



Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Applied 2004

Vocational Specialism

Agriculture/Horticulture
(240 marks)

Wednesday 16 June 2004

Morning 9.30 am to 11.00 am

FOR 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)

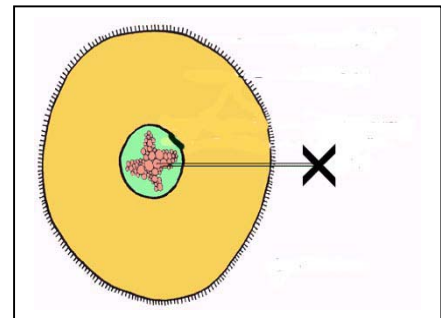
Question 1. This is made up of eighteen parts i.e. (a) to (r). Any 12 parts must be answered. All parts carry equal marks (10 marks each).

1.

(a) In this diagram of the cross-section of a plant root, name the structure labelled X

X _____

What is the function of this labelled part?



(b) A plant that flowers every year is called

Name one of these plants

(c) Name the gases that move into and out of the leaf cell during photosynthesis.

Gas passing **into** the leaf cell _____

Gas passing **out of** the leaf cell _____

(d) Identify the tree/shrub shown in the picture

Suggest a reason for the thorny leaves



- (e) The picture shows a protective structure used to speed up plant growth.

Name the structure _____

Name another structure that could also be used to speed up plant growth



- (f) Name **one** piece of safety equipment that would be used during the study of Agriculture/Horticulture

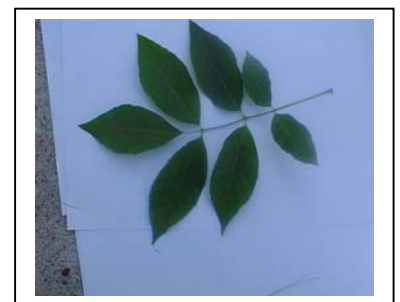
What advice would you give to your fellow students who are about to eat lunch after working in the school garden or laboratory?

- (g) What is the process of removing the seed heads of grass to produce new grass growth called?

Leafy grass growth is got by using a fertiliser rich in which mineral? _____

- (h) Name the common Irish tree whose leaf is shown in the picture _____

What piece of sports equipment is made from the timber of this tree? _____



- (i) The use of living creatures to control an insect pest is called

Name **one** living creature used to control another insect pest _____

(j) As part of your Agriculture/Horticulture course you were involved in carrying out some research. Name **one** method you used to gather research information

Name **one** type of chart or diagram that you used to present your findings

(k) Name the scale used to measure how acid or alkaline a soil is _____

The addition of lime to a soil will make the soil

More acid

More alkaline

Less Alkaline

None of these

Underline the correct answer to the above question.

(l) Identify the poisonous plant shown in the diagram

The type of weed killer or herbicide used to remove this weed without killing the grass is called a

_____ weed killer.



(m) You investigated a number of careers or jobs as part of your study of Agriculture/Horticulture.

In the case of **one** named career or job how do you become qualified to do this job in a proper and expert manner?

Name of career or job _____

How to become qualified _____

Name **one** skill required in this career or job _____

(n) The farm machine shown is used for what purpose?

Farmers should not use this machine when the weather is



(o) Name a tree or shrub that uses wind to scatter its seeds/fruits

What method does the 'robin run a hedge/cleavers/sticky back' use to scatter its seed/fruit?

(p) The male part of a flower is called the _____

The purpose of the coloured petals of a flower is to _____

(q) A layer of grass cuttings, leaves, bark or wood chips placed on the surface of the soil is called a

The purpose of this layer is to

(r) Identify the garden tool shown in the diagram

Give one garden use for this tool



Section Two

(120 marks)

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

2. BASIC HORTICULTURE

(a) Hydroponics is the growing of plants in nutrient rich _____

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

Column A	Column B	Column C
Pollination	Transfer of pollen	Plant losing water
Transpiration		Plants make food
Absorption		Transfer of pollen
Photosynthesis		Intake of water and nutrients

(c) The proper care and management of soil is important if you are to have strong and healthy plants.
Name **three** activities you would carry out on your soil and state how the activity would improve the soil quality or fertility.

Activity No. 1 _____

Improves soil by _____

Activity No. 2 _____

Improves soil by _____

Activity No. 3 _____

Improves soil by _____

(d) During your study of this module you investigated different types of growing media and how well plants were able to grow in the different media.

Name **two** growing media other than soil that you investigated

1. _____

2. _____

Briefly describe, using words **or** diagrams, a test you would carry out to show which of the above named growing media was the best for growing your plants.

Description using words _____

Description using diagrams

What precautions would you take to make sure the test described would be a true and fair comparison of both growing media?

(d) The **four** pictures show stages in the planting of a tree. Arrange the pictures in the correct order or sequence.



