



Candidate Number:

Candidate Name:

Centre Number/Name:

RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

Wednesday 28 June 2006

IMPORTANT - please read carefully before commencing

- i) The duration of the papers in Horticulture I is **1½ hours**;
- ii) **ALL** questions should be attempted in Section 1;
- iii) **EACH** question carries **2 marks**;
- iv) Write your answers legibly on the lines provided;
- v) Use **EITHER** metric **OR** imperial measurements but **NOT** both;
- vi) Where plant names are required they should include genus, species and, where appropriate, cultivar.

HORTICULTURE I – Planning, Principles & Production

Section 1 – Short Answer Questions

Please turn over

ALL questions should be attempted.

Marks

Q1 Define **EACH** of the following terms:

- i) variety;
- ii) cultivar.

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Q2 a) Name **TWO** different crops that are within a national certification scheme.

b) State **TWO** advantages obtained by the use of certified stock.

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Q3 a) Define a hardwood cutting.

b) Name **TWO** plants propagated by this method.

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Please see over

ALL questions should be attempted.

- Q4** a) Define the term 'perennial plant'.
b) Name **THREE** plants, **EACH** of which is a different type of perennial. **2**

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- Q5** Define successional sowing with reference to a **NAMED** crop. **2**

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- Q6** a) Describe propagation by division.
b) Name **TWO** plants which may be propagated by this method. **2**

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Please turn over

ALL questions should be attempted.

- Q7** State **TWO** advantages and **TWO** limitations of direct sowing vegetable seed outdoors. **2**

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- Q8** List **FOUR** factors to be considered when selecting hard landscaping materials before laying a path in a private garden. **2**

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- Q9** Define **EACH** of the following:
- i) xylem;
- ii) phloem. **2**

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Please see over

ALL questions should be attempted.

- Q10** a) Describe the symptoms of attack by a **NAMED** pest on cabbages.
b) State **ONE** specific method of controlling the pest named in a). **2**

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- Q11** State **FOUR** benefits of using a mist propagator. **2**

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- Q12** Define **EACH** of the following terms in relation to the planning of a garden:

- i) proportion;
ii) scale.

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Please turn over

ALL questions should be attempted.

Q13 a) Define the term 'frost pocket'.

b) State **TWO** ways in which this may influence planning of outdoor production.

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Q14 List **FOUR** characteristics of a formal garden design.

2

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Q15 State **FOUR** factors to be considered when selecting a site for soft fruit production.

2

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RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

Wednesday 28 June 2006

IMPORTANT - please read carefully before commencing

- i) The duration of the papers in Horticulture I is **1½ hours**;
- ii) Any **THREE** questions in Section 2 should be attempted;
- iii) **EACH** question carries **10 marks**;
- iv) Start **EVERY** new question on a separate answer booklet;
- v) Use **EITHER** metric **OR** imperial measurements but **NOT** both;
- vi) Where plant names are required they should include genus, species and, where appropriate, cultivar.

HORTICULTURE I – Planning, Principles & Production

Section 2 – Structured Questions

Please turn over

Answer **THREE** questions only from this section.

		Marks
Q16	a) Describe the structure of a typical hermaphrodite dicotyledonous flower with the aid of a clearly labelled diagram.	6
	b) Describe how flowers are adapted for insect and wind pollination, with reference to a NAMED example of EACH .	4
Q17	a) Describe the production of potatoes by TWO of the following methods: i) in containers; ii) in trenches; iii) under black polythene.	6
	b) State the circumstances under which EACH of the methods described may be used to produce a successful crop.	4
Q18	Describe how the use of EACH of the following are integrated into hard and soft landscape planning, giving NAMED examples:	
	i) colour;	4
	ii) texture;	3
	iii) form.	3
Q19	State the difference by describing ONE method of budding and ONE method of grafting with the aid of clearly labelled diagrams, naming a suitable plant for EACH .	10

Please see over

Q20 Using the following headings, describe the annual cultivation of an established crop of strawberries:

- | | | |
|------|--------------------|----------|
| i) | strawing down; | 3 |
| ii) | watering; | 2 |
| iii) | harvesting; | 2 |
| iv) | post harvest work. | 3 |

- Q21**
- | | | |
|----|--|----------|
| a) | Define the term 'aerobic respiration'. | 4 |
| b) | Give the reasons why plants grow poorly in waterlogged conditions. | 6 |



RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

22nd June 2006

Horticulture I

Candidates Registered	1506	Pass with Commendation	399 (31.5%)
Candidates Entered	1258 (84%)	Pass	569 (45.5%)
Absent/Withdrawn/Deferred	248 (16%)	Fail	290 (23%)
Total Candidates Passed	968 (64%)		

