



Candidate Number:

Candidate Name:

Centre Number/Name:

**RHS (LEVEL 3) ADVANCED CERTIFICATE/DIPLOMA
IN HORTICULTURE WRITTEN EXAMINATION**

Wednesday 7th February 2007

IMPORTANT – Please read carefully before commencing.

- i) The duration of the papers in Module **E** is **2 hours**.
- ii) Answer **ALL** questions in Section **A**.
- iii) **ALL** questions in Section **A** carry equal marks.
- iv) Write your answers legibly in the spaces provided.
- v) Use metric measurements **ONLY**.
- vi) Where plant names are required, they should include genus, species and where appropriate, cultivar.

Module E

**Design of Ornamental Gardens,
Plant Selection, Establishment and Maintenance,
Ornamental Landscape Construction.**

Section A – Short Answer Questions

Please turn over/.....

ANSWER ALL QUESTIONS

MARKS

Q1 Describe how to plot the line of a boundary fence, using a chain survey.

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Q2 List **FOUR** items of personal protective clothing to be worn when constructing a slab/block paved area.

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Q3 **NAME FOUR** woody plants to flower in the period January – March stating genus and species in **EACH** case.

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Q4 List **FOUR** soil operations to be carried out prior to planting a formal hedge on a new site.

2

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Please see over/.....

ANSWER ALL QUESTIONS

MARKS

Q5 **NAME ONE** tufted grass and **ONE** spreading grass used in ornamental lawns and state the difference between them.

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Q6 List **FOUR** subjects to be used as dot plants in a summer bedding scheme.

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Q7 Explain when a silt trap would be included in a drain system.

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Q8 Using **NAMED** examples, relate the use of flower colour to garden design principles.

2

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Please turn over/.....

ANSWER ALL QUESTIONS

MARKS

Q9 Explain the use of a Ha Ha in the design of gardens and landscapes.

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Q10 Explain the need for correct storage and re-instatement of top soil during site construction.

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IN HORTICULTURE WRITTEN EXAMINATION**

Wednesday 7th February 2007

IMPORTANT – Please read carefully before commencing.

- i) The duration of the papers in Module **E** is **2 hours**.
- ii) Answer **ONE** question from each of the Sections **B, C** and **D**.
- iii) **ALL** questions carry equal marks.
- iv) Write your answers legibly in the answer booklets provided.
- v) Use metric measurements **ONLY**.
- vi) Where plant names are required, they should include genus, species and where appropriate, cultivar.

Module E

**Design of Ornamental Gardens,
Plant Selection, Establishment and Maintenance,
Ornamental Landscape Construction.**

Sections B, C & D

Structured Questions

Please turn over/.....

Section B – Design of Ornamental Gardens

Answer ONE question only from this section

MARKS

Q1 Describe the process and function for **EACH** of the following in chronological order when undertaking the design of a garden:

- | | | |
|------|---------------------|-----------|
| i) | site investigation; | 5 |
| ii) | site analysis; | 5 |
| iii) | survey process. | 10 |

Q2 Describe the following elements associated with garden design and give examples of how **EACH** is used:

- | | | |
|------|-------------------------|----------|
| i) | symmetry and asymmetry; | 4 |
| ii) | unity and proportion; | 4 |
| iii) | texture and form; | 4 |
| iv) | movement; | 4 |
| v) | colour. | 4 |

Please see over/.....

Section C – Plant Selection, Establishment and Maintenance

Answer ONE question only from this section

MARKS

- Q3 a)** Describe the factors, which may affect ground preparation, planting and establishment of street trees in an urban environment. **10**
- b)** List and describe **FIVE NAMED** street trees, **EACH** from a different genus. **10**
- Q4 a)** Describe the annual maintenance required on an herbaceous island bed. **12**
- b)** **NAME TWO** other distinct ways of using herbaceous perennials in the garden and describe **TWO** different genera of plants for **EACH** of the situations named. **8**

Please turn over/.....

