

**Leaving Certificate Applied 2005****Vocational Specialism****Agriculture/Horticulture**

(240 marks)

**Wednesday 15 June 2005****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
<b>Section 1</b>	
<b>1</b>	
<b>Section 2</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>5</b>	
<b>6</b>	
<b>7</b>	
<b>Grand Total</b>	
<b>Disallowed</b>	
<b>Total</b>	

**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 insect shown in the picture

**Ladybird**

What garden pest does this insect kill?

**Aphid, Greenfly**

(b) A fungal disease of young germinating seeds is called

**Damping Off**

This disease can be prevented by

**Adequate ventilation, reduce watering, fungicide, spraying**

(c) Name the garden tool you would use for the following tasks

Removing weeds **Hoe, spade, fork, claw, gas burner**

Taking cuttings **Secateurs, pruning shears, pruner, pruning knife**

(d) Identify the garden pest shown in the picture

**Caterpillar, larva**

Suggest a non-chemical method of controlling this pest

**Picking, removing by hand, nicotine spray, predator**

(e) The picture shows a flowering plant grown commercially in Ireland.

It is called a **Daffodil**

Name a plant product other than cut flowers that can be produced from this flowering plant

**Bulbs, perfume,**

(f) Name a breed of milk or meat animal that you have studied as part of your Agriculture/Horticulture course

**Any valid breed**

What feature or features clearly identifies an animal as belonging to this named breed?

**Correct corresponding characteristic, feature.**

(g) 'Wind Rock', can kill a young tree. What causes the tree to die?

**Disease/Infection/damage**

How can 'Wind Rock' be prevented? **Staking,**

(h) Name the type of grass plant shown in the diagram

**Rye grass**

Identify the part of the grass plant labelled X

**X Flower, seed head**

(i) The P.T.O. shaft of a tractor is often the cause of serious accidents. What is a P.T.O. shaft used for?

**Powering agricultural machinery, milking machine**

How can it be made safe for use? **Protective cover**

(j) 'Teagasc' is an organisation involved with farming in Ireland. Name **two** ways in which 'Teagasc' helps the farming industry.

1 Advice, research, accounts, training

2 as above

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

any valid career/job relating to Ag/Hort.

Identify **one** skill required as part of this job or career

Any valid matching skill

(l) Identify the agricultural machine shown in the diagram

Name Seeder

Other than cleaning, name a routine maintenance activity to be carried out on this machine

Greasing,

(m) An example of a flower or fruit or vegetable grown in greenhouses in Ireland is

any valid example (disallow wild flowers, capable of being grown under glass)

In what way is the 'white fly' a serious pest in greenhouses? Damages fruit

\_\_\_\_\_

(n) The warning symbol shown in the picture means

Corrosive

Name one precaution you would take in using a chemical with this symbol on its container

Store carefully, protective gear (PPE), care when using

(o) Name a plant other than grass whose seed is added to a grass seed mixture

**Clover**

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What is the benefit of adding this named seed to the seed mixture?

**Nitrogen-related answer**

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(p) Name the tree whose leaf is shown in the diagram

**Sycamore**

---

By what method are the seeds of this tree scattered or dispersed?

**Wind**

---

(q) State two actions that would reduce accidents in a work place associated with the agricultural/horticultural industry

1 **Proper storage, maintenance, properly labelled, any valid point**

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2 **As above**

---

(r) Identify the item of garden furniture shown in the diagram.

**Sun dial**

---

Where in the garden would you place this piece of garden furniture?

**sunny spot**

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**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.

**2. BASIC HORTICULTURE**

- (a) The purpose of sand in a potting compost mixture is improve drainage, aeration 3 marks
- (b) Match the soil additive in column A with the resulting effect in column C by placing the most appropriate effect in column B. See shaded example.

Column A	Column B	Column C
Potassium	Boosts flower production	Increases soil pH
Nitrogen	Leaf Growth 2 marks	Lowers soil pH
Lime	Increases pH 2 marks	Boosts flower production
Peat Moss	Lowers pH 2 marks	Necessary for plant leaf growth

- (c) It is necessary for a number of important factors to be present if seeds are to germinate.

Name one of these factors air, oxygen, water, heat, light 3 Marks

In the case of the above named factor briefly describe and experiment you could carry out to show that this factor is necessary for the germination. You may use diagrams in your answer

Control 2 marks

Elimination of factor 2 Marks

Result 2 Marks

\_\_\_\_\_

\_\_\_\_\_

Diagram

(d) Taking a plant cutting is a way of producing new plants. The following pictures show the steps taken to ensure a successful cutting.