Examiners Comments

General Overview by Senior Examiner

1. Candidates should be able to demonstrate a good range of plant knowledge and be able to give accurately named plant examples where appropriate. Common names and generic names are often too vague and cannot be rewarded in the positive manner that genus, species and where appropriate, variety/cultivar can.
2. Candidates must be able to display accurate knowledge of the technical terms and concepts detailed in the syllabus, in the context of horticulture, and be aware that wider interpretation will not be rewarded.
3. The introductory rubric given on the first page of the question paper should be read carefully by candidates. Each year there is a significant number of candidates who ignore, or misread the instructions given and consequently may not perform as well as they could have done. This is particularly so where candidates answer either more questions, or more parts to a question, than are required.
4. Candidates should pace themselves during each paper. The most successful candidates allow sufficient time to read the question thoroughly before answering it and also take time to read through their answers.
5. Candidates need to interpret key words within questions, particularly those such as state, list and describe. Questions requiring descriptions, or explanations, obviously require a more detailed answer than those requiring a list.

6. In the short answer sections, it is important to ensure that responses are to the point and contained within the space allocated. Candidates should bear in mind that small sketches may be used to convey information more succinctly than words in some cases.
7. Successful candidates ensure that their answers to structured questions are focussed and to the point. It is disappointing when they cannot be rewarded for their efforts because the answer is irrelevant to the particular question. Candidates should take note of the mark allocation for specific sections and allocate their time and efforts accordingly.
8. Diagrams in structured questions can enhance an answer and where appropriate, can replace detailed descriptions. They should be large, clear and well-annotated and preferably in pencil. Colour may be used successfully but only where it is relevant to the answer.
9. It is important that candidates have the opportunity to practise both short and structured questions. Ideally some practice should occur in time-constrained situations, with appropriate feedback provided.
10. Candidates should be aware of the reading list of suggested books for the RHS Level 2 Certificate in Horticulture is available from the Qualifications Department.

Paper 1. Short Answer Questions

**Mark
s**

*Q1. Define **EACH** of the following terms:*

- i) *variety;*
- ii) *cultivar.*

2

Although many candidates were able to broadly distinguish between the terms variety and cultivar, few were able to give examples demonstrating the correct form of nomenclature

*Q2. a) Name **TWO** different crops that are within a national certification scheme.*

*b) State **TWO** advantages obtained by the use of certified stock.*

2

This question was well answered with the majority of candidates citing two relevant crops and usually identifying freedom from pests and diseases and trueness to type.

- Q3. a) *Define a hardwood cutting.*
b) *Name **TWO** plants propagated by this method.* 2

Some excellent, succinct answers were received to this question, but many showed lack of practical knowledge of this important method of propagation for woody plants, and of the subjects for which it is suitable.

- Q4. a) *Define the term 'perennial plant'.*
b) *Name **THREE** plants, **EACH** of which is a different type of perennial.* 2

Many candidates limited their answers to deciduous herbaceous perennial plants, failing to recognize the range of plants expected in their responses.

- Q5. *Define successional sowing with reference to a **NAMED** crop.* 2

This was well answered with most candidates clearly describing repeated sowings to maintain a continuous supply of crops such as lettuce. Marks were lost where answers referred to crop rotations, or sowing a new crop after the previous one had been harvested

- Q6. a) *Describe propagation by division.*
b) *Name **TWO** plants which may be propagated by this method.* 2

Unfortunately marks were lost by inattention to detail, for example the type of plant, selection of healthy material, and discarding old. Plant examples were generally good.

- Q7. *State **TWO** advantages and **TWO** limitations of direct sowing vegetable seed outdoors.* 2

A well answered question in general, although some were lost by failure to note the outdoor setting, and assuming it was under cover.

- Q8. *List **FOUR** factors to be considered when selecting hard landscaping materials before laying a path in a private garden.* 2

Many good hard landscaping examples were given.

Q9. Define **EACH** of the following

- i) xylem;
- ii) phloem.

2

Most candidates described the functions of xylem and phloem, but very few mentioned the tissues and how they are formed.

Q10. a) Describe the symptoms of attack by a **NAMED** pest on cabbages.

b) State **ONE** specific method of controlling the pest named in a).

2

A majority of candidates were able to name a pest of cabbages, although failing to accurately describe symptoms of attack lost some marks. A wide range of controls were given, all of which received due consideration at marking. However vague answers such as 'use an insecticide' or 'use nematodes', were not rewarded.

Q11. State **FOUR** benefits of using a mist propagator.

2

Few candidates achieved full marks for this question, many failing to understand the context of the use of mist propagation as a method of rooting cuttings, rather than an irrigation system.

The benefits expected were; humidity levels maintained around foliage of cuttings to reduce transpiration (often confused in answers with respiration), warm cutting bases to seed root formation, cool leaves to reduce carbohydrate loss by respiration, and full light (without high cutting temperature) to maximize photosynthesis, and hence rooting.

Q12. Define **EACH** of the following terms in relation to the planning of a garden:

- i) proportion;
- ii) scale.

2

A well answered question, with most responses containing relevant examples of proportion and scale. A number of candidates lost marks as they described the scale of plans, rather than in the process of garden planning.

Q13. a) Define the term 'frost pocket'.

b) State **TWO** ways in which this may influence planning of outdoor production.

2

There were mixed responses to this question, some candidates accurately identifying potential frost pockets (hollows and barriers across sloping sites). Some mention of cold air drainage was also expected. It was not acceptable to suggest nothing should be grown on the site, whereas later or hardier varieties were.

Q14. List **FOUR** characteristics of a formal garden design. 2

Generally answered well, although some candidates lost marks by failing to qualify their answers. A list can have several words under each heading, for example 'water features' was insufficient to gain a mark.

Q15. State **FOUR** factors to be considered when selecting a site for soft fruit production. 2

This question was generally well answered. Some marks were lost by failure to qualify remarks. For example 'soil type' was insufficient. Points which were not distinct such as 'sheltered' and 'wind break provided' were also not separately rewarded.

Paper 2. Structured Questions.	Mark s
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Q16. a) Describe the structure of a typical hermaphrodite dicotyledonous flower with the aid of a clearly labelled diagram.	6
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b) Describe how flowers are adapted for insect and wind pollination, with reference to a NAMED example of EACH .	4
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Some excellent answers were received to this question. However, too many diagrams were small and / or poorly labelled in answer to part a). Part b) was less well addressed by some candidates, who confused wind distribution of seed, with that of pollen.

Q17. a) Describe the production of potatoes by TWO of the following methods:	
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i) in containers;	
ii) in trenches;	
iii) under black polythene.	6

b) State the circumstances under which EACH of the methods described may be used to produce a successful crop.	4
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Those candidates who clearly had a good working knowledge of potato cultivation, particularly in containers and trenches achieved good marks. Unfortunately many answers to the second part of the question attempted to amplify the first, rather than concentrating on the choice between the methods described.

Q18. Describe how the use of **EACH** of the following are integrated into hard and soft landscape planning, giving **NAMED** examples:

- | | |
|--------------|---|
| i) colour; | 4 |
| ii) texture; | 3 |
| iii) form. | 3 |

Although some good responses were received, these were, unfortunately in the minority. In general, answers lacked the detail expected in a structured question and in many cases the examples requested.

Colour. Many candidates did not mention the colour wheel, combinations of colour, hot and cool colours, effect of colour on illusion of distance. Few examples of colours of hard materials and their effects were given.

Texture. Candidates often gave good examples of hard materials, but failed to describe the term as applied to plants.

Form. Poorly described by many, even though plants and materials, or formal / informal gardens were equally accepted.

Q19. State the difference by describing **ONE** method of budding and **ONE** method of grafting with the aid of clearly labelled diagrams, naming a suitable plant for **EACH**. 10

The responses to this question were disappointing, with very few candidates being able to describe propagation by budding or grafting in anything but the most general of terms. Even the principles appeared to be poorly understood.

Q20. Using the following headings, describe the annual cultivation of an established crop of strawberries.

- | | |
|------------------------|---|
| i) strawing down; | 3 |
| ii) watering; | 2 |
| iii) harvesting; | 2 |
| iv) post harvest work. | 3 |

Those candidates who were fully conversant with the detail of strawberry cultivation achieved high marks.

Strawing down. Little mention was made of teasing out the straw or of the depth required.

Harvesting. Many candidates failed to mention how and when. The need to minimize handling and to discard damaged fruits was not mentioned in many cases.

Post Harvest. Only a few candidates gave information on the full range of operations to be carried out.

- Q21. a) *Define the term 'aerobic respiration'.* 4
- b) *Give the reasons why plants grow poorly in waterlogged conditions.* 6

Part a) was generally well answered, although a few candidates confused respiration with photosynthesis.

The application to Part b) was much less well understood, many candidates describing symptoms and not reasons for poor growth. Many answers showed lack of appreciation of the application of the principles of plant physiology to a particular situation.
