Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Applied 2003

Vocational Specialism

Agriculture/Horticulture
(240 marks)

Wednesday 11 June 2003
Morning 9.30 am to 11.00 am

For the Superintendent use only

Centre Stamp

General Directions

1. Write your EXAMINATION NUMBER in this space:

2. WRITE ALL ANSWERS INTO THIS ANSWERBOOK.

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 Examiner only

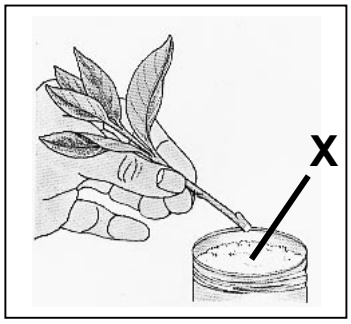
Question	Mark
Section 1	
1	
Section 2	
2	
3	
4	
5	
6	
7	
Grand Total	
Disallowed	
Total	

Section One **(120 marks)**

Question 1. This is made up of 18 parts i.e. (a) to (r). Any 12 parts must be answered. All parts carry equal marks (10 marks each).

1.

(a) Name the propagation method shown in the diagram which is used to produce new plants.



Propagation method_____

Name the substance labelled **X** in the diagram.

X _____

(b) Name a skill you learned during your study of Agriculture/Horticulture.

_____

A piece of safety equipment you would use while carrying out this skill is_____

_____

(c) Suggest **two** tasks you would carry out in order to ensure healthy tree growth.

1_____

2_____

(d) Identify the breed of animal in the picture which is used in Irish agriculture.

_____

Name another breed of this type of animal used in agriculture in Ireland.

_____

(e) The diagram shows a hazard symbol. What is the meaning of this symbol?_____

How would you correctly store a substance labelled with this symbol? _____

_____

(f) In producing flowers or fruit or vegetables suggest **two** steps you could take to prevent disease in your crops.

Step 1 _____

Step 2_____

(g) Italian ryegrass is commonly grown for what specific use in Irish agriculture?

_____

Another species of grass used in agriculture in Ireland is _____

(h) The picture shows a piece of garden equipment. Identify **one** hazard associated with its use.

_____

_____

Name **one** task carried out before storing this machine for the winter. _____

(i) Photosynthesis is the process by which plants make food. Name **two** factors necessary for photosynthesis to occur.

1 _____ 2 _____

(j) Name **two** regular tasks, other than spraying, carried out on a flower or fruit or vegetable grown in Ireland.

1 _____

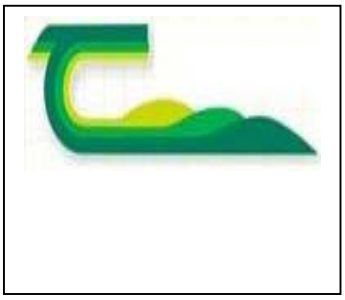
2 _____

(k) In the breeding of animals the term A.I. refers to;

Animal Income **Artificial Insemination** **Animal Inspection** **Artificial Implant**

Underline the correct answer to the above question.

(l) The diagram shows the logo associated with an organisation involved in agriculture or horticulture.



Name the organisation _____

What is the main function of this organisation?

_____

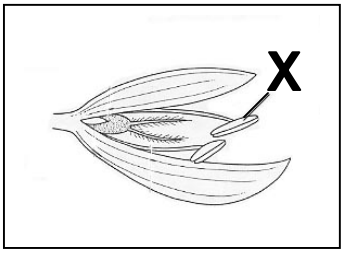
_____

(m) There are a number of different types of lawn seed mixtures. Name **one** and suggest where it might be used.

Name of seed mixture _____

Where used _____

(n) Identify the part of the grass flower marked X .



_____

How are grass flowers pollinated?

_____

_____

(o) During your course in Agriculture/Horticulture you carried out some research, which sought people's views or opinions. Name the research/information gathering tool you used.

_____

What method did you use to present the findings of your research?

_____

(p) Name **one** career you investigated as part of your Agriculture/Horticulture course.

_____

Name **two** tasks carried out by a person working in this career.

1 _____

2 _____

(q) In demonstrating how to plant a tree or shrub give **two** steps you would take to make sure the tree or shrub is planted properly.

1 _____

_____

2 _____

_____

(r) Identify the tree leaf shown in the diagram.

_____

Give **one** use for the timber from this tree.

_____

_____

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

2. BASIC HORTICULTURE

(a) A plant which reproduces itself using a bulb is _____

(b) Match the piece of garden equipment in column A with the task in column C by placing the most appropriate task in column B. **See shaded example**.

