



Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Applied 2014

Vocational Specialism

Agriculture/Horticulture (240 marks)

Wednesday, 11 June 2014, 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.	
Centre Stamp	1. Total of end of page totals.	
	2. Aggregate total of all disallowed questions.	
	3. Total mark awarded (1 minus 2).	
	4. Bonus mark for answering through Irish (if applicable).	
	5. Total mark if Irish bonus awarded (3 plus 4).	
	<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>	

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 tool shown in the photograph.

What is this garden tool used for?



- (b) Name a **tree** that uses wind to scatter its seeds.

Why is it good for the seeds to be scattered away from the tree?

- (c) A 'beer trap' is used to control which garden pest?

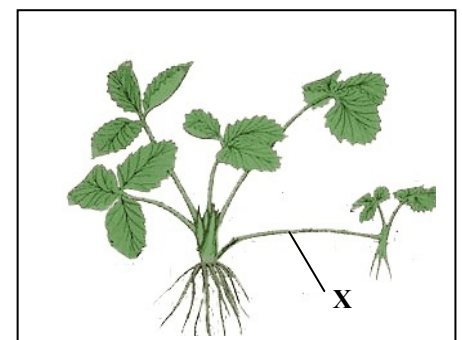
Name another **organic** way of controlling this pest.

- (d) The best time of the year to sow a new lawn is

A weed commonly found in lawns is

- (e) Name the modified plant structure labelled **X** in the picture.

State **one** function of this modified plant structure.



- (f) Are the leaves shown in the photograph from a coniferous tree or a deciduous tree?

Name the common Irish tree whose winter twig has black buds.



- (g) Venison is the meat obtained from which animal?

What test is used to identify the source of meat in processed food?

- (h) This very dangerous piece of tractor equipment is called a

How would you make this piece of equipment safe?



- (i) Name **two** processed milk products.

1. _____

2. _____

- (j) Identify the garden feature shown in the photograph.

Name a climbing plant you would use to decorate this structure.



(k) Suggest **two** ways in which Teagasc assists the Agriculture and Horticulture industries.

1. _____

2. _____

(l) Name the grassland weed shown in the picture.

Other than using weed killer, how might you control this weed?



(m) Name a disease of the potato that is common in warm, moist, humid weather.

What type of chemical is commonly used to control this plant disease?

(n) This warning symbol on a bottle of a chemical substance means

Name **one** item of safety equipment you would use when handling this chemical.



(o) Give **two** reasons for using artificial insemination (A.I.) to impregnate meat and dairy animals.

1. _____

2. _____

(p) Why is there plastic around the base of this young tree?

What else could you use to protect young trees?



(q) Suggest a reason why flowers, fruit and vegetables are located at the **entrance** to a shop.

Why are flowers, fruit and vegetables in tiered and sloping displays?

(r) Explain what is meant by **each** of the following terms in relation to plant reproduction.

Sexual reproduction: _____

Asexual reproduction or vegetative reproduction: _____

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 ripened part of a flowering plant that contains the seeds is called the _____

(b) Write each term from column C into column B to match a structure in column A.
See shaded example.

Column A	Column B	Column C
Stem	<i>Support</i>	Photosynthesis
Leaf		Pollination
Root		Support
Flower		Absorption

(c) Plant leaves release different gases into the air by day and by night.

The gas released by day is _____

The gas released by night is _____

Two different types of tissue are involved in transporting materials in plants.

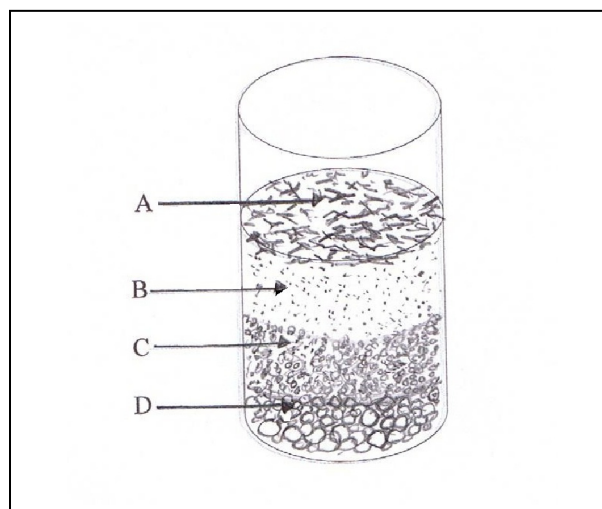
The tissue that transports water is called _____

The tissue that transports food is called _____

Name any **three** factors that plants need to make sugar in photosynthesis.

