



Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Applied 2008

Vocational Specialism **Agriculture/Horticulture** (240 marks)

Wednesday 11 June 2008
Morning 9.30 am to 11.00 am

General Directions

1. Write your EXAMINATION NUMBER in this space:

2. WRITE ALL ANSWERS INTO THIS ANSWER BOOK.

THERE ARE TWO SECTIONS IN THIS EXAMINATION

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

Section Two: Candidate 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: 80%; 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 awarded if Irish Bonus. (3 + 4)</i>	
	<p><i>Note: The mark in row 3 (or row 5 if an Irish bonus is awarded) must equal the mark in the Total box on the marking grid.</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) Identify the garden pest in the picture

An organic way of controlling this pest is



(b) An organism that causes mildew is _____

A chemical used to control mildew is called a _____

(c) Name a breed of milk or meat animal that you have studied _____

In winter this animal's main foodstuff is

(d) Identify the weed shown in the picture

Name a garden tool used to control this weed in vegetable gardens



(e) Name the flowering plant shown in the picture

This flower's underground fleshy storage structure is called a



(f) Identify the part of the grass plant shown in the picture

Grass grows quickly when given the mineral nutrient called



(g) What would happen if you removed the bark from a tree?

Name an animal that eats the bark of a tree

(h) Identify the garden tool shown in the picture

How would you prevent rusting of this garden tool?



(i) The Government agency that advises farmers on all areas of farming is called

The members of this agency that visit farmers and give advice are called

(j) An example of a flower or fruit or vegetable grown all year round in Ireland is

A structure you would use to produce this named flower or fruit or vegetable all year round is

(k) Name **one** career or job you studied as part of your Agriculture/Horticulture course

Identify **one** piece of personal safety equipment required as part of this job or career

(l) Name the tree whose leaf is shown in the picture

The seeds of this tree are scattered by

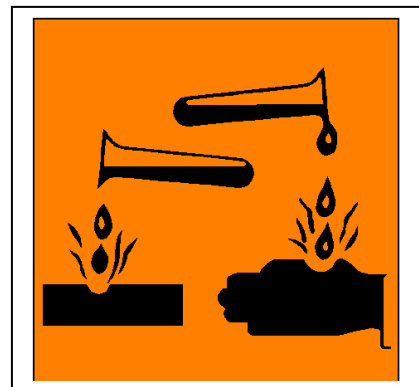


(m) In forestry what is meant by the term “clear felling”? _____

Suggest **one** reason why it could be said that “clear felling” damages the environment

(n) The warning symbol shown in the picture means

If some of this type of substance got on your hands what action should you take?



(o) Why is clover added to a grass seed mixture?

What organism is present in the roots of clover?

(p) Name the garden feature shown in the diagram

How would you improve the appearance of this garden feature?



(q) Suggest **two** common causes of accidents in an Agriculture/Horticulture work place

1 _____

2 _____

(r) Identify the part of a farm machine shown in the picture

Accidents involving this part can be prevented by



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

2. BASIC HORTICULTURE

(a) An example of an organism that breaks down dead plant and animal material in soil is

(b) Match the term in column A with the term in column C by placing the most appropriate term in column B. See shaded example.

Column A	Column B	Column C
Plant leaf	Photosynthesis	Dormancy
Seed		Minerals and water
Graft		Photosynthesis
Root		Artificial propagation

(c) List **three** tools that are used in the garden

1 _____ 2 _____ 3 _____

Briefly describe how you would properly clean a garden tool

Name of tool _____

How to clean it _____

How would you properly store a garden tool?

Name of tool _____

How to store it properly _____

- (d) You have rented some land for the growing of plants. It is laid out in two fields. These plants need a pH of 6.0 to 7.0. Tests carried out on the soil gave the following results.

Field	pH	Humus	Nitrogen content of soil
A	5.0	High	Low
B	6.5	Low	High

Which field **A** or **B** does **not** have a pH suitable for the growing of your plants?

Field _____

Give a reason for your answer _____

What would you do to change the pH to that which you need for your crops?

The humus level in field **B** is low.

Suggest **two** ways in which you could increase the humus content of the soil in field **B**

1 _____

2 _____

Your local farm supplier has **three** types of fertiliser available

Fertiliser	N:P:K content
Type 1	10 : 10 : 20
Type 2	15 : 30 : 10
Type 3	00 : 10 : 30

Which fertiliser type will you use in field **A**?

Fertiliser type _____

Why did you choose this fertiliser? _____

3. GARDEN DESIGN

(a) Garden shrubs provide colour using their flowers, leaves and _____

(b) State whether the following statements are true or false, by ticking the correct box.

- Luxury lawn seed mix is mainly ryegrass True False
- Autumn is the best time to plant daffodil bulbs True False
- Aspect in garden design has to do with wind True False

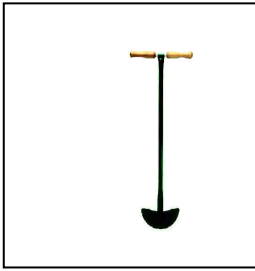
(c) Hyacinth bulbs planted in pots produce large scented flowers for Christmas.
List what you need to plant hyacinth bulbs in pots, other than bulbs and pots

Briefly describe how you would plant the bulbs in a pot

Once planted the hyacinth bulbs are placed in a cold dark place for a time. Why is this done?

