



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Applied 2006

Vocational Specialism
Agriculture/Horticulture
(240 marks)

Wednesday 14 June 2006
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	
Centre Stamp	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>	
	<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>	

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 part of the tree labelled Y

Y _____ **Heartwood/Centre of Tree** _____ 5

How would you calculate the age of this tree?

_____ **Count the Rings** _____ 5



(b) A deciduous tree is one which

_____ **That loses its leaves in winter** _____ 5

Name a deciduous tree used in forestry in Ireland

_____ **Larch/Ash/Oak/Beech/Birch** _____ 5

(c) How are the seeds of coniferous trees scattered?

_____ **Wind** _____ 5

The terminal bud is found on what part of the tree/branch?

_____ **Tip/Top** _____ 5

(d) Identify the garden tool shown in the picture

_____ **Lopper** _____ 5

How would you safely store this tool?

**Hang on Hook/ Make sure it is closed/In a cabinet/
Up high/Out of reach** _____ 5



(e) Identify the motor/electric tool used in the garden

_____ **Chain Saw** _____ **5**

Name one piece of safety equipment you need when using this motor/electric tool

Goggles/Mask/Ear Muffs/Boots/ Overalls/Gloves **5**



(f) A common plant nutrient added to the soil is

_____ **N/P/K/ or FYM** _____ **5**

Plants use this nutrient to develop what part of the plant structure?

_____ **Any valid answer [K for Root/P for flower or fruit/N for leaves** _____ **5**

(g) A common weed found on lawns is

_____ **Buttercup/Daisy/Dock/Speedwell/ Moss/ Thistle/etc.** _____ **5**

This weed is best removed by using a particular type of weed killer. Name this type of weed killer

_____ **Selective or Named Product** _____ **5**

(h) The garden feature labelled X is called a

_____ **Pergola [allow gazebo/canopy/smoking area]** _____ **5**

Name a plant you would use to grow up and over this feature

_____ **Named Climbing Plant** _____ **5**



(i) The production of new plants without using flowers and seeds is called

_____ **Vegetative Propagation/ Cloning/Asexual Reproduction** _____ **5**

Name one structure or method used for producing new plants in this way _____

Layering/Grafting/Cutting/Named structure for Vegetative Propagation/Tunnel/Cloche/Greenhouse

5

(j) The sorting of flowers or fruit or vegetables according to their quality before being sold is called
Grading 5

Another way in which flowers or fruit or vegetables can be sorted is according to their
Colour/Size/ Type/ Breed 5

(k) In the growing of flowers or fruit or vegetables a 'cold frame' will
preserve plants **slow growth** **speed up growth** **kill pests** **none of these** 5

Underline the correct answer above

The shelf life of flowers or fruit or vegetables is lengthened by **Cold Storage/**
Spraying/Watering 5

(l) Identify one aspect of our climate which can seriously affect the production of flowers or fruit
or vegetables Frost/Cold/Excessive Rain 5

What could you do to prevent the damage caused by the above named aspect of our climate?

Provide Shelter 5

(m) You investigated a number of careers or jobs as part of your study of the Milk and Meat
Production module.

In the case of one named career or job what work is done by this person as part of their job?

Name of career or job Any valid answer 5

Name **one** skill required in this career or job Any relevant skill 5

(n) The farm machine shown is called
(Combine) Harvester 5

The purpose of this machine is to

Cut (collect, separate) **grains or corn or straw** 5



(o) Another word or term for 'oestrus' is

_____ **Heat** _____ 5

A symptom or sign that an animal is in 'oestrus' is

_____ **Mucus/Agitation/"Bulling"** _____ 5

(p) Dried preserved grass is called _____ **Hay** _____ 5

Fermented grass is called _____ **Silage** _____ 5

(q) Name a poisonous plant found in grassland

_____ **Buttercup/Ragwort/etc** (see page 65 in syllabus) _____ 5

Why is the topping of grass carried out?

_____ **Stimulates Growth/Controls Weeds** _____ 5

(r) Identify the hazard symbol shown

_____ **Poison (Toxin)** _____ 5

Name a substance likely to carry this symbol

_____ **Weedkiller/etc.** _____ 5



Section Two
marks)

(120

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

The root of a plant absorbs water and Minerals from the soil **3**

Match the plant structure in column A with the descriptive term in column C by placing the most appropriate term in column B. See shaded example.

Column A	Column B	Column C
Rose Thorn	Modified Leaf	Modified Root
Potato Tuber	Modified Stem 2	Modified Leaf
Onion Bulb	Modified Leaf 2	Modified Leaf
Turnip	Modified Root 2	Modified Stem

(c) Soil is composed of both living and non-living parts.