Step 1

Step 2

Step 3

Step 4

Briefly describe what step is being taken in each picture shown. In the case of each step suggest a reason why this step helps to ensure a successful cutting.

Step 1 Cut stem , at an angle, below node

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Reason more surface, allows roots to form, cambium

---

Step 2 remove lower leaves

---

Reason reduce water loss

---

Step 3 removing upper part, tip

---

Reason allows branching

---

Step 4 dip in rooting hormone/powder, roota

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Reason promotes rooting, speeds up rooting.

**First 2 answers @4 marks 2(2+2) and remaining 2 answers@2 marks 2(1+1)**



(d) The maintenance of a lawn means that different tasks must be carried out at certain times of the year. Listed below are **four** such tasks. In the case of each task describe briefly what is required to complete the task. State also the best time of the year for the carrying out of the task.

1. Removing bumps and hollows \_\_\_\_\_

\_\_\_\_\_ **remove sod, remove /add soil, material, replace sod** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time of year \_\_\_\_\_ **spring/ autumn** \_\_\_\_\_

2. Fertilising \_\_\_\_\_ **spread correct amount, lawn fertiliser, evenly,** \_\_\_\_\_

\_\_\_\_\_ **use a spreader, rate of flow correct** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time of Year \_\_\_\_\_ **spring** \_\_\_\_\_

3. Scarifying \_\_\_\_\_ **use machine, rake, remove dead grass material/moss** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time of Year \_\_\_\_\_ **late spring, early summer** \_\_\_\_\_

4. Aerating \_\_\_\_\_ **fork, aerating tool, adding sharp sand** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time of Year \_\_\_\_\_ **spring, autumn** \_\_\_\_\_

**First two answers 2(2+1+1) and remaining 2 answers 2(1+1)**

#### 4. FLORISTRY, FRUIT & VEGETABLES.

(a) A mould or fungus disease of flowers or fruit or vegetables can be controlled using a chemical called a \_\_\_\_\_ **fungicide or named fungicide** **3 Marks**

(b) Using the words listed below, complete the following sentences in the spaces provided.

The organic production of flowers or fruit or vegetables does not use **Herbicide (2)**

The growing of flowers or fruits or vegetables is helped by Ireland's mild **Climate (2)**

Flowers or fruit or vegetables are grown earlier in the year using a structure called a **Cloche (2)**

**Climate      Cloche      Herbicides      Soils      Pesticides      Sundial**

(c) In your study of this module on floristry, fruit and vegetables you carried out an investigation or survey. Using the following headings as a guide, describe how you carried out this investigation or survey and what you learned from it.

1. The purpose of the Survey or Investigation \_\_\_\_\_  
**clearly stated purpose      3 Marks**

2. How the Survey or Investigation was carried out \_\_\_\_\_  
**any 2 valid points      2+1 Marks**

3. The results of the Survey or Investigation \_\_\_\_\_  
**valid result well expressed clearly linked to purpose      3 Marks**

(d) During your study of this module you studied the production of a flower or fruit or vegetable. In the case of a named flower, fruit or vegetable describe what you have learned by writing brief notes under each of the following headings

Name of flower or fruit or vegetable \_\_\_\_\_ **any valid example**

Method of production of the named flower or fruit or vegetable \_\_\_\_\_

\_\_\_\_\_

**Any valid answer**

\_\_\_\_\_

\_\_\_\_\_

How to ensure that the named flower or fruit or vegetable is a quality product \_\_\_\_\_

\_\_\_\_\_

**Any valid answer**

\_\_\_\_\_

\_\_\_\_\_

Harvesting and grading of the named flower or fruit or vegetable \_\_\_\_\_

\_\_\_\_\_

**Any valid answer**

\_\_\_\_\_

\_\_\_\_\_

Storage and transportation of the named flower or fruit or vegetable \_\_\_\_\_

\_\_\_\_\_

**Any valid answer**

\_\_\_\_\_

\_\_\_\_\_

**First 2 answers 2(2+2), remaining 2 answers 2(1+1).**

## 5 FORESTRY

(a) A Coniferous tree that loses its leaves in winter is the Larch **3 Marks**

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

Column A	Column B	Column C
<b>1</b> Evergreen	<b>a</b> Ash	<b>1 + c</b>
<b>2</b> Thorny Leaves	<b>b</b> Sweet Chestnut	<b>2 + d</b>
<b>3</b> Black Buds	<b>c</b> Pine	<b>3 + a</b>
<b>4</b> Edible Fruits	<b>d</b> Holly	<b>4 + b</b>

(c) The diagram below shows the structure of a stratification pit.

