



RHS LEVEL 3 ADVANCED CERTIFICATE IN HORTICULTURE

2006

IMPORTANT:

- i) Duration of this Paper is **3 hours**; (additional 'travel time' will be available).
- ii) **ONE** hour only will be spent on **EACH** of the sections **a**, **b** and **c**.
- iii) **ALL** questions are to be attempted.
- iv) **ALL** work is to be labelled with the candidate number.

MODULE C

PRACTICAL EXAMINATION

Please turn over/.....

Section A: Horticultural Skills (Potting Shed)

	Marks
Q1 a) Using the containers and compost provided, sow ONE container of EACH of the seeds labelled A and B .	
b) Cover HALF of EACH container if appropriate.	25
Q2 Using the tray and compost provided, prick off ONE tray of 40 seedlings, labelled C .	15
Q3 Using the pots and compost provided, pot-on FIVE of the plants Provided, labelled D .	15
Q4 Take, prepare and insert TEN cuttings for EACH of the specimens labelled E and F into the containers and rooting media provided. (Retain unused propagation material).	30
Please note that an additional 15 marks are available for effective and efficient working techniques in the potting shed.	15

Please see over/.....

Section B: Horticultural Skills (Plot work)

Basic, but not final cultivations have been carried out.

	Marks
Q5 a) Carry out necessary cultivations of an area of the plot at least 2.5m x 2.5m for sowing with grass seed.	5
b) On the prepared site, set out a rectangle with sides of 2m x 1.5m using, the equipment provided.	15
c) Carry out final cultivations and sow the grass seed labelled G at the rate of 35g/m ² on to the prepared rectangle of 2m x 1.5m.	15
Q6 a) Across the width of the plot, prepare the soil in readiness for planting spring cabbage transplants labelled H .	10
b) Select and plant out TWO rows of the spring cabbage transplants labelled H at appropriate spacing.	10
Q7 Plant the container-grown woody plant provided labelled I .	15
Q8 a) Across the width of the plot, prepare the soil in readiness for sowing TWO rows of the seed labelled J .	5
b) Sow TWO rows of the seed labelled J across the width of the plot at appropriate spacing, with rows 30cm apart, leaving HALF of EACH row uncovered.	10
Please note that an additional 15 marks are available for effective and efficient outdoor working techniques.	15

Please turn over/.....

Section C: Practical Science

(Plant, Pest, Disease and Disorder Identification)

	Marks
Q9 Using a simple test, identify the texture of soil samples K and L .	5
Q10 Determine the pH of the soil sample M , using the kit provided.	5
Q11 On the proforma provided, identify the plant specimens labelled 1 - 40 , giving the generic name and specific epithet in EACH case.	40
Q12 On the proforma provided, identify the pest, disease or disorder affecting EACH of the specimens labelled 41 - 50 , giving the common name in EACH case.	10
Q13 On the proforma provided, identify the weeds and seeds labelled 51 - 60 , giving the generic name and specific epithet in EACH case.	10



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Examiners Report

Candidates Registered	528		Total Candidates Passed		
Candidates Entered	395	74.81%	Passed with Commendation	115	29.12%
Candidates Absent	71	13.45%	Passed	241	61.01%
Candidates Deferred	34	6.44%	Failed	39	9.87%
Candidates Withdrawn	28	5.30%			

General comments

Once again many examiners commented on the apparent lack of instruction and opportunities for practice and hence limited ability of the candidates, especially for those visiting centres for their practical examinations.

Planning of time allocation for each question was again a problem for many candidates, especially on the second section, plot work. Few candidates allocated time to reflect the marks available for each question or part of a question.

Several examiners identified the safe use, and placement of tools when not in use, as being an area needing considerable attention.

Section A: Horticultural Skills (Potting Shed)

Some candidates showed poor organisation of their work-stations which resulted in more time being spent on operations than necessary, thus increasing pressure on themselves to complete on time; but the majority of candidates were well organised in this section of the examination.