Identify or name a living part of soil Bacteria/fungi/microbes/earthworms/etc. **3**

Identify or name a non-living part of soil Stone/Sand/Gravel/Silt/Clay **3**

In the case of the above named 'living part' of the soil describe how it creates a healthy soil

Creates humus/Breaks down dead material/drains/aerates/recycles **3**

(d) The pictures below show a number of factory-produced compost bins.



Briefly describe the steps you would take in making a compost heap.

Choose site/build enclosure/ Aerate/Layers/Additives/Secure from animals/etc. 2 + 2

What household or garden waste materials should not be placed in a compost heap?

Raw meat/ Raw fish/ Cooked food/ Evergreen trimmings/Contaminated garden waste/plastic/tin cans **2 +**
2

Suggest one problem or disadvantage associated with a compost heap and state how you would solve or deal with the named problem or disadvantage

Problem or disadvantage Rotting/ Rodents/Smell/Difficulty in Mixing/Lack of Aeration/ Time 2

Solution Solution matching problem 2

3. GARDEN DESIGN

(a) Name a plant that flowers in late winter/ early spring daffodil/tulip/primrose/etc. **3**

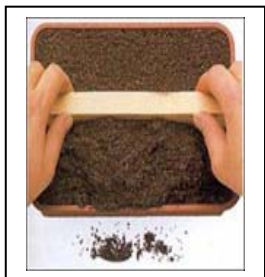
(b) State whether the following statements are true or false, by ticking the correct box.

• Luxury lawn seed is best for playground areas True False **2**

• 'Damping Off' is a disease of seedlings True False **2**

• A Trellis is a Hard Landscape feature True False **2**

(c) In preparing for your summer garden you have decided to raise your own bedding plants from seed. The pictures below show some of the steps you would take



How would you make sure the compost you use is free from pests and diseases?

Sterilise/Use new bag/ do not reuse old compost/ use fresh compost **3**

In sowing very tiny seeds how would you make sure they are well scattered over the full area of the tray?

Mix with sand/ Place in gel **3**

Suggest a method for keeping the compost moist and well watered

Place mat underneath tray, end of mat in container of water/Misting/Cover with glass_____3

(d) During your study of the Garden Design module you looked at a number of gardens and compared their design and layout.

What have you learned about creating a well designed garden?

Time for planning/research/decide on use/ draw/balance of features/review_____2 + 2

Gardens can be designed according to different styles. Name **one** of these styles and what it is about the appearance of the garden that makes it belong to this style.

Cottage Garden /Informal/ Formal_____2

Feature that decides style

_____2

What would you take into consideration in designing a garden layout for an elderly person?

Wide Paths/No steps/Low maintenance/Seats/Small lawn area/Raised flower beds_____2

Name **two** features you would place in a garden for young children.

Swing/Sand pit/Patio/ Garden Gym_____1 + 1

4. FLORISTRY, FRUIT & VEGETABLES.

(a) Name the State body responsible for the promotion of the floristry, fruit and vegetable industries

Bord Glas 3

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

- A common pest of flowers or fruits or vegetables is the _____ **Aphid or Mouse** 2
- The production of flowers or fruits or vegetables is best done on a large _____ **Scale** 2
- Organic weed control can involve the use of _____ **Mulching** 2

Mouse Scale

Herbicides

Mulching

Number

Aphid

(c) In your study of this module you visited a retail outlet

In what way were the flowers or fruit or vegetables displayed?

Sloped trays/Lighting/ Bunches/ Loose/Closed packs 3

Give a reason for the form of presentation or display

Ease of access/ good visibility/ visually attractive/convenience/ prevents handling/ allows handling/

3

Comment on the reason for locating the flowers or fruits or vegetables close to the entrance to the retail outlet.

More likely to sell _____ **3**

(d) During your study of this module on flower or fruit or vegetables you looked at their production. Describe what you have learned under each of the following headings.

Name of flower or fruit or vegetable _____ **any valid answer** _____ **2**

A problem, during production, other than pests and disease _____

Damage/ Weather/Labour shortage _____ **2**

How to solve the problem mentioned above _____

Padded sorting areas/ Protection/ Minimise handling/ Organise recruitment _____ **2 +2**

Disease control/prevention during production _____

Spraying/ Select resistant varieties/Biological control _____ **2**

Packaging _____

Grade and quality control prior to packaging/ should be light in weight/ reduces space/displays product _____ **2**

