



Candidate Number: .....

Candidate Name: .....

Centre Number/Name: .....

## **RHS LEVEL 2 CERTIFICATE IN HORTICULTURE**

**Wednesday 21 February 2007**

**IMPORTANT - please read carefully before commencing.**

- i) The duration of the papers in Horticulture II 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 II – Ornamental, Principles & Maintenance**

#### **Section 1 – Short Answer Questions**

Please turn over .....

**ALL** questions should be attempted.

**Marks**

**Q1** Name **FOUR** horizons found in a typical soil profile.

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**Q2** State **ONE** benefit and **ONE** limitation of cultural control of plant pests.

**2**

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**Q3** List **FOUR** differences between the protected and the outdoor environment.

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**Please see over .....**

**Q4** State **TWO** ways in which soil pans may be formed.

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**Q5** Name **TWO** plants which display decorative foliage and **TWO** plants grown for autumn colour.

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**Q6** List **FOUR** types of protective structures for growing plants.

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Please turn over .....

**Q7** State **TWO** methods of avoiding waterlogging in soils. **2**

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**Q8** State **TWO** methods of reducing humidity in a protected environment. **2**

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**Q9** State **ONE** benefit and **ONE** limitation of the presence of fungi in garden soils. **2**

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Please see over .....

**Q10** State **ONE** method of minimising the damage caused by a **NAMED** bacterial disease.

**2**

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**Q11** Define the term 'alternative host' in relation to plant pathogens and give **ONE NAMED** example.

**2**

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**Q12** Name **TWO** hand-tools which are used in the pruning of established shrubs.

**2**

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**Please turn over .....**

**Q13** Name **TWO** deciduous trees suitable for inclusion in a small garden. **2**

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**Q14** State **TWO** benefits and **TWO** limitations of establishing lawns from turf. **2**

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**Q15** State the planting distance for a **NAMED** plant for **EACH** of the following uses in a bedding scheme:

- i) edging;
- ii) groundwork.

**2**

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## RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

Wednesday 21 February 2007

**IMPORTANT - please read carefully before commencing.**

- i) The duration of the papers in Horticulture II 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 II – Ornamental, Principles & Maintenance

#### Section 2 – Structured Questions

Please turn over .....

Answer **THREE** questions from this section.

		<b>Marks</b>
<b>Q16</b>	a) List <b>FOUR</b> bulky organic materials suitable for soil amelioration.	<b>4</b>
	b) Explain how organic matter decomposes in the soil.	<b>6</b>
<b>Q17</b>	a) Define the term soil texture.	<b>1</b>
	b) State <b>THREE</b> soil textural classes.	<b>3</b>
	c) Describe <b>TWO</b> important characteristics of <b>EACH</b> of the soil classes noted in b), which influences their management for horticulture.	<b>6</b>
<b>Q18</b>	a) Name <b>FOUR</b> materials used in the cladding of growing structures for protected cropping.	<b>4</b>
	b) Describe how cladding materials affect natural light transmission into protected structures.	<b>6</b>
<b>Q19</b>	a) State <b>THREE</b> characteristics of plants used in formal hedging.	<b>3</b>
	b) List <b>THREE</b> suitable plants for formal hedging.	<b>3</b>
	c) Describe the establishment of <b>ONE</b> of the plants under the following headings:	
	i) site preparation;	<b>1</b>
ii) planting;	<b>2</b>	
iii) initial pruning.	<b>1</b>	

Please see over .....



- Q20** a) Name and describe the symptoms of attack by **TWO** pests and **TWO** diseases found in fine turf. **4**
- b) Describe a method of control for **ONE NAMED** pest and **ONE NAMED** disease from a). **6**
- Q21** a) Describe the life-cycle and symptoms of damage caused by a **NAMED** pest. **4**
- b) Describe **ONE** chemical, **ONE** biological and **ONE** cultural control for the pest referred to in a). **6**



## RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

21 February 2007

### Horticulture II

<b>Candidates Registered</b>	597	<b>Pass with Commendation</b>	201 (40%)
<b>Candidates Entered</b>	502 (84%)	<b>Pass</b>	233 (46.5%)
<b>Absent/Withdrawn/Deferred</b>	95 (16%)	<b>Fail</b>	68 (13.5%)
<b>Total Candidates Passed</b>	434 (86.5%)		

#### Senior Examiners Comments:

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 practice 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 Education Department.

### Examiners Comments:

<b>Section 1 - Short Answer Questions</b>	<b>Marks</b>
<p>Q1. Name <b>FOUR</b> horizons found in a typical soil profile.</p> <p>A well answered question, with most candidates correctly naming four soil horizons.</p>	<b>2</b>
<p>Q2. State <b>ONE</b> benefit and <b>ONE</b> limitation of cultural control of plant pests.</p> <p>Most responses centred on environmentally friendly activities as advantages, and the difficulties in controlling a range of pests.</p>	<b>2</b>
<p>Q3. List <b>FOUR</b> differences between the protected and the outdoor environment.</p> <p>Some good answers were given. However, many candidates appear not to have fully discussed the environmental differences within protected structures compared with the out of doors.</p>	<b>2</b>
<p>Q4. State <b>TWO</b> ways in which soil pans may be formed.</p> <p>Few candidates appeared to fully appreciate the types of soil pan, or the mechanisms of their formation.</p>	<b>2</b>

Q5. Name **TWO** plants which display decorative foliage and **TWO** plants grown for autumn colour. 2

Most responses showed good plant knowledge in this area, although too many failed to fully name the chosen plants unambiguously.

