



Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Applied 2013

Vocational Specialism

Agriculture/Horticulture

(240 marks)

Wednesday 12 June 2013, Morning, 9.30 to 11.00.

General Directions

1. Write your EXAMINATION NUMBER in this space:

2. WRITE ALL ANSWERS INTO THIS ANSWERBOOK.

THERE ARE TWO SECTIONS IN THIS EXAMINATION PAPER.

Section One: One question, of which **twelve** parts must be answered.
Each part carries 10 marks.

Section Two: Candidates must answer any **four** questions from this section, based on the modules studied. Each question carries 30 marks.

For the Superintendent only.	For the Examiner only.	
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>Centre Stamp</p> </div>	1. <i>Total of end of page totals.</i>	
	2. <i>Aggregate total of all disallowed questions.</i>	
	3. <i>Total mark awarded (1 minus 2).</i>	
	4. <i>Bonus mark for answering through Irish (if applicable).</i>	
	5. <i>Total mark if Irish bonus awarded (3 plus 4).</i>	
<p><i>Note: The mark in row 3 (or in row 5 if an Irish bonus is awarded) must equal the mark in the 'Total' box on the marking grid on page 20.</i></p>		

Section One

(120 marks)

Question 1. This is made up of eighteen parts i.e. (a) to (r).

Any 12 parts must be answered. All parts carry equal marks (10 marks each).

1. (a) Name the garden pest shown in the photograph.



An **organic** method of controlling this pest is

(b) What is the function of xylem tissue in a plant stem?

Name **another** plant tissue.

(c) Potting compost is made up of soil, sand and

Why should you sterilise pots and trays before using them for planting?

(d) Name an Irish tree that produces hardwood.

Name a product that is made from hardwood.



(e) Suggest **two** advantages of using garden matting as shown in the photograph.

1. _____

2. _____



(f) Fertilisers used to improve grass growth are rich in the mineral

Fertilisers used for flowers and vegetables are rich in the mineral

(g) When milk is fermented by *Lactobacillus* it changes into the product called

Name **another** milk product.

(h) Name the breed of cattle shown in the photograph.

In Ireland, this breed is mainly used for the production of



(i) Give **two** reasons why dairy cattle are 'dried off' before calving.

1. _____

2. _____

(j) Name **two** features shown in the photograph that suggest 'Japanese' garden design.

1. _____

2. _____



(k) Give **one** reason why planting a tree in the middle of a lawn is considered to be poor garden design.

Name **one** feature that would be suitable to use in a garden designed for children.

(l) Suggest **two** ways in which you could use stone troughs in a garden.

1. _____

2. _____



(m) Name a commercially grown flower **or** fruit **or** vegetable.

When is the most suitable time for harvesting this flower **or** fruit **or** vegetable?

(n) What does this warning symbol mean?

Name a substance likely to carry this symbol.



(o) Name **two** additives that can improve the quality of silage.

1. _____

2. _____

OR

Name **two** procedures that can improve the quality of hay.

1. _____

2. _____

(p) Name a conifer grown in commercial forests in Ireland.

Suggest a reason for the uneven growth of the tree rings in the photograph.



(q) How do grass plants transfer their pollen from one plant to another?

Name **one** other method of pollen transfer.

(r) Potatoes are a good food source.
Give **another** use for potato tubers in agriculture/ horticulture.

State **one** reason why potatoes are suitable for this other use.



Section Two

(120 marks)

Answer any 4 questions from the following 6 questions, which are based on the modules you have studied. All questions carry equal marks (30 marks each).

2. BASIC HORTICULTURE

(a) The substance in the soil formed from the remains of dead plants and animals is called

(b) Write each task from column C into column B to match an item from column A. See shaded example.

Column A	Column B	Column C
Rake	<i>To prepare a seed bed</i>	To make holes for planting
Dibber		To prune plants
Sprayer		To prepare a seed bed
Secateurs		To control weeds

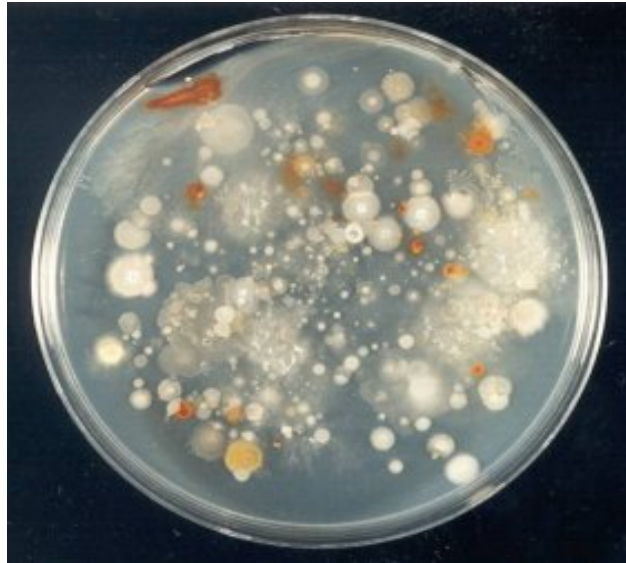
(c) Soils are formed by the physical and chemical weathering of rock.