Section D – Ornamental Landscape Construction

Answer ONE question only from this section

MARKS

- Q5 a) NAME** a surface material for **EACH** of the following situations evaluating their suitability:
- i) driveway for occasional light goods vehicle; **3**
 - ii) shaded area for sitting outside; **3**
 - iii) children’s play area; **3**
 - iv) woodland walk with public access. **3**
- b)** With the aid of a labelled diagram, describe how a flexible concrete block path would be laid on a prepared foundation. **8**
-
- Q6 a)** List and describe the advantages and limitations of using timber as a material for garden features. **6**
- b)** With the aid of labelled diagrams (to include dimensions), indicate **TWO** methods of securing timber uprights for a pergola into the ground. **10**
- c)** Review the differences between wood preservation techniques for soft woods and hard woods. **4**



RHS (LEVEL 3) ADVANCED CERTIFICATE IN HORTICULTURE WRITTEN EXAMINATION

Wednesday 7th February 2007

Module E

Design of Ornamental Gardens Plant Establishment and Maintenance Ornamental Landscape Construction

Examiners Report

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|-----------------------|-----|--------|--------------------------|----|--------|
| Candidates Registered | 118 | | Total Candidates Passed | | |
| Candidates Entered | 95 | 80.51% | Passed with Commendation | 14 | 14.74% |
| Candidates Absent | 15 | 12.71% | Passed | 65 | 68.42% |
| Candidates Deferred | 7 | 5.93% | Failed | 16 | 16.84% |
| Candidates Withdrawn | 1 | 0.84% | | | |

GENERAL COMMENTS

In general candidates were able to give a good account of themselves in most of the short answer questions set in the paper. However there were occasions where more marks could have been gained if candidates had taken the opportunity to use diagrams or quick labelled sketches to illustrate what they were trying to explain with words.

Once again it is important to understand that when the question asks you to list then that is all you have to do. There were occasions where candidates gave answers that were excessive and contained information that was outside the scope of the question set

Section A – Short Answer Questions

Q1 Describe how to plot the line of a boundary fence, using a chain survey.

Candidates were asked to describe the method used to plot the line of a boundary fence using a chain survey. Most candidates gave a fair account of the measurements needed in order to plot the position of the fence but not all mentioned the need to take measurements at right angles to the chain line and few stated that these measurements were then recorded for later use.

Q2 List **FOUR** items of personal protective clothing to be worn when constructing a slab/block paved area.

Most candidates were able to list the items of personal protective clothing to be worn when laying slabs or block paving. As a consequence most gained full marks for their list.

Q3 **NAME FOUR** woody plants to flower in the period January – March stating genus and species in **EACH** case.

The concept of woody plants was well understood and almost without exception plants listed were of a woody nature. However marks were lost when the plants main flowering period was outside the designated time period Jan – March. Marks were also lost where candidates did not include the species names.

Q4 List **FOUR** soil operations to be carried out prior to planting a formal hedge on a new site.

Candidates were well able to list FOUR soil operations to be carried out before planting a formal yew hedge. Most candidates understood the operations but there were some that provided details that were not soil related and that were not necessary within the context of the question. Where the list included double/deep digging, addition of organic matter, removal of perennial weeds and a base fertilizer, full marks were gained.

Q5 **NAME ONE** tufted grass and **ONE** spreading grass used in ornamental lawns and state the difference between them.

This question was not as popular as some of the others in the question paper. Often candidates were unable to differentiate between tufted and spreading grasses sufficiently clearly. Occasionally grass subjects suggested were wholly inappropriate eg not suitable for an ornamental lawn (*Miscanthus* sp). However many candidate provided sufficient evidence to gain good marks.

Q6 List **FOUR** subjects to be used as dot plants in a summer bedding scheme.

Many candidates were comfortable with the requirements of this question. The understanding of Dot Plant was well understood and often the lists of FOUR plants were appropriate and fit for purpose. Some candidates suggested annual plants that were not sufficiently bold to be considered as Dot plants which need to have visual impact within the bedding scheme

Q7 Explain when a silt trap would be included in a drain system.