Column A	Column B	Column C
Sprayer	**Spraying plants**	**Making a fine seed bed**
Rake		**Taking cuttings**
Hoe		**Spraying plants**
Secateurs		**Removing weeds**

(c) During your course of study you looked at how soil is formed by weathering and erosion. Describe **one** way in which weathering <u>or</u> erosion helps to form soil.

_____

_____

In what way do plants help to make a soil fertile? _____

_____

In the case of a soil that is acidic, what would you add to the soil to make it less acidic?

_____

_____

(d) During your study of this module you carried out a germination test on a sample of 100 seeds to see how well they would germinate. Describe how you carried out the germination test using the following headings as a guide.

What equipment would you need to carry out this germination test?

Outline the steps you would follow in carrying out this germination test.

How would you calculate the percentage germination based on the results of the germination test?

3. GARDEN DESIGN

(a) A garden plant that flowers in winter or early spring is _____

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

•	Aspect has to do with wind direction.	True		False	
•	A hard landscape feature is made from stone or cement.	True		False	
•	Formal gardens are deliberately let grow wild.	True		False	

(c)

Trellis

Garden Urn

Half Barrel

In the case of any **one** of the garden features illustrated above answer the following questions.

Feature chosen _____

Suggest where in a garden you would locate this feature.

_____

_____

Outline the maintenance required to protect this feature from the weather.

_____

_____

Name **two** plants you would use as part of this feature.

_____

_____

(d) When sowing a lawn there are a number of important tasks to be carried out to have a good quality lawn. Listed below are some of those tasks. Briefly describe how you would carry out each of these tasks.

Preparing the soil.

Levelling the lawn area.

Controlling weeds before sowing.

Sowing the lawn seed.

4. FLORISTRY, FRUIT AND VEGETABLES.

(a) The organic production of flowers or fruit or vegetables means production without the use of _____

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

systemic **anti mould** **thro' weed** **fungicide** **herbicide**

- Weeds are often controlled using a substance known as a _____
- A chemical spray absorbed into all parts of a plant so as to control a pest is called a _____
- Mould and fungal infections are controlled using a _____

(c) In relation to a **named** flower or fruit or vegetable that you have investigated write a brief note on each of the following.

Name of flower or fruit or vegetable _____

Suggest a method of treatment or storage that will extend the period of use of the named product once it has been harvested.

How long will the above treatment or storage extend the period of use of the named product?

Any disadvantage associated with this method of treatment or storage.

(d) During your study of this module you visited a commercial production unit. This unit used a method of production to extend the growing season of flowers or fruit or vegetables. In relation to a **named** flower or fruit or vegetable describe what you learned from the visit using the following headings as a guide.

Name of flower or fruit or vegetable _____

Name **one** method of production used to extend the growing season.

How does the method of production named above extend the growing season?

Name **one** problem associated with this method of production.

How would you overcome the problem listed above?

What methods are used to grade the product and maintain its quality levels?

5. FORESTRY

(a) Name a coniferous tree that loses all its leaves in winter.

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

Column A	Column B	Column C
1 Oak	**a Black buds**	**1 + c**
2 Birch	**b Paired needles**	
3 Ash	**c Acorn**	
4 Scots pine	**d Silver Bark**	

(c) As part of your study of this Forestry module you investigated the storage and treatment of tree seeds.

Explain what is meant by seed dormancy.

Locally collected tree seeds are often better than imported seed. Suggest a reason why.

If you were to germinate a large quantity of tree seeds by breaking their dormancy what equipment or facilities would you require?

(d) During your study of the Forestry module you investigated the use of forestry for leisure activities.

Name **one** leisure activity for which forestry could be used.

_____

_____

Suggest **one** advantage that this leisure development would bring to a local economy.

_____

_____

What works or developments would be required in a forestry to allow these leisure activities to occur?

1_____

_____

2_____

_____

What would be the possible consequences of this activity on the environment of the forestry area?