Give an example of physical weathering.

Give an example of chemical weathering.

Why is the soil in a field beside a river often very fertile?

(d) The photograph below shows microorganisms growing in a Petri dish as a result of a soil test.



How would you make sure that the microorganisms you see in the Petri dish come only from your soil sample?

How do these organisms help the soil?

Name **two** other soil organisms and give a function of **one** of them.

Name 1. _____

Name 2. _____

Function. _____

3. GARDEN DESIGN

(a) An example of a plant that flowers in January in Ireland is _____

(b) Indicate whether the following statements are true or false, by ticking the correct box in each case.

• A pergola is used to support climbing plants. True False

• Mulch is often made from bark and wood chips. True False

• A sundial **must** be placed in the middle of the garden. True False

(c) Identify the lawn maintenance tools below and say what each tool is used for.



A



B



C

Tool A. _____

Used for. _____

Tool B. _____

Used for. _____

Tool C. _____

Used for. _____

(d) The photograph shows part of a formal garden.



Identify **two** features of a formal garden that can be seen in this photograph.

1. _____
2. _____

Name a **special** feature you might include in a formal garden.

Describe how the special feature could be installed.

1. _____

2. _____

3. _____

4. FLORISTRY, FRUIT & VEGETABLES

(a) When growing flowers, fruit and vegetables, moulds and mildews are controlled using

(b) Complete the sentences in the spaces below, using suitable words from the following list.

Green Fertiliser Insects Weeds Wind Fresh

- A selective herbicide is used to kill broad leaved _____
- Chlorophyll makes plants _____
- 'Shelf life' refers to how long a food product will stay _____

(c) In your study of flowers **or** fruit **or** vegetables you looked at ways of adding value to your product by processing it in some way.

Why would producers want to 'Add value' to their products?

In the case of a named flower **or** fruit **or** vegetable describe how you would process it to add value to it.

Name of flower, fruit or vegetable. _____

Process. _____

Name the added value product that is produced. _____

What value has been added to the original flower, fruit or vegetable?

- (d) Agricultural and horticultural producers in Ireland are told that they should promote a 'green' image in order to sell to a wider market.

What is meant by a 'green' image?

What steps should producers take to promote a 'green' image?

Name an organisation that helps producers to make sure their production methods are 'green'.

Name of the organisation. _____

How does this organisation help producers to make sure their production methods are 'green'?

What is meant by 'Farm Gate to Dinner Plate'?

5. FORESTRY

(a) The Irish deciduous tree that has black buds is the _____

(b) Match each word in column A with a term from column B to give an answer in column C.
See shaded example.

Column A	Column B	Column C
1 Bud	a Absorption	1 + c
2 Bark	b Photosynthesis	
3 Root	c Young leaf or flower	
4 Leaf	d Waterproof layer	

(c) The photograph below shows an area of cleared forest.



Clearing large areas of forestry, as shown, is called _____

Briefly describe the environmental damage caused by each of the following activities.

The use of large amounts of fertiliser during the early growing phase of a forest.

The use of heavy machinery in clearing large areas of forestry.

(d) As part of your study of this module you explored the leisure opportunities that our forests can provide.



Outline **four** leisure opportunities provided by our forests.

1. _____

2. _____

3. _____

4. _____

Outline **four** rules that you would expect forest users to obey.

1. _____

2. _____

3. _____

4. _____

6. GRASS

(a) A variety of grass commonly grown in Ireland is _____

(b) Indicate whether the following statements are true or false, by ticking the correct box in each case.

- Hay has a better feed value than silage. True False
- Leafy grass is best for silage. True False
- Pesticides are used for weed control. True False

(c) The photographs show two machines used in the conservation of grass.



A



B

Name each machine.

A. _____ B. _____

What characteristic of hay prevents it from rotting?