- Q1**
- Using the containers and compost provided, sow **ONE** container of **EACH** of the seeds labelled **A** and **B**.
 - Cover **HALF** of **EACH** container if appropriate.

Candidates gaining the highest marks were those who

- ∞ filled and consolidated the trays uniformly, including the corners;
- ∞ struck-off the compost to ensure a level surface before firming;
- ∞ provided a fine surface onto which to sow fine seed;
- ∞ mixed the fine seed with sand and distributed it evenly over the whole of the sowing surface;
- ∞ left the fine seed uncovered;
- ∞ sowed the coarse seed evenly across the whole of the sowing surface;
- ∞ covered the coarse seed to an even depth.

Q2 Using the tray and compost provided, prick off **ONE** tray of **40** seedlings, labelled **C**.

The areas identified by the examiners as being evidence of good practice were:

- ∞ appropriate filling and consolidation of compost in trays;
- ∞ the appropriate arrangement of the working area and height of working;
- ∞ the grading of the seedlings and rejection of unsuitable ones during pricking off;
- ∞ handling the seedlings gently by the cotyledons;
- ∞ the accurate placement of seedlings to provide 8 x 5 arrangement in the tray;
- ∞ the firming of the seedlings;
- ∞ the minimising of root and leaf damage during the pricking off process;
- ∞ roots not left curling out of compost;
- ∞ ability to complete task in appropriate time in relation to marks available.

Q3 Using the pots and compost provided, pot-on **FIVE** of the plants Provided, labelled **D**.

Examiners expected to see that candidates:

- ∞ laid their workstations out effectively and did not take pots and cuttings to the central supply of compost;
- ∞ part-filled the pot to an appropriate depth;
- ∞ held the rooted cutting at the right height over the centre of the pot and ensured constant depth of planting;
- ∞ in-filled with compost evenly around the cutting and consistently for all plants;
- ∞ added compost to level with pot rim;
- ∞ tapped pot to consolidate.

Q4 Take, prepare and insert **TEN** cuttings for **EACH** of the specimens labelled **E** and **F** into the containers and rooting media provided. (Retain unused propagation material).

Candidates gaining the highest marks were those who:

- ∞ selected the correct form of propagation for the specimen provided, ie root cuttings for Acanthus/Verbascum etc and leaf bud cuttings from the Hedera;
- ∞ selected appropriate material without destroying or damaging the stock plant;
- ∞ graded their cutting material for thickness and / or length;
- ∞ made clean cuts in the right places and at the appropriate angles;
- ∞ inserted the propagules into appropriate compost and containers at correct depth and spacing;
- ∞ firmed the propagule into the compost
- ∞ left the stock plant in appropriate condition.

Please note that an additional 15 marks are available for effective and efficient working techniques in the potting shed.

Section B: Horticultural Skills (Plot work)

Basic, but not final cultivations have been carried out.

Most examiners commented on the poor organisation and lack of thought by candidates when setting out their plots. They also commented on the 'fussiness' of many operations and the fact that few candidates appeared to be capable when raking, forking or inserting garden lines. These factors, together with frequent repetition of the same cultivations in the same area combined to cause candidates to take much longer than they should for some very basic operations using hand tools. The questions were set to ensure that all operations could be accommodated within the 4 x 3m plot, but that thought needed to be given to the arrangement and location of each question on the plot.

- Q5**
- a) Carry out necessary cultivations of an area of the plot at least 2.5m x 2.5m for sowing with grass seed.
 - b) On the prepared site, set out a rectangle with sides of 2m x 1.5m using, the equipment provided.
 - c) Carry out final cultivations and sow the grass seed labelled **G** at the rate of 35g/m² on to the prepared rectangle of 2m x 1.5m.

Examiners were looking to see that candidates:

- ∞ sequenced their operations appropriately;
- ