



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Applied 2011

Marking Scheme

Agriculture and Horticulture

Common Level

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) Give the proper name of the plant whose seed head is shown in the photograph.

Dandelion (5)

This plant scatters its seeds with the help of

Wind (5)



- (b) Name the **two** substances produced by a plant during photosynthesis.

1 food or glucose or starch / oxygen (5+5)

2 _____

- (c) Give the common name of the plant structure shown in the photograph.

Acorn (5)

Name the tree that produces this plant structure.

Oak (5)



- (d) Name **two** components that you would include in potting compost.

1. Moss peat /sand/vermiculite/perlite/nutrients/fertilizer (or any other relevant) (5 + 5)

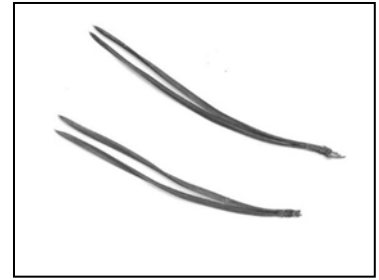
2. Allow: leaves/any named constituents of home-made compost/grass cuttings

(e) The leaves shown in the photograph are from what forestry tree?

(Scots) Pine (5)

Trees that do **not** loose their leaves in winter are known as

Evergreen/coniferous (5)



(f) An animal breed that is **most** popular for **both** milk **and** meat production in Ireland is

Friesian (5)

Name a common disease of a milk **or** meat animal.

Grass tetany / Mastitis / Red water fever / TB / Brucellosis (or any other relevant) (5)

(g) Give **two** reasons for controlling the use of antibiotics in milk **or** meat animals.

1. May give rise to drug resistant pathogens (allow drug resistance, unqualified)/allergic reactions/either animal health or human health compromised (5+5)

2. _____

(h) Name the machine in the photograph that is used in the making of hay or silage.

Mower (5)

What is the advantage to the farmer of making hay or silage?

Food source available for housed cattle (when grass growth is insufficient) (5)



(i) Suggest **two** steps you would take to prevent accidents on farms.

1. Proper safety policy / warning signs / height guides / proper maintenance (or any other relevant)

2. any two (5+5) _____

(j) An Bord Bia is an organisation involved with Agriculture and Horticulture in Ireland. State **two** ways in which this organisation helps the Agriculture/Horticulture industry.

1. Marketing promotions//overseas trade shows/advice/research (or any other relevant)

2. any two (5+5)

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

Any relevant career linked to Agriculture or Horticulture (5)

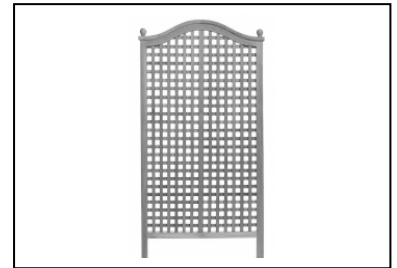
Identify **one** skill **or** **one** area of knowledge required as part of this job or career.

Any correct skill or area of knowledge (5)

(l) Identify the garden structure shown in the picture.

Trellis (5)

What can this structure be used for in the garden?



Decoration / Privacy / Shelter / Support for plants (or any other relevant) (5)

(m) Many **fresh** flowers, fruits and vegetables are available in Ireland outside their growing season. Suggest a practice that makes this possible.

Imported /grown in e.g. greenhouses, poly-tunnels / chilling (or any other relevant) (5)

Suggest a **disadvantage** of the practice you have named above.

Poor flavour / poorer quality / higher cost (or any other relevant) (5)

(n) Name **one** maintenance problem gardeners may have with lawns.

Bare patches / humps / hollows / moss / weeds / waterlogging / worm casts (or any other relevant) (5)

State how this problem may be solved.

Relevant, matching remedy (5)

(o) Name a type of grass commonly grown in Irish grassland.

Any type of Ryegrass/Timothy/Meadow foxtail/Cocksfoot/Yorkshire fog/Crested dogtail
(or any other relevant) (5)

Give **one** reason why farmers choose this type of grass.

Highly productive / very nutritious / long grazing season (or any other relevant) (5)

(p) Give **one** reason why forestry in Ireland is mainly found on upland or mountain sides.

Cost of land / quality of soil / environmental reasons/exposure tolerant/ (or any other relevant) (5)

State **one** environmental problem caused by forestry.

Silting/increased acidity of waterway/ contamination from fertilizers
(or any other relevant) (5)

(q) Chemicals used to control pests in crops are known as

Pesticides (5)

Name **one** piece of safety equipment that should be worn when using these chemicals.

Goggles / visor / gloves / mask / overalls (or any other relevant) (5)

(r) Name the poisonous grassland plant shown in the photograph.

Ragwort / Buachallán (5)

Suggest a method of controlling this plant.

Use of herbicide / use of weedkiller or named valid weedkiller /
physical removal (or any other relevant) (5)



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) Propagating a plant using young stems is called Taking a cutting (3)

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

Column A	Column B	Column C
Strawberry	Runner (2)	Root tuber
Tulip	Bulb (2)	Stem tuber
Potato	Stem tuber (2)	Runner
Dahlia	Root tuber	Bulb

(c) Plants need nutrients to grow.

Name **two** nutrients that are essential for healthy plant growth.

Nitrogen (N) / Potassium (K) / Phosphorus (P) / Calcium (Ca) (or any other relevant)

any two (2+1)

Name **one organic** method of increasing the soil content of **either** nutrient referred to above.

Farm Yard Manure, FYM / planting legumes, planting clover / garden compost (or any other

relevant) (3)

Which scale is used to indicate how acid or alkaline a soil is?

pH (scale) (3)

(d) The photographs below relate to making and using garden compost.



Suggest **two** reasons why garden composting is a good idea

1. Reduces waste (for disposal) / recycles material / source of nutrients for plants

2. (or any other relevant) (any two) (2+2)

Name **two** items of household or garden waste that you should **not** put in a compost bin.

1. Meat / fish / oil / glossy paper / animal waste / woody material/ashes from coal/bones/
citrus fruits/(or any other relevant) any two (2+2)

2. _____

Where in the garden should you put your compost bin?

Not too far from house / sunny spot/out of sight/good access/not just outside the back door/ (or
any other relevant) (2)

What causes the garden and household waste to change into compost?

Bacteria / fungi /microorganisms/ worms / insects (or any other relevant) (2)

3. GARDEN DESIGN

(a) Name a feature you would include in a garden for visually impaired people. any relevant feature (3)

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

- Scarifying a lawn involves removing dead plant material. True (2) False
- Cheshunt compound is a fertilizer. True False (2)
- Trees used as special features must be evergreen. True False (2)

(c) You have been given the task of producing a garden design for an area of the school grounds. The garden can have any feature you may wish to include.

What equipment or materials will you need to produce a plan of your school garden?
Map / sighting table / pens / measuring tape / paper (or any other relevant) any two (3)

Name a shrub you would include to provide colour in the school garden in winter.

Any relevant shrub that provides colour via stems, leaves or berries (3)

Suggest **one** feature that would be useful to include in a school garden.

Garden pond / greenhouse or tunnel / any relevant named plant

(or any other relevant feature) (2)

Give a reason why this feature would be useful in the school garden.

Any relevant reason for inclusion of named plant or structure or feature (1)

(d) The photograph below is of a large well laid out garden with many features.



Is the garden design formal or informal?

Formal (4) _____

Give a reason for your answer. Reference to straight lines, scale or specific features of a formal garden (2) _____

In planning a garden ‘**aspect**’ is very important.
What does ‘**aspect**’ mean in the case of the garden above?

The direction in which the garden is facing / the direction of the sun at midday/
from where the sun shines / garden facing the sun for most of the day (or any other relevant) (2)

Give **one** advantage **and one** disadvantage of having a garden such as that pictured above.

Advantage. _____ *Spacious / quiet / pleasing to the eye / variety / large trees*

(or any other relevant) (2)

Disadvantage. _____ *High maintenance / costly / too large (or any other relevant) (2)*

4. FLORISTRY, FRUIT & VEGETABLES

- (a) The shelf life of flowers, fruit and vegetables can be extended by Chilling or cooling (3)
- (b) Complete the following sentences on the lines below using the most suitable words from the list.

Acid Disease Organic Failure Large scale Alkaline

- Large scale production increases the risk of Disease (2)
- Most crops grow best in soil in which the pH is slightly Acid (2)
- There is an increased demand for farmers to use Organic (2) methods.

- (c) In your study of this module you carried out a survey or an interview.

What was the purpose of your survey or interview?

Clearly stated purpose which will include a title for the survey or interview and set the parameters for the following answers (3)

Give **two** results or conclusions from your survey or interview.

1. Any two results or conclusions linked to the stated purpose or title (2+1)
2. _____

Suggest **two** ways in which you could have improved your survey or interview.

1. Any two points relevant to improving interviewing or sampling or survey or organisational or presentation technique (2+1)
2. _____

(d) You have studied the production, delivery and sale of flowers **or** fruit **or** vegetables.
Answer the questions below in relation to a named flower **or** fruit **or** vegetable.

Name of flower **or** fruit **or** vegetable. Any correct name for Irish product (2)

Describe the method of large scale production of the named product.

Any relevant point that is particularly applicable to large scale production (2)

Outline **two** methods used to make sure the product reaches its market in perfect condition.

Any two relevant points that are particularly applicable to transport or storage or timing of
harvesting relative to delivery (2+2)

How can the consumer make sure the product remains in good condition for as long as possible after purchase?

Any relevant point relating to proper storage or removal of packaging (2)

How does the product contribute to our health or general well being?

Any relevant point (2)

5. FORESTRY

(a) The timber product of the pine tree is called (Red or white) Deal (3)

(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	Conifer	a	Absorbs minerals	1 + c
2	Root	b	Reproduction	$2 + a$ (2)
3	Leaf	c	Cone bearing	$3 + d$ (2)
4	Flower	d	Photosynthesis	$4 + b$ (2)

(c) The photograph below shows forestry workers.



Identify **two** pieces of safety equipment that you can see in the photograph.

