your investigation.

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Q14 Part (a) Section C 2009

(c) (i) Name a part of the flower from which fruit forms.
(ii) Give **three** examples of the ways in which fruits are involved in seed dispersal.
(iii) Suggest why it is necessary for a plant to disperse its seeds.
(iv) Following dispersal most seeds enter a period of *dormancy*. What is *dormancy*?
(v) Give an advantage of dormancy.
(vi) Name the stage in the plant's life cycle that follows dormancy.
(viii) State **one** way in which it is possible to produce seedless fruits in horticulture.

Q9 Section B 2008

9. **(a)** (i) What is meant by the germination of seeds? _____

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(ii) Seeds may remain inactive for a period before germination. What term is used to describe this period of inactivity?_____

(b) Answer the following questions about an investigation that you carried out on the effect of water, oxygen and temperature on germination.

(i) What seeds did you use? _____

(ii) Explain how you set up a control for the investigation.

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(iii) How did you deprive some of the seeds of oxygen?

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(iv) How did you ensure that some of the seeds were deprived of a suitable temperature for germination? _____

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(v) State the results of the investigation, including those of the control.

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Q9 Section B 2006

9. (a) (i) Give **one** location in a seed in which food is stored. .....

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(ii) Name a carbohydrate that you would expect to be present in this food store. .....

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(b) In your practical work you investigated digestive activity during germination.

(i) What type of agar did you use in this investigation? .....

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(ii) Describe how you carried out the investigation. Refer to a control in your answer.

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(iii) Describe the results of your investigation.

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Q9 Section B 2005

9. (a) (i) What is meant by the germination of a seed? .....

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(ii) State **one** reason why water is needed for germination. .....

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(b) Answer the following questions in relation to an experiment that you carried out to investigate the effects of water, oxygen and temperature on germination.

(i) Draw a labelled diagram of the apparatus that you used.

(ii) Describe how you carried out the experiment. .....

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(iii) Describe the results of this experiment, including the result of the control. .....

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