This was not a popular question but while some were able to explain the need for silt traps in drainage systems many others were unsure. This was one of the questions where candidates should have used a diagram or quick sketch to illustrate and explain the concept of the silt traps and their use in drain systems where changes in angle, or direction occurred or where pipes joined main drain outlets etc. where water flow slowed and could allow silt and other debris to precipitate out and cause blockages. Where candidates gave a good explanation appropriate marks were given.

Q8 Using **NAMED** examples, relate the use of flower colour to garden design principles.

A well understood well answered question with many candidates gaining high marks. It was pleasing to note the depth of thought that had gone into many of the answers but where the question asks for a 'Named examples it is best that they are included. Where they were included marks reflected this fact.

Q9 Explain the use of a Ha Ha in the design of gardens and landscapes.

The concept of the Ha Ha was understood by most candidates. This was a question where the answer should have included a sketch or labelled diagram to show its orientation and placement in respect to the house, garden and landscape beyond. The cross sectional shape of the ditch is important and where this was properly explained full marks were awarded.

Q10 Explain the need for correct storage and re-instatement of top soil during site construction.

This question asked candidates to explain the need for correct storage and reinstatement of topsoil during site construction. Candidates were able to describe the method of storage but few gave a worthy explanation of the need. Topsoil is a living and dynamic substance and requires careful treatment to avoid contamination and microbial and nutrient content. Where candidates provided an appropriate answer good marks were awarded.

Structured Questions

Section B – Design of Ornamental Gardens

Q1 Describe the process and function for **EACH** of the following in chronological order when undertaking the design of a garden:

- iv) site investigation;
 - v) site analysis;
 - vi) survey process.
- i) The majority of candidates were able to undertake this successfully. Candidates who structured their answers and presented their answer in a clearly laid out manner gained higher marks.
- ii) A Mixed response to this question. Many candidates confused the difference between the site investigation – i.e. noting down what is within the site, and with the site analysis i.e. how will what has been noted down, influence the design..... for example if the soil was found to be alkaline [during the investigation] then this would make growing ericaceous plants difficult.
- iii) Candidates who produced diagrams to enhance their answer were rewarded. However diagrams needed to be clear, well labelled and referenced within the written text. A mixed response to this question, many candidates just wrote about physically surveying a site and not the whole process.

Q2 Describe the following elements associated with garden design and give examples of how **EACH** is used:

- vi) symmetry and asymmetry;
 - vii) unity and proportion;
 - viii) texture and form;
 - ix) movement;
 - x) colour.
- i) Most candidates were able to explain the differences between symmetry and asymmetry, some failed to gain marks by not giving examples.
- ii) Possibly the least well answered of the sections within this question. It appears that candidates do not have clear ideas of the definition of design terms from which further knowledge can be built upon.
- iii) Candidates tended to write about plant texture and form and omitted hard landscape features.....and therefore failed to gain the available marks
- iv) Some candidates failed to gain marks because they concentrated on one aspect of movement. For example, movement of plants as a design element but no mention of movement of people with the design.

- v) Generally well answered, with good examples of colour use and reference to designers famous for use of colour in the garden.

Section C – Plant Selection, Establishment and Maintenance

- Q3** a) Describe the factors, which may affect ground preparation, planting and establishment of street trees in an urban environment.

The first part asked for a description of the factors affecting establishment in the urban environment. Those scoring high marks were able to discuss from a broad selection of issues – amongst those candidates chose were – access, timing of activities, anchorage / support, soil condition / compaction, pests / diseases, nutrition / mycorrhiza, irrigation, damage from strimmers, vandalism, pollution / road salt, overground / underground services.

- b) List and describe **FIVE NAMED** street trees, **EACH** from a different genus.

This section was generally well answered; however the use of common names and weak descriptions did not attract good marks in a number of cases.

- Q4** a) Describe the annual maintenance required on an herbaceous island bed.