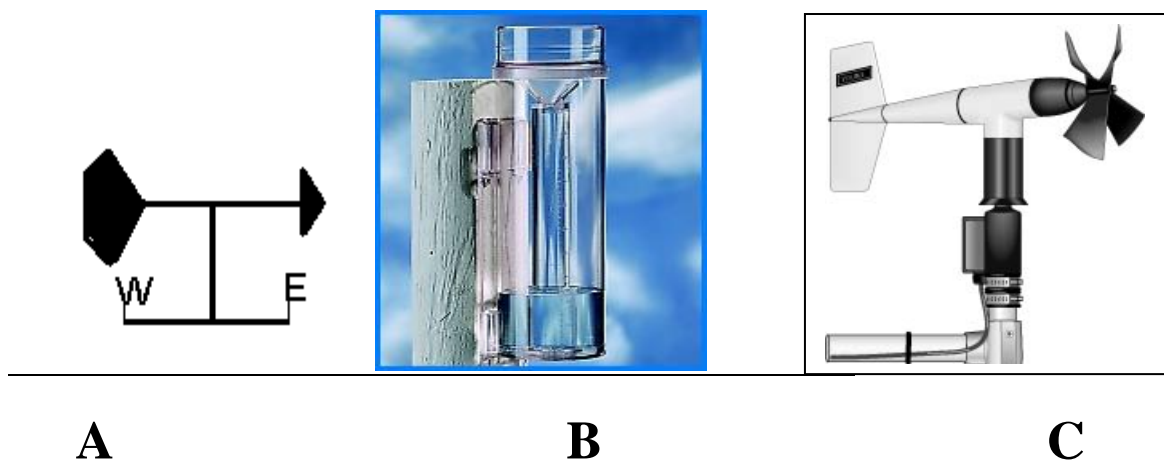
5. FORESTRY

(a) Clear-felling a forest means Cutting all trees in an area 3

(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
1	Holly Tree	a	Hurley	1 + c
2	Pine Cone	b	Seed	2 + d 2
3	Chestnut	c	Evergreen	3 + b 2
4	Ash Tree	d	Fruit	4 + a 2

(c) The diagrams below show **three** pieces of equipment used in the monitoring and recording of the weather. Name the three pieces of equipment



A Wind (weather) Vane 1 B Rain Gauge 1 C Anemometer 1

What does each piece of equipment measure?

A Wind Direction
2

B Rainfall amount
2

C Wind (direction) and strength

2

- (d) As part of your study of this module you investigated the effect of forestry, particularly coniferous forests, on the environment. Briefly describe these effects using the following headings as a guide. **2(4) + 2(2)**

The landscape _____

Monotonous visual impact/ Light reduced/ Less diversity/ View reduced/ _____

The atmosphere _____

Improved/more oxygen/less carbon dioxide _____

The rivers _____

Less water/can cause pollution/increased acidity _____

The habitat of animals and plants _____

Shelter/ less food/ reduced variety _____

6. GRASS

(a) Why is clover added to a grass seed mixture? **Adds Nitrogen/ Adds nutrients/Fertilises soil/ Helps grass grow** **3**

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

• Grass is a monocotyledonous plant True False
2

• Grass grows best in soil with a low pH True False
 2

• Rye grasses are not commonly used in agriculture True False 2

(c) Examine the photograph of the silage pit shown below



Suggest **two** ways in which you could alter the design of the above silage pit in order to reduce the possibility of pollution of nearby rivers and streams.

1 Install channels to take effluent to tank 3

2 Construct route to separate rainwater

3

When cutting silage what could you do to reduce the amount of effluent produced when it is in the silage pit?

Cut grass in dry weather/wilt grass for 24-36 hours **3**

- (d) You have been assigned the task of advising a farmer how to improve some grassland. Describe the work to be carried out using the following headings as a guide.

Adjusting the pH of the grassland _____

Add lime/ add sulphate of ammonia/add fertiliser **2 + 2**

Improving drainage _____

—

Make drains with digger/remove obstructions from waterways/ install land drainage pipes and gravel **2 + 2**

2

Controlling weeds _____

—

Spraying/Topping _____

2

Applying fertilisers _____

—

Soil test/ Correct type/ correct amount/spread when land is dry/ test _____ 2

7. MILK AND MEAT PRODUCTION

(a) ‘Long Life’ milk is milk which has been _____ sterilised/heat treated (UHT) _____ **3**

(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 Dual Purpose	a Harmful Pest	1 + d
2 Parasite	b Animal Waste	2 + a 2
3 Offal	c Afterbirth	3 + b 2
4 Placenta	d Milk and Meat	4 + c 2

(c) Milk or meat animals are often given additional feedstuffs other than grass, hay or silage. In relation to an animal you have studied,

Name an additional feedstuff **Nuts/ Fodder/ Beet/Maize/Soya/ Grains/ Milk**

3

Why give the animal this additional feedstuff? _____

Cost saving/ Improved milk yield/ Healthy animal/ Weight gain/ Prevents tetanus/

Conformation _____ **3**

Describe how you would properly store this feedstuff.