1. _____ 2. _____ 3. _____

(d) The diagram below shows the result of an investigation into the composition of a soil sample.



Name the parts of the soil labelled A, B, C and D.

A. _____ B. _____

C. _____ D. _____

In relation to the above investigation:

List **four** items of equipment or material that you used.

Item 1. _____

Item 2. _____

Item 3. _____

Item 4. _____

Outline the **four** main steps in your investigation.

Step 1. _____

Step 2. _____

Step 3. _____

Step 4. _____

3. GARDEN DESIGN

(a) An ornamental garden feature that is used to tell the time is _____

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

- 'Aspect' involves the four points of the compass

True ☐

False ☐

- The moss plant loves warm, dry conditions

True ☐

False ☐

- Snowdrops are among the first flowers of spring

True ☐

False ☐

(c) The photograph below was taken while planting bulbs.



Suggest which flower might grow from the bulbs in the photograph. _____

Describe briefly how to plant a bulb.

1. _____

2. _____

3. _____

Which plant parts are modified to form the bulb?

- (d) The photographs **A**, **B**, **C**, and **D** below show four stages in the planting of seeds but they are not in the correct order.



A



B



C



D

Write the letters in the correct order for the planting of seeds.

What is being done in photograph **B**?

Large seeds and small seeds are planted in different ways.
Briefly explain how you would plant each type of seed in a seed tray.

Planting large seeds: _____

Planting small seeds: _____

Give **one** reason for covering the seed tray with a sheet of glass or plastic.

Name a common fungal disease that attacks newly-germinated seedlings.

4. FLORISTRY, FRUIT & VEGETABLES

- (a) The growing season for flowers, fruit and vegetables can be extended by using

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

List: **Chilled** **Minimum** **Cleaned** **Graded** **Maximum** **Warm**

- When harvesting these products, handling should be kept to a _____
- During transport to market the produce is always kept _____
- To ensure quality for the consumer the produce is always _____