Candidates scoring well in this section were able to discuss around a number of cultural activities – weeding, feeding, edge grass, stake, divide, mulch, irrigation, deadhead, pests/diseases, cutting back. It was not sufficient merely to list these as bullet points.

- b) **NAME TWO** other distinct ways of using herbaceous perennials in the garden and describe **TWO** different genera of plants for **EACH** of the situations named.

Amongst distinct uses given were – in containers, herb gardens, bog / water plantings, wildflower meadows, ground cover and mixed borders. When plant examples were provided for these uses they were frequently just listed and not described.

Section D – Ornamental Landscape Construction

Q5 a) NAME a surface material for **EACH** of the following situations evaluating their suitability:

- v) driveway for occasional light goods vehicle;
- vi) shaded area for sitting outside;
- vii) children's play area;
- viii) woodland walk with public access.

Most candidates who answered this question could name a suitable surface for each situation. In many cases however, the evaluation was not answered in adequate depth, with candidates merely listing advantages and disadvantages, often in a tabular format. Marks were awarded in each case for an explanation of the surfaces durability, slip resistance, safety, frost resistance, resistance to algae and moss, surface drainage, cost, ease of construction and maintenance, and aesthetic/design value. Some or all of these factors were often quoted, but without putting them into context, or comparing with alternatives for each situation, so full marks could not be gained. For instance, to say a surface was "cheap" or "aesthetically pleasing" was not enough on its own. The safety aspect was well answered for the children's play area but rarely mentioned for the other areas. The consideration for disabled and wheel chair use was often omitted.

b) With the aid of a labelled diagram, describe how a flexible concrete block path would be laid on a prepared foundation.

This part of the question was not generally answered well. There appears to be much confusion as to what flexible concrete block paving is. Marks were awarded for detailed descriptions and diagrams to include: some form of edge restraint, the sand bed, screeding techniques, laying techniques, the blocks and laying patterns, cutting of blocks, compaction (vibrating), joint filling.

Materials, dimensions and laying techniques were often not described accurately in either the narrative or the diagrams. Some answers incorrectly specified laying the blocks on cement bound bed, others described the laying of pre-cast concrete slabs or in-situ concrete. The techniques of screeding the sand bed were not well understood in many cases. Many answers included detailed descriptions of excavating and laying foundations when the question clearly states "on a prepared foundation".

Diagrams were often messy, poorly labelled/dimensioned and unclear.

Q6 a) List and describe the advantages and limitations of using timber as a material for garden features.

Most candidates answered this part of the question well. Marks were awarded for answers including advantages of: versatility – variety of styles and finishes, ease of construction, speed of construction, weight, flexibility, widely obtainable.

Limitations included: short life, low tensile strength, need of preservation, slippery, can harbour diseases (such as honey fungus), environmental issues of sustainability, splinters. There was sometimes confusion as to whether some factors were advantages or disadvantages- cost and aesthetics needed to be compared with other materials used in comparable situations.

- b) With the aid of labelled diagrams (to include dimensions), indicate **TWO** methods of securing timber uprights for a pergola into the ground.

Almost all the candidates who answered this question could state two suitable methods. In most cases these were setting the post directly into the ground and securing it with concrete, and the use of some form of steel support to keep the base of the timber post out of contact with the soil. Marks were awarded for clear diagrams showing all materials labelled with suitable specifications and dimensions. These diagrams, however, were often untidy, vague, and disproportionate. Dimensions were sometimes omitted altogether or were inappropriate.

- c) Review the differences between wood preservation techniques for soft woods and hard woods.

This part of the question was answered adequately in most cases. Marks were awarded for stating that the best preservation technique for softwoods is by factory applied pressure and/or vacuum processes, and that **suitable** hardwoods are naturally durable and usually only require oiling as a cosmetic measure. Better answers quoted both techniques (ie CCA or Tanalising) and examples of timber suitable for landscape work. Botanical names are not usually used for timber when it is specified as a construction material.

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