Piece of equipment 1. High visibility clothing / gloves / (face) visor/helmet

Piece of equipment 2. any two (2+1)

Name **one** other piece of safety equipment that forestry workers should wear.

Steel-capped boots / ear muffs / helmet / safety harness (or any other relevant) (3)

Suggest **one** precaution that should be taken when using machinery near high voltage wires.

Presence of an observer/erect warning signs/erect warning goal posts on either side of the wires/trace and mark underground wires (or any other relevant) (3)

- (d) As part of your study of this module you visited a forestry related business or enterprise. Describe what you learned using the following headings as a guide.

Name of Enterprise. Name relevant to the area of Forestry & Forestry Products (2)

Products produced by the business or enterprise.

Any two relevant products (1+1)

Jobs or tasks of the workers in the business or enterprise.

Any two specific jobs or positions within the industry or enterprise (2+2)

How the business or enterprise advertises its products.

Any two relevant points relating to advertising of the products (2)

A negative effect this business or enterprise has on the environment.

Any relevant negative point (2)

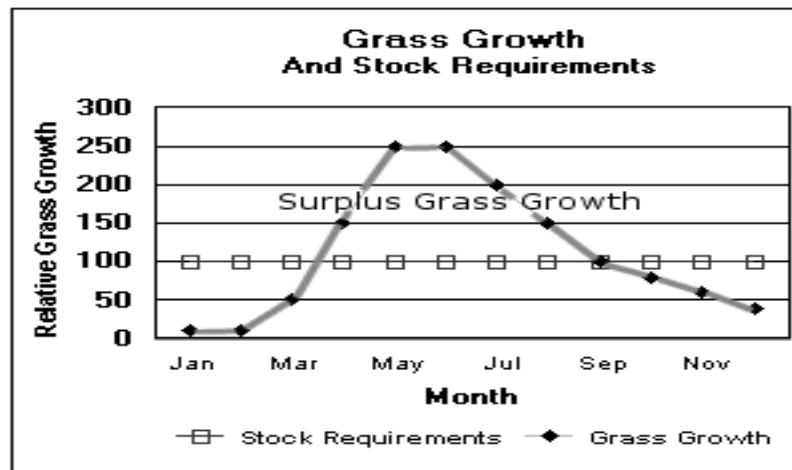
6. GRASS

(a) An acid used in the production of silage is called Lactic/sulphuric/formic (or methanoic) (3)

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

- Hay is grass preserved by drying. True (2) False
- Grass is pollinated by bees. True False (2)
- Clover plants fix nitrogen. True (2) False

(c) The graph shows the growth of grass on a farm from January to November (green line).
Answer the questions below using the information on the graph.



What does the red line show? Stock requirements or statement

e.g. The amount of grass growth needed to feed the farm animals (3)

In what month should the stock be put out on grass? March and/or April (3)

Name a month when there is not enough grass for the stock.

Any month from September to February (2)

Suggest a use for any extra grass. _____

Hay or silage (for winter feed or for sale) (1)

- (d) The photograph shows a field that is regularly flooded in wet weather. Describe **two** methods by which you could drain the land.



Method 1. _____

_____ *Mole drains/ditches/dykes/pipe drains (or any other relevant) any two (2+2)* _____

Method 2. _____

Suggest **two** advantages **and** **two** disadvantages of the methods referred to above.

Advantage 1. _____ *Any two correct answers for the above correctly stated methods (2+2*

Advantage 2. _____

Disadvantage 1. *Any two correct answer for the above correctly stated methods (2+2)* _____

Disadvantage 2. _____

7. MILK AND MEAT PRODUCTION

(a) Red meat as part of our diet is a valuable source of: Protein/ Fat/ Iron (Fe) /Zinc (Zn)/Magnesium (Mg) /Vitamins B/E/ K (3)

(b) Match each term 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 Long life milk	$1 + d$ (2)
2 Pasteurise	b Yoghurt	$2 + c$ (2)
3 Ferment	c Kills harmful bacteria	$3 + b$ (2)
4 Sterilise	d Milk and Meat	$4 + a$

(c) During your study of this module you gave a talk or presentation on some aspect of the production of milk or meat.

What was the title of your presentation or talk? _____

_____ *Title relevant to the area of study (3)*

State **two** points of information given in your presentation or talk.

1. _____

_____ *Any two relevant points (2+1*

2. _____

Suggest **two** ways in which you could have improved your presentation or talk

1. *Any two relevant points (2+1)* _____

2. _____

(d) The photographs show high quality animals, toy animals, and features inherited from parents.



Name **two** important inherited features in a quality milk **or** meat animal.

1. Any two relevant points relating to the desired inherited features in a milk or meat animal

_____ (2 + 2)

2. _____

How could the quality of a milk **or** meat **herd** be improved?

Any relevant statement on breeding, AI, or purchase of animals (allow culling)

(allow reference to feeding and housing) (2)

What is the role of breeding societies in the production of better quality milk **or** meat animals?

Understanding of the societies' role in breeding, certification, records, shows, or sales (2)

Cloning is increasingly used in animal breeding.

What is cloning?

Production of exact genetic replicas of an organism (4)