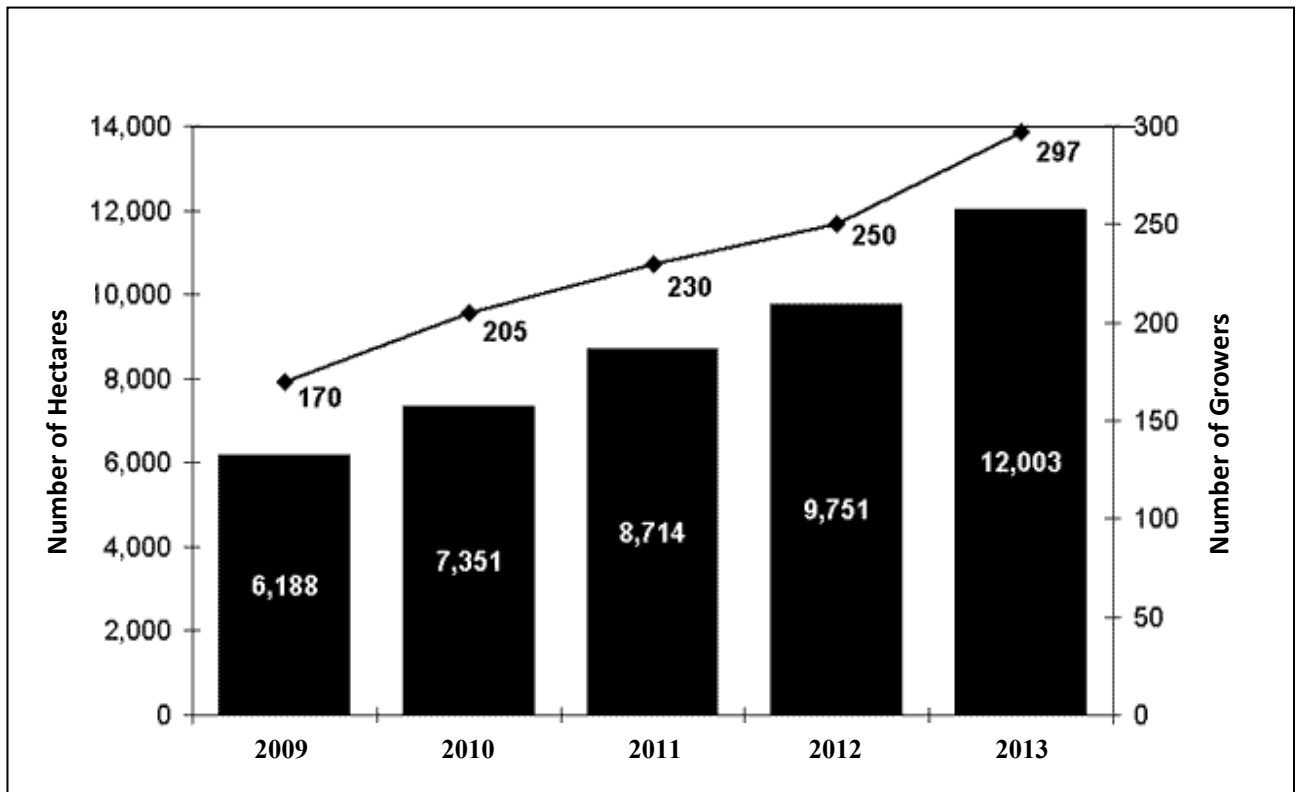
- (c) In your study of the production of flowers **or** fruit **or** vegetables you looked at ways of controlling weeds, pests and diseases using **organic** methods.

Describe **one** method you would use to **organically** control weeds.

Describe **one** method you would use to **organically** control insect pests such as aphids.

Describe **one** method you would use to **organically** control diseases such as rusts and moulds.

(d) The chart below shows an increase in certain organic production over a number of years.



Suggest **two** reasons why producers are moving to organic production.

1. _____
2. _____

What benefits does organic production have for the consumer?

1. _____
2. _____

How can you tell that products labelled as organic are really organic?

Name the state organisation that assists the producers of flowers, fruit and vegetables.

5. FORESTRY

(a) The number of rings you can see in a cut tree trunk indicates _____

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

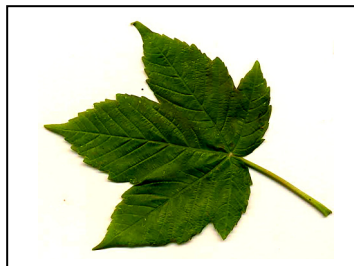
See shaded example.

Column A	Column B	Column C
1 Evergreen	a Collection of trees	1 + c
2 Beaufort	b Dries timber	
3 Arboretum	c Waxy leaf	
4 Kiln	d Scale to measure wind	

(c) Identify the trees A, B and C from the photographs below.