Q6. List **FOUR** types of protective structures for growing plants. 2

Candidates who mentioned greenhouses, cloches, polytunnels and walls in their answer gained good marks.

Q7. State **TWO** methods of avoiding waterlogging in soils. 2

Good responses were received from most candidates. However, 'drainage' alone was not accepted, without qualification as to how it could be achieved. Soil structure improvement was also rewarded, as long as the method by which it could be achieved was also detailed.

Q8. State **TWO** methods of reducing humidity in a protected environment. 2

Many candidates correctly identified two methods of reducing humidity in a protected environment. However, a significant number appeared not to understand the term, and therefore supplied inappropriate answers.

Q9. State **ONE** benefit and **ONE** limitation of the presence of fungi in garden soils 2

Most answers showed a good appreciation of the role of fungi in garden soils.

Q10. State **ONE** method of minimising the damage caused by a **NAMED** bacterial disease. 2

Some accurate scripts were seen. However, a significant number of candidates could not distinguish between bacterial and fungal diseases.

Q11. Define the term 'alternative host' in relation to plant pathogens and give **ONE NAMED** example. 2

Clearly many candidates had not discussed the concept of alternative hosts for the vectors of plant pathogens.

Q12. Name **TWO** hand-tools which are used in the pruning of established shrubs. 2

A very well answered question. Some candidates lost marks where the type of saw, shears, loppers and secateurs to be used were not mentioned.

Q13. Name **TWO** deciduous trees suitable for inclusion in a small garden. 2

A well answered question, particularly where the recommended plants were identified by their full botanic names.

Q14. State **TWO** benefits and **TWO** limitations of establishing lawns from turf. 2

Most candidates gave good answers, although a proportion misread the question, and compared the establishment of lawns from turf and seed.

Q15. State the planting distance for a **NAMED** plant for **EACH** of the following uses in a bedding scheme:

- i) edging;
- ii) groundwork. 2

Although there were some good responses, many candidates appear to be ignorant of the practices used in the establishment of formal bedding.

**Section 2 - Structured Questions** **Marks**

Q16. a) List **FOUR** bulky organic materials suitable for soil amelioration. 4

b) Explain how organic matter decomposes in the soil. 6

a) Most candidates answered this section well, giving appropriate examples. However, marks were lost if no indication was given that the materials should be well rotted.

- b) Some explanations lacked detail, where the effects of soil factors (e.g. air, water, temperature etc.) were not included. However, adequate explanations of the role of macro and micro-organisms were often given.
- Q17. a) *Define the term soil texture.* **1**
- b) *State **THREE** soil textural classes.* **3**
- c) *Describe **TWO** important characteristics of **EACH** of the soil classes noted in b), which influences their management for horticulture.* **6**
- a) Good definitions were given in most cases, referring to the relative proportions of different particle sizes.
- b) Most candidates were able to state three soil textural classes.
- c) This part was well answered, with good examples of different characteristics given, together with their effect on soil management. Some answers, unfortunately, digressed from the question, and stated methods of correction, which could not be rewarded.
- Q18. a) *Name **FOUR** materials used in the cladding of growing structures for protected cropping.* **4**
- b) *Describe how cladding materials affect natural light transmission into protected structures.* **6**
- a) Appropriate examples were usually provided
- b) This section was not well answered in the majority of scripts. There was a failure to give adequate explanations of how different cladding materials affect light transmission and subsequent plant growth. A few candidates answered the question erroneously in terms of framework construction rather than cladding materials.
- Q19. a) *State **THREE** characteristics of plants used in formal hedging.* **3**
- b) *List **THREE** suitable plants for formal hedging.* **3**
- c) *Describe the establishment of **ONE** of the plants under the following headings:*
- i) *site preparation;* **1**
- ii) *planting;* **2**
- iii) *initial pruning.* **1**

- a) This section was generally well covered, with appropriate characteristics provided.
- b) Good examples were given, although full marks were only awarded where plants were fully identified using scientific names.
- c) Many marks were lost, here, by candidates who failed to provide sufficient detail under each of the given headings. Initial pruning and planting distances were often incorrect for the selected plant.

- Q20. a) *Name and describe the symptoms of attack by **TWO** pests and **TWO** diseases found in fine turf.* **4**
- b) *Describe a method of control for **ONE NAMED** pest and **ONE NAMED** disease from a).* **6**

Although there were some good answers to this question, many were of a disappointing standard.

- a) Many responses were either lacking in detail or inappropriate.
- b) Some candidates failed to link parts a) and b) describing a different pest and disease. This could not be rewarded. In other scripts insufficient detail, or incorrect control methods were given.

- Q21 a) *Describe the life-cycle and symptoms of damage caused by a **NAMED** pest.* **4**
- b) *Describe **ONE** chemical, **ONE** biological and **ONE** cultural control for the pest referred to in a).* **6**

- a) Good diagrams and explanations were well rewarded.
- b) Many candidates lost marks by failing to provide adequate examples of control for each method. Examples of cultural control were particularly poor.

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