Silo/Dry area _____ **3**

(d) The diagram on the next page is the layout of an animal farm

Identify two good features of the layout design

1		
	Silage pit near cattle shed/ location of farm house/ etc.	2 + 2
2		

Identify two features of the layout design which could be improved upon

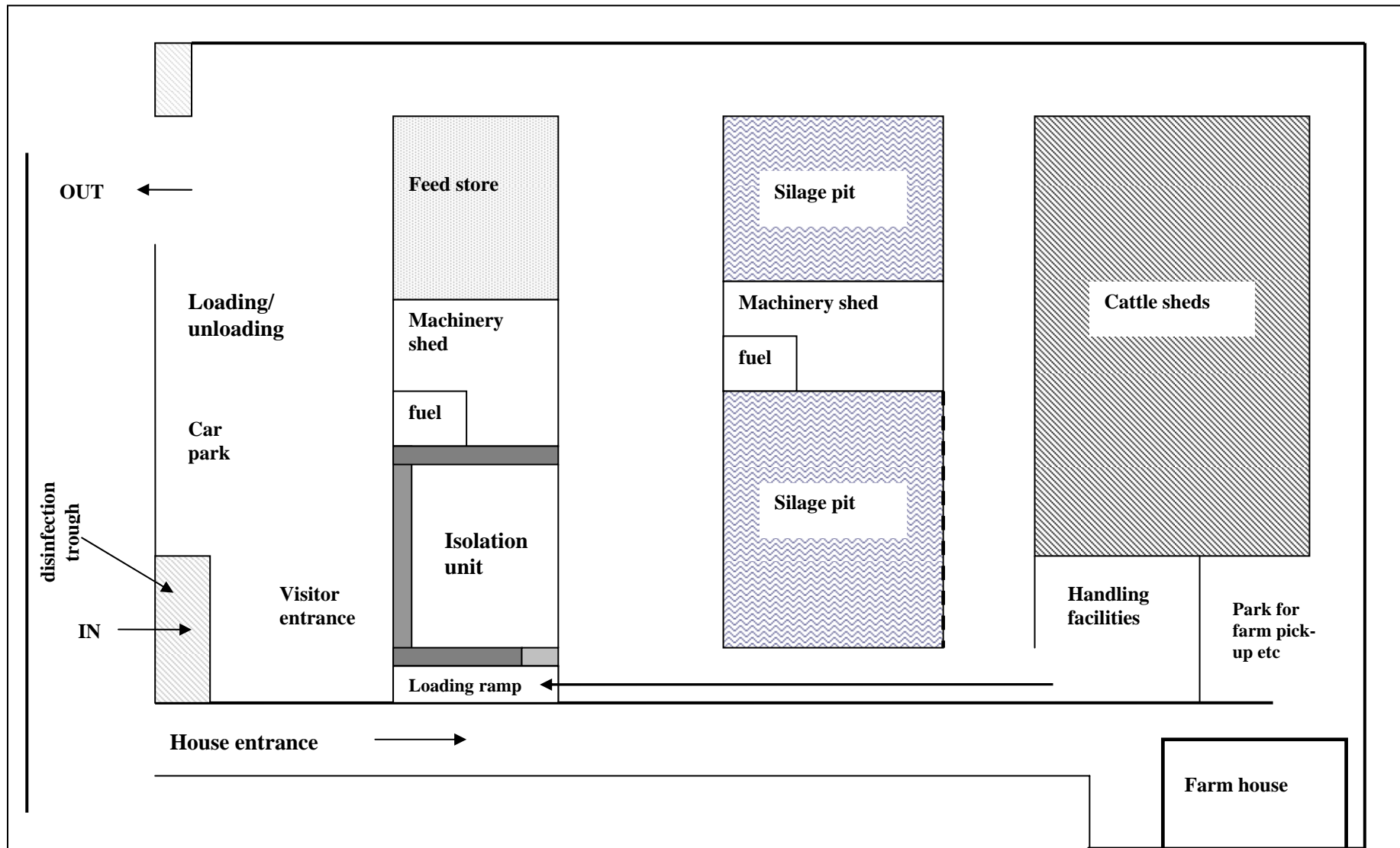
1		
	Feed store too far from cattle shed/ fuel area should be isolated/loading ramp too far from handling facilities	2 + 2
2		

What features in the layout design will help to prevent pollution?

1	Silage pit close to cattle sheds	
2	Silage pit covered to separate rainwater/ fuel in special store	
		1 + 1

What features in the layout design will help to reduce the spread of disease?

1	Disinfectant / Isolation unit removed from cattle sheds/ separate visitor entrance/ separate food store	1 + 1
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For the examiner only

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