



Candidate Number:

Candidate Name:

Centre Number/Name:

RHS (LEVEL 2) CERTIFICATE IN HORTICULTURE

Wednesday 22 February 2006

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 **A**.
- 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 A – Short Answer Questions

Please turn over/

ALL questions should be attempted

Marks

- Q1** State **TWO** benefits and **TWO** limitations of using mushroom compost as a soil conditioner.

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- Q2** State **FOUR** factors which affect light transmission into greenhouses and polythene tunnels.

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- Q3** List **FOUR** methods of supporting plants in an herbaceous border.

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Please see over/

ALL questions should be attempted

Q4 a) Define the following types of plant:

- i) calcicole;
- ii) calcifuge.

b) Name **ONE** example of **EACH**.

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Q5 Define the term 'dead-heading' of ornamental bush roses **AND** state why it is carried out.

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Q6 State **TWO** advantages and **TWO** limitations of controlling pests using pesticides.

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Please turn over/.....

ALL questions should be attempted

- Q7** Name a shrub grown for winter stem effect. Describe how it is pruned and state in which month the operation is best carried out. **2**

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- Q8** State **TWO** distinct methods of ensuring that adequate levels of nutrients are supplied to plants grown in containers. **2**

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- Q9** List **FOUR** genera of trees and/or shrubs grown for their decorative fruit. **2**

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Please see over/.....

ALL questions should be attempted

Q10 List **FOUR** characteristics of a plant which make it suitable for use in a summer bedding scheme.

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Q11 State the stages of the life-cycle for a **NAMED** pest which has complete metamorphosis.

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Q12 List **FOUR** different components, which could be used in growing media for plants.

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Please turn over/.....

ALL questions should be attempted

Q13 Name **FOUR** pieces of equipment specifically designed for turf maintenance. **2**

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Q14 Name **ONE** organic and **ONE** inorganic straight (single) fertiliser which supplies nitrogen. **2**

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Q15 a) Define the term 'weed'.
b) State the distinct methods of spread by **EACH** of **TWO NAMED** weeds. **2**

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RHS (LEVEL 2) CERTIFICATE IN HORTICULTURE

Wednesday 22 February 2006

IMPORTANT - Please read carefully before commencing.

- i) The duration of the papers in Horticulture II is **1½ hours**.
- ii) Any **THREE** questions in Section **B** should be attempted.
- iii) **EACH** question carries **10 marks**.
- iv) Start **EACH** 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 B – Structured Questions

Please turn over/.....

Answer **THREE** questions from this section

		Marks
Q16	a) Explain the function of TWO major nutrients in the plant and describe the visual symptoms caused by a deficiency of EACH .	8
	b) Name ONE organic and ONE inorganic source in order to remedy the deficiency in EACH case.	2
Q17	a) Name and describe TWO distinct types of irrigation systems used in horticulture.	4
	b) For EACH system, state the advantages and limitations in a NAMED situation.	6
Q18	Describe the production of a NAMED protected salad crop under the following headings:	
	i) propagation and plant establishment;	3
	ii) plant husbandry;	4
	iii) control of pests, diseases and disorders.	3
Q19	a) Draw an outline sketch plan for a seasonal bedding display during winter and spring.	2
	b) Name and describe FOUR plants, which are NOT bulbs or corms, suitable for inclusion AND indicate their positions on the plan.	4
	c) State the maintenance of the display for its duration.	4

Please see over/.....

		Marks
Q20	Describe the end of season maintenance of a fine lawn under the headings:	
	i) sequence of operations;	2
	ii) equipment used;	4
	iii) materials used.	4
Q21	a) Define the term 'physiological disorder'.	4
	b) Name THREE different physiological disorders and for EACH , describe the symptoms and how they may be avoided, or controlled.	6



RHS LEVEL 2 CERTIFICATE IN HORTICULTURE

22nd February 2006

Horticulture II

Examiners Comments

Candidates Registered	= 420	Pass with Commendation	= 112 (32.5%)
Candidates Entered	= 345 (82%)	Pass	= 170 (49.5%)
Absent/Withdrawn/Deferred	= 75 (18%)	Fail	= 63 (18%)
Total Candidates Passed	= 282 (67%)		

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 should be able to show good knowledge of the technical terms 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. 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.
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.

Paper 11. Short Answer Questions

Marks

- Q1. State **TWO** benefits and **TWO** limitations of using mushroom compost as a soil conditioner.* 2

Most candidates were able to outline the benefits and two limitations of mushroom compost but many did not concentrate on the term 'soil conditioner' for which some comments about improved soil structure and moisture retention were expected. Limitations included increase in pH and possible unexpected appearance of mushrooms. Marks were lost where comments were made without qualification, e.g. 'cheap' or 'organic', 'easy/difficult to obtain'.

- Q2. State **FOUR** factors which affect light transmission into greenhouses and polythene tunnels.* 2

Most answers gave four valid factors. However, marks were lost in a number of cases for vague, inaccurate statements, or repeated ones, such as shade from trees and shade from shrubs. The best responses concentrated upon the construction of the structures.

- Q3. List **FOUR** methods of supporting plants in an herbaceous border.* 2

Some good answers were received but many were unable to name fully, four supporting structures. A few scripts showed evidence that the term 'herbaceous border' was misunderstood.

Q4. a) Define the following types of plant:

- i) *calciole*;
- ii) *calcifuge*.

b) Name **ONE** example of **EACH**.

2

a) Many scripts showed an understanding of the terms requested, although a minority of candidates reversed the meanings.

b) Marks were lost for inadequate, or wrong naming, of plant examples.

Q5. Define the term 'dead-heading' of ornamental bush roses **AND** state why it is carried out.

2

Excellent responses were generally received to this question, showing a basic understanding of the procedure and why it is carried out.

Q6. State **TWO** advantages and **TWO** limitations of controlling pests using pesticides.

2

Limitations were generally well stated, the advantages less so. Unqualified statements such as 'cheap' or 'expensive' were not rewarded.

Q7. Name a shrub grown for winter stem effect. Describe how it is pruned and state in which month the operation is best carried out.

2

Many candidates were able to name a shrub for winter stem effect, although marks were lost for incomplete naming, as they were for quoting a season rather than a month for pruning.

Q8. State **TWO** distinct methods of ensuring that adequate levels of nutrients are supplied to plants grown in containers.

2

Disappointingly few candidates were able to name two distinct methods, e.g. liquid feeding and top dressing with slow release fertiliser.

Q9. List **FOUR** genera of trees and/or shrubs grown for their decorative fruit.

2

Most candidates answered this question well. A few unsuitable examples were given, e.g. *Prunus* is not usually grown in this context.

- Q10. List **FOUR** characteristics of a plant which makes it suitable for use in a summer bedding scheme. 2

Although some good answers were received, many candidates did not appear to understand the term 'summer bedding scheme'. The best answers mentioned a selection from: wet weather resistant, drought tolerant, dead-heading not required and long flowering season.

- Q11. State the stages of the life-cycle for a **NAMED** pest which has complete metamorphosis. 2

A generally well-answered question with candidates being able to name the four stages of complete metamorphosis. A smaller number were able to correctly name an example.

- Q12. List **FOUR** different components which could be used in growing media for plants. 2

The best answers showed an understanding of the materials used, such as loam, peat, rockwool, composted bark, coir, etc. Materials such as soil, garden compost, potassium and nitrogen were not rewarded. It was clear from some of the scripts that the candidates did not know the meaning of the term 'growing media'.

- Q13. Name **FOUR** pieces of equipment specifically designed for turf maintenance. 2

Good knowledge of turf care equipment was shown although marks were lost where a specific tool was not named, e.g. simply a rake, or fork, without qualification.

- Q14. Name **ONE** organic and **ONE** inorganic straight (single) fertiliser which supplies nitrogen. 2

Some scripts showed a good knowledge of fertilisers available to supply nitrogen. However, many showed considerable confusion as to the term which strictly applies to materials available in the general market rather than being made up at home. Green manures, home-made liquid feeds, or garden compost were, therefore, not acceptable answers.

- Q15. a) Define the term 'weed'.
b) State the distinct methods of spread by **EACH** of **TWO NAMED** weeds. 2

A well-answered question with clear definitions and good examples in most cases.

Paper 2. Structured Questions.

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Q16. a) *Explain the function of **TWO** major nutrients in the plant and describe the visual symptoms caused by a deficiency in **EACH**.*

b) *Name **ONE** organic and **ONE** inorganic source in order to remedy the deficiency in **EACH** case.*

a) Well-answered by the majority of those who attempted the question, although some marks were lost by not fully describing functions and/or symptoms.

b) Mostly well-answered, although some candidates were unable to name commonly available materials to supply chosen nutrients.

Q17. a) *Name and describe **TWO** distinct types of irrigation systems used in horticulture.*

b) *For **EACH** system, state the advantages and limitations in a **NAMED** situation.*

a) A majority of candidates were able to name two irrigation systems, although some descriptions lacked the detail expected in a structured question. Mist propagation was not accepted as an irrigation system as its main function is the maintenance of leaf turgidity rather than supplying water to plant roots.

b) The advantages and limitations of each system were well-covered generally, although some candidates failed to 'name' the situation.

Q18. *Describe the production of a **NAMED** protected salad crop under the following headings:*

i) *propagation and plant establishment;*

ii) *plant husbandry;*

iii) *control of pests, diseases and disorders.*

A majority of answers were for lettuce, or tomatoes under glass, although valid answers were received describing other crops and/or other forms of protection.

i) Propagation was well-covered, with candidates mentioning timings and temperatures obtaining most marks.

ii) Husbandry was the weakest part, many answers omitting to state the optimum aerial environment for the crop.

iii) Candidates who discussed symptoms of pests and diseases, giving credible control methods scored well.

- Q19. a) *Draw an outline sketch plan for a seasonal bedding display during winter and spring.*
- b) *Name and describe **FOUR** plants, which are **NOT** bulbs or corms, suitable for inclusion **AND** indicate their positions on the plan.*
- c) *State the maintenance of the display for its duration.*

Candidates who drew large, clear plans, incorporating a good selection of clearly described 'biennial' bedding plants suitable for a winter/spring display, scored well. However, those scripts which mistakenly described mixed herbaceous and shrub plantings received only a minimum mark. The maintenance of the display was generally well-understood and rewarded accordingly.

- Q20. *Describe the end of season maintenance of a fine lawn under the headings:*

- i) *sequence of operations;*
- ii) *equipment used;*
- iii) *materials used.*

Many excellent answers were received which described in full the operations, machinery and materials used. Description of increased mowing height, use of moss killers, scarification, aeration, topdressing, fertiliser application and removal of fallen leaves were all well rewarded. A minority of candidates wrongly suggested the use of lawn sand as a top dressing rather than its correct use as a moss killer.

- Q21. a) *Define the term 'physiological disorder'.*
- b) *Name **THREE** different physiological disorders and for **EACH**, describe the symptoms and how they may be avoided, or controlled.*

Candidates who showed that they understood the term 'physiological disorder' as a plant malfunction caused by a non-pathogenic agent were well-rewarded. The majority correctly named three disorders, although some described the effect on the plant rather than the symptoms. Avoidance and/or control were well-covered.

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