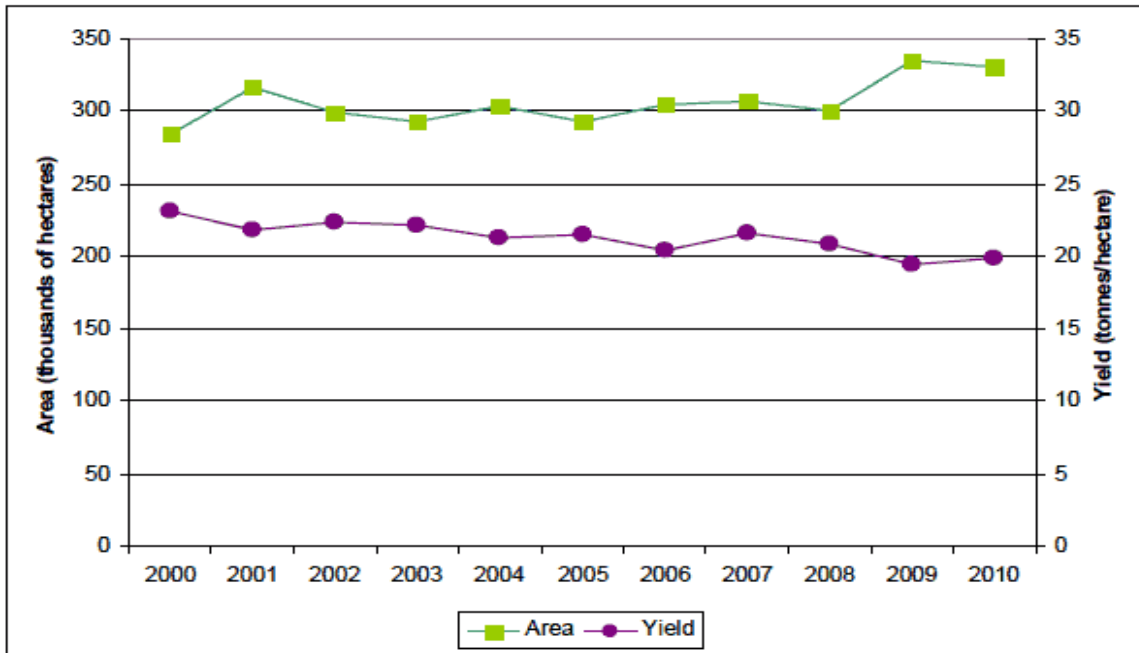
What characteristic of silage prevents it from rotting?

Suggest **two** ways in which the production of hay or silage could affect the environment.

1. _____

2. _____

(d) The graph shows the **area** of land (—■—) and the **yield** of hay/ silage (—●—) for the years 2000 to 2010.



Use the graph above to answer the following questions.

In which year was the **greatest area** of land used for hay/ silage production?

In which year was the **lowest yield** of hay/ silage recorded?

Suggest **two** reasons why the yield is low in some years.

1. _____

2. _____

Suggest **two** ways in which yields might be increased.

1. _____

2. _____

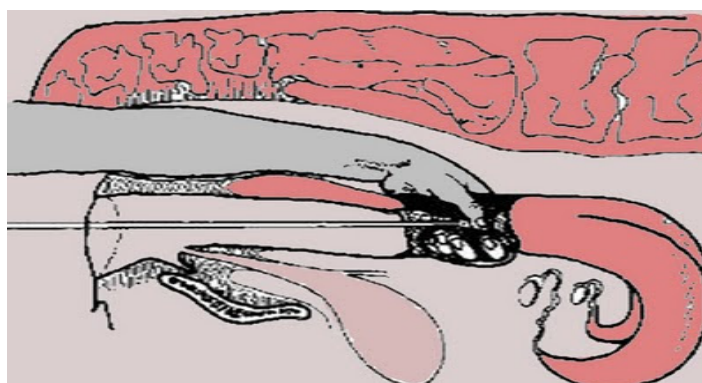
7. MILK AND MEAT PRODUCTION

(a) Mastitis is an infection of what body part of the milk animal? _____

(b) Match each term in column A with a term in column B to give an answer in column C.
See shaded example.

Column A	Column B	Column C
1 Dual purpose	a Salt lick	1 + d
2 Hygiene	b Liver fluke	
3 Minerals	c Cell count	
4 Parasite	d Milk and meat	

(c) The diagram shows artificial insemination (AI) being carried out in a milk or meat producing animal.



What is artificial insemination (AI)?

Suggest **two** advantages of using artificial insemination (AI).

1. _____

2. _____

(d) As part of your study of this module you visited a milk **or** meat farm. Briefly describe what you learned during your visit by answering each of the following questions.

State a precaution that was taken to prevent diseases being brought onto the farm.

Name a safety measure that was in place with regard to machinery.

What system was in place for the collection of animal effluent?

What method was used for the disposal of animal effluent?

How did the farmer make sure he/ she had good quality replacement stock?

What qualification is desirable for a young milk or meat farmer to have?

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Question	Mark
Section 1	
1	
Section 2	
2	
3	
4	
5	
6	
7	
Grand Total	
Disallowed	
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