In order to have your bulbs in full flower for Christmas in what month should you plant the hyacinth bulbs?

(d) The garden equipment shown below is used in the maintenance of lawns. In relation to each piece of equipment give its name, the maintenance job it is used for and the time of year it is most likely to be used.



Tool A



Tool B



Tool C

Name of tool **A** _____

Used for _____

Time of year most likely to be used _____

Name of tool **B** _____

Used for _____

Time of year most likely to be used _____

Name of tool **C** _____

Used for _____

Time of year most likely to be used _____

4. FLORISTRY, FRUIT & VEGETABLES.

(a) A low-sized structure used to extend the growing season is called a _____

(b) Complete the following sentences in the spaces provided using the words listed below.

Fertiliser Safety Moulds Quality Aphids Chemicals

- A fungicide is used in the control of _____
- Organic production means production without using _____
- The “Best Before Date” refers to product _____

(c) You have studied flowers or fruit or vegetables.

Answer Part 1 or Part 2 of this question

Part 1. Floristry: Name a plant that is used for its foliage _____

How would you lengthen the life of a cut flower? _____

Name **two** pieces of equipment used in floristry

OR

Part 2. Fruit or Vegetables: Name a dietary nutrient we get from fruit or vegetables

Name **two** fruits or **two** vegetables produced commercially in Ireland

Name a common pest of fruit or vegetables

(d) When growing flowers or fruit or vegetables the control of weeds is very important.
 A test was carried out on the control of weeds in a crop of flowers or fruit or vegetables.
 The results of the test show how three methods of weed control affected the growth of the crop.

The three methods used to control the weeds were **hoeing only, weed killer only, both hoeing and weed killer.**

	Average height of the flower <u>or</u> fruit <u>or</u> vegetable plants (in centimetres)			
Week No.	Not weeded	Hoeing only	Weed killer only	Both hoeing and weed killer
1	10	10	12	12
3	19	24	27	32
5	30	35	42	56

What method of weed control gives the best results?

Best result _____

What method of weed control gives the poorest result?

Poorest result _____

In what way do weeds affect the growth of flower or fruit or vegetable plants?

What precautions or controls would be put in place when conducting this experiment?

The best weather conditions for hoeing are

The best weather conditions for spraying weed killer are

5. FORESTRY

- (a) An arboretum is a collection of _____
- (b) Match the correct word in column A with the correct term in column B to give an answer in column C. **See shaded example**

Column A	Column B	Column C
1 Germination	a Scattering seeds	1 + c
2 Tree rings	b Anchoring	
3 Fruit	c Growing seed	
4 Root	d Age	

- (c) You have been given some string and a straight piece of timber and told to measure the height and the girth or circumference of a tree.
Briefly describe how you would carry out the instructions using the equipment supplied.

How to measure the height of the tree _____

How to measure the girth or circumference of the tree _____

The leafy part of a tree is narrow at the top and wide at the base. Briefly suggest a reason for this triangular shape

- (d) As part of your study of this module you studied how climate and location are important when deciding where to plant a forest.

Why is the climate in Ireland well suited for forestry?

Strong winds can affect forestry. How is this taken into consideration when selecting forestry sites and planting the trees?

Outline a problem that may arise if forestry is located in lowland areas

Suggest **one** positive and **one** negative way in which a plantation of coniferous trees may affect the environment

Positive effect _____

Negative effect _____

6. GRASS

(a) A plant found in grassland that improves nitrogen levels in the soil is _____

(b) State whether the following statements are true or false, by ticking the correct box.

• The buttercup is a poisonous plant in grassland True False

• Grass plants have no flowers True False

• All weed killers kill grass True False

(c) The picture shows covered silage.



Briefly explain how grass is preserved in the process of making silage

What steps can be taken in the making of silage to prevent pollution of rivers or streams?

Name **two** additives that are added to cut grass to improve the silage making process

1 _____

2 _____

(d) The chart shows the amount of silage produced on two farms.

Farm	Size (ha)	Grass Yield (tonnes)
A	50	80
B	100	120

Which farm produces more silage?

Which farm is more efficient in the production of silage?

Give **two** reasons why artificial fertilisers are the most widely used in promoting grass growth

1 _____

2 _____

Suggest **two** management practices, other than the use of artificial fertilisers, which would ensure the best possible yield of silage on farms

1 _____

2 _____

7. MILK AND MEAT PRODUCTION

(a) The term UHT refers to the sterilisation of milk using _____

(b) Match the correct word in column A with the correct term in column B to give an answer in Column C. **See shaded example**

Column A	Column B	Column C
1 venison	a grass tetany	1 + d
2 parasite	b protein	
3 calcium	c liver fluke	
4 casein	d deer	

(c) Some animals are reared in houses where the temperature is kept much higher than that outdoors. Name a meat animal that is reared in such a warm environment

What is the purpose of keeping the animals in a warm environment?

What are the possible disadvantages of rearing animals in such a warm environment?

- (d) The large scale production of milk and meat animals requires proper housing. The picture shows the design and layout of a modern milking parlour.



How does this design and layout ensure that proper hygiene and cleanliness are possible?

1 _____

2 _____

How is the quality of the milk maintained until it is collected from the farm?

What steps are taken to make sure that all equipment and machinery are clean and sterile?

1 _____

2 _____

Suggest any other feature of design or equipment that is used to improve hygiene

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