1_____

_____

_____

2_____

_____

_____

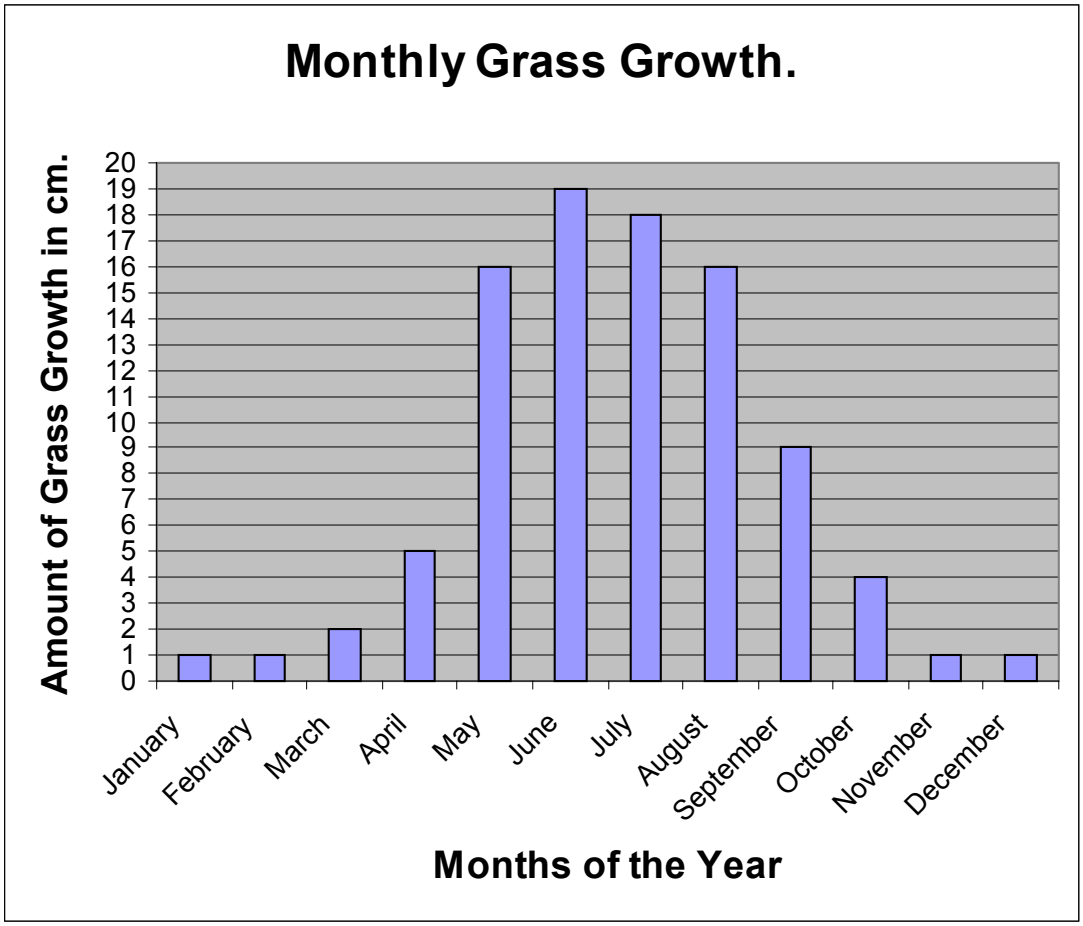
6. GRASS

(a) The part of the grass plant called the 'spikelet' is the _____

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

- Conserved grass is best left exposed to the weather. True ☐ False ☐
- The buttercup plant is harmful to some animals. True ☐ False ☐
- Scutch grass is a valuable grazing species of grass. True ☐ False ☐

(c) The graph illustrates the average monthly grass growth in centimetres (cm) at different times of the year.



How much grass growth occurs in the **four** months from November to February?

_____

Name the months in which grass growth is greater than 10 cm.

_____

Name **two** factors other than fertiliser that have an effect on grass growth.

1_____ 2_____

(d) Part of your study of the Grass module involved conserving grass by producing laboratory hay or silage.

In the box provided write whether your answer is related to hay or silage. [ ]

Describe the method you used to produce the laboratory hay or silage.

_____

_____

_____

_____

_____

_____

_____

How does the method of conservation described above prevent grass from rotting?

_____

_____

_____

_____

What safety precautions would you take while preparing the laboratory hay or silage?

1_____

_____

2_____

_____

Briefly compare the feeding value of fresh grass to hay or silage as described above.

_____

_____

_____

_____

7. MILK AND MEAT PRODUCTION

(a) In the list below underline the animal which is not used for the production of milk or meat in Ireland.

Goat **Deer** **Horse** **Sheep** **Ostrich**

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

Column A	Column B	Column C
1 Housing	**a Rich in minerals**	**1 + c**
2 Colostrum	**b Ready to breed**	
3 Oestrus	**c Well ventilated**	
4 Salt lick	**d Rich in antibodies**	

(c) In relation to the milk/meat animal you have studied write a brief note on each of the following.

Feeding a young animal.

Ensuring the milk/meat produced is of the highest quality.

1
2

The importance of the calving period for year long production of milk or meat.

(d) During your study of this milk or meat animal you visited a farm or production unit.

Describe briefly how you prepared for and organised the visit.

1 _____

_____

2 _____

_____

Comment briefly on the layout of the milk/meat farm or production unit and the reason for this layout.

_____

_____

_____

_____

Give an example of **one** question asked during the above visit and the answer given in response to the question.

Question asked _____

_____

Answer given _____

_____

Comment briefly on the feedstuff given to the animal and the effect of this on the quality of milk or meat produced.

_____

_____

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For the examiner only

Question	**Mark**
Section 1	
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