A



B



C



D

Correct sequence 1 _____ 2 _____ 3 _____ 4 _____

Using the above diagrams as a guide outline the steps to be followed to correctly plant a tree

From time to time trees need to be pruned or have damaged branches removed. What would you do when pruning to make sure the tree does not become diseased?

4. FLORISTRY, FRUIT & VEGETABLES

(a) A common pest of flowers, fruit and vegetables that can be controlled using a beer trap is the

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

- A large scale production unit requires a higher level of management and _____
- The shelf life of flowers, fruits and vegetables can be extended by keeping them _____
- A common method used to grade flowers, fruit and vegetables is one based on _____

quality disease control watering cool freezing colour

(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 _____

A disease that would damage the crop

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Symptoms of the disease

Precautions taken to prevent an outbreak of this disease in the named crop

(d) As part of this module you studied a flower or fruit or vegetable. In the case of a named flower or fruit or vegetable describe what would happen if you did not use enough fertilizer.

Name of flower or fruit or vegetable _____

Effect on the flower or fruit or vegetable _____

Describe, using the headings below as a guide, what you would do to make sure that the best conditions for growth could be met for a named flower or fruit or vegetable.

Name of flower or fruit or vegetable _____

Preparation of the soil

Creating protection from the wind

Prevention of pests and diseases

5. FORESTRY

- (a) The timber product got by compressing and gluing **very** fine sawdust is called

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

Column A	Column B	Column C
1 Rainfall	a Wet and Dry bulb Thermometer	1 + c
2 Humidity	b Anemometer	
3 Temperature	c Rain Gauge	
4 Wind speed	d Thermometer	

- (c) As part of your study of this Forestry module you used plant keys which allowed you to identify trees from their various features.

Name **three** features other than a leaf you might use when identifying a tree.

1. _____ 2. _____ 3. _____

Name a coniferous tree commonly used in forestry in Ireland

How would you identify this tree using one of the features named above?

The winter twigs of some trees are easily identified from **one** unusual or obvious feature. In the case of **one** tree you have studied name the feature that clearly identifies its winter twig.

Name of tree _____

Feature _____

(d) Coillte is the name of an organisation involved in the forestry industry in Ireland. Outline the role played by this organisation in the forestry industry

Forestry in Ireland is mainly located in upland and mountain areas. Suggest **two** reasons for this choice of location.

1. _____

2. _____

What effect does this choice of location have on the types of forestry trees planted in Ireland?

What are the effects of locating forestry in upland and mountain areas on the uses of these areas for leisure and recreation?

6. GRASS

(a) Name a species of 'weed' grass which spreads using underground stems or rhizomes

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

- Grasses do not produce flowers True False
- Wind is the main pollination agent for grass True False
- All grass seeds must be dormant for more than **one** year before growing True False

(c) The cutting and saving of grass involves a lot of various machines. Identify **one** hazard associated with each of the following machines and how that hazard can be minimised or prevented. The hazard identified should be different for each machine.

Mower hazard _____

Prevention _____

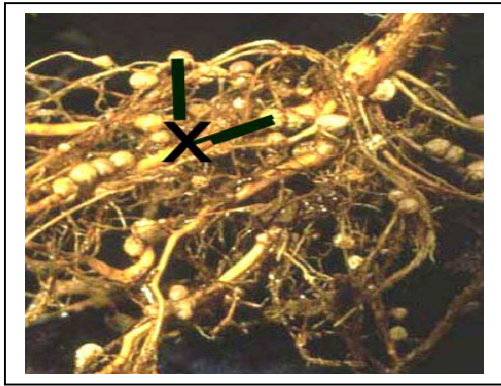
Round or Square Baler hazard _____

Prevention _____

Tractor hazard _____

Prevention _____

(d) Name the grassland plant whose root and flower is shown in these photographs _____



What living organism is present in the nodules labelled X? _____

Why is it considered an advantage to have this plant included as part of a seed mixture for grassland?

In some parts of Ireland grassland regularly needs to be drained. **One** method commonly used is mole draining. Briefly explain how this method of draining is carried out

Outline **one** advantage and **one** disadvantage of mole draining as a method of draining excess water from grassland.

Advantage _____

Disadvantage _____

7. MILK AND MEAT PRODUCTION

- (a) The vitamin destroyed by heat when milk is pasteurised is vitamin_____
- (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 Castration	a Impregnate a female animal	1 + d
2 Insemination	b Disease of the udder	
3 Mastitis	c Period of pregnancy	
4 Gestation	d Sterilising a male animal	

- (c) During your study of this milk or meat animal you visited a milk or meat production unit. What observations did you make in relation to the following important areas of production?

Hygiene_____

Animal welfare_____

Safety and Hazard prevention_____

(d) In modern farming the selective breeding of animals is important so that the animal produced is ideal for the production of milk or meat. State what features make a good milk or meat animal.

Name of milk or meat animal _____

Features

Approximately what % of a feature is passed on from parent to offspring?

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Outline some of the dangers associated with the highly selective breeding of animals

Name **two** symptoms that would alert you to the fact that an animal is in heat

1
2

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