A



B



C

A. _____ B. _____ C. _____

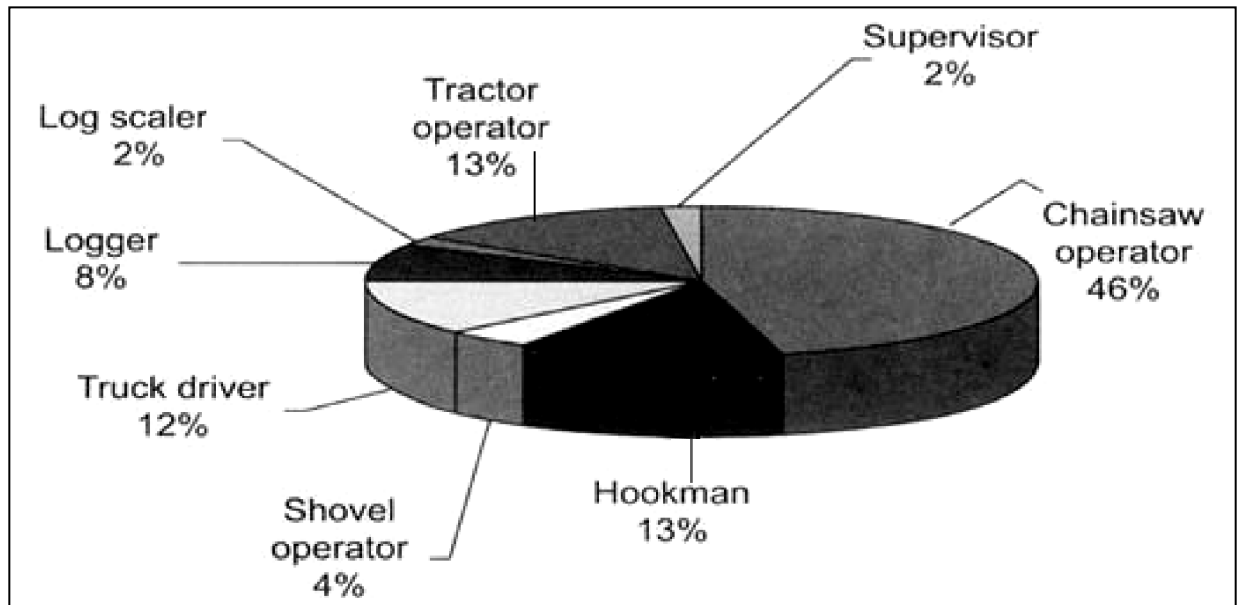
Trees are planted for a variety of reasons.

Describe **two** effects that a large plantation would have on its locality.

1. _____

2. _____

- (d) As part of your study of this module you studied safety and safety equipment. The chart below shows various jobs in forestry and the percentage of accidents associated with each job.



Identify the most dangerous job in forestry.

Which forestry jobs have the lowest accident rate?

The 'hookman' in forestry has the job of placing a strap around a felled log and attaching it to the hook of a machine for pulling logs.

Name **two** items of safety equipment a 'hookman' should wear.

1. _____

2. _____

Describe **two** steps management should take to reduce the number of accidents in the forestry industry.

1. _____

2. _____

6. GRASS

(a) A common variety of grass found in Irish pastures is _____

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

- Grasses are insect pollinated True ☐ False ☐
- The grass flower head is known as a spikelet True ☐ False ☐
- 'Roundup' is the most effective grassland weed killer True ☐ False ☐

(c) The photograph shows a machine used in the 'topping' of grass.



Explain why grass is 'topped'.

At what time of year **and** stage of growth should topping of grass occur?

Time of year: _____

Stage of growth: _____

Give **two** precautions you would take when using the topping machine.

1. _____

2. _____

- (d) Every year farmers use a variety of additives to improve their silage.

Name **two** commonly used silage additives.

1. _____

2. _____

Describe a laboratory experiment to investigate **one** of the named silage additives.
Use the following headings as a guide:

Equipment used.

Stages in the experiment.

1. _____

2. _____

3. _____

4. _____

7. MILK AND MEAT PRODUCTION

- (a) Grass tetany is a condition which is caused by low levels of the mineral _____
- (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 Dual purpose	a Nutritive organ	1 + d
2 Oestrus	b Pregnancy	
3 Placenta	c 'In heat'	
4 Gestation	d Milk and meat	

- (c) The photographs show three different feedstuffs given to milk-producing and meat-producing animals.



Pellets



Silage



Hay

Give **one** advantage and **one** disadvantage of **each** type of feedstuff.

Pellets

Advantage: _____

Disadvantage: _____

Silage

Advantage: _____

Disadvantage: _____

Hay

Advantage: _____

Disadvantage: _____

- (d) The photograph shows a newly-born calf and its mother.



Give **one** indication that an animal is about to give birth.

Outline **two** things you would do to prepare the area in which the animal will give birth.

1.

2.

In what circumstances would you need to use a calving 'jack'?

Suggest **two** things you would do to make sure the newborn animal thrives.

1.

2.

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