1. Why is stratification carried out, particularly on tree seeds? \_\_\_\_\_

Water proof, tough seed coat, allows water to get through seed coat **3 Marks**

2. Other than using a pit how might you stratify seeds? **3 Marks** \_\_\_\_\_

Cold, plant in a pot only

3. Describe any other process which may need to be carried out in order to allow a tree seed to germinate. nick, sand paper, acid **3 Marks**

- (d) As part of your study of this module you studied forestry and forestry related industry. Describe what you learned about forestry using the following headings as a guide.

Why most of the forests planted in Ireland are coniferous\_\_\_\_\_

**fast growing, suitable climate, will grow at high altitude, in poor soil**

**any two**

The various maintenance jobs carried out on a forestry plantation as it grows\_\_\_\_\_

**thinning, pruning, spraying, weed control, fencing (protection)**

**any two**

Health and safety when working in forestry\_\_\_\_\_

**Any two relevant points relating to safety equipment and proper/necessary skills/training to operate machines**

The various products that are got from the harvested timber\_\_\_\_\_

**any two relevant points**

**First 2 answers 2(2+2), remaining 2 answers 2(1+1).**

## 6 GRASS

(a) Pollen is transferred from one grass flower to another by the Wind 3 Marks

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

• Silage is rotted grass True  False  **2 Marks**

• Good hay is a better quality feed than silage True  False  **2 Marks**

• Meadow lands produce the best hay True  False  **2 Marks**

(c) The photograph shows an area of grassland, which needs to be treated for weeds. You have been asked to carry out an investigation into which one of **three** weed killers would be best at controlling the weed problem.

1. How would you carry out a test to find out which weed killer is best? \_\_\_\_\_

Sample areas, apply weed killer 2+1 Marks

2. What steps would you take to make sure your result will be a valid one? \_\_\_\_\_

Equal sized areas, same amount of spray, 2+1 Marks

3. Name **three** items of safety you would use when working with the weed killer \_\_\_\_\_

any three valid answers 1+1+1 Marks

(d) The graph shows the soil temperature at various times of the year.

In your opinion what effect does soil temperature have on grass growth? \_\_\_\_\_

**Increased Temperature = more/ faster growth**

**Reduced Temperature = less/ decreased growth.**

What other climatic factors might affect the growth of grass during the year? \_\_\_\_\_

**Rain, frost, drought, sunlight, wind**

With reference to the graph above in what month would you spread fertiliser so as to boost early grass growth?

**February, March, April**

What management practices other than the spreading of fertiliser would you carry out to promote grass growth throughout the year? **Topping, spraying**

**First 2 answers 2(2+2), remaining 2 answers 2(1+1).**

## 7 MILK AND MEAT PRODUCTION

(a) Milk is rich in the mineral calcium which is necessary for healthy Teeth or Bones **3 Marks**

(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
<b>1 Pasteurising</b>	<b>a Making cheese</b>	<b>1 + d</b>
<b>2 Fermenting</b>	<b>b Long life milk</b>	<b>2 + c 2 Marks</b>
<b>3 Souring</b>	<b>c Produces yoghurt</b>	<b>3 + a 2 Marks</b>
<b>4 Sterilising</b>	<b>d Kills harmful germs</b>	<b>4 + b 2 Marks</b>

(c) Disease control and prevention is an important part of milk or meat production. What actions would you take in each of the following situations to prevent or control disease?

Designing and constructing animal housing \_\_\_\_\_

**aerated, airy, spacious, easily cleaned, warm, water, feed system, etc. 2+1 Marks**

Preparation of winter housing for animals \_\_\_\_\_

**wash, disinfect, clean bedding, source of clean drinking water, feeding area**

**2+1 Marks**

Treatment of animals before going back onto the land in spring \_\_\_\_\_

**Dosing, drenching, hoof paring,**

**2+1 Marks**

- (d) The large scale production of milk and meat animals gives rise to a lot of waste. This waste may be harmful to humans and the environment and so must be disposed of carefully

Name **two** waste products of milk or meat production

1 <b>Slurry, effluent from silage, offal, faeces, water, food, wrappings</b>
2

Describe **one** harmful effect on the environment of one of the waste products mentioned

Waste Product: <b>named waste product</b>
Harmful Effect <b>smell, visual, oxygen demand, etc.</b>

Mention **one** way in which one of the wastes mentioned above can be safely disposed of

Waste Product <b>storage tank, spreading on land, recycling, use of licensed contractors</b>
Safe Disposal

In disposing of the waste as mentioned by you above, what precautions would you take to prevent pollution?

Precaution 1 <b>spread only in dry weather, maintaining/constructing proper storage facilities,</b>
Precaution 2 <b>covered storage, locked, adequate storage for size of farm.</b>

**First 2 answers 2(2+2), remaining 2 answers 2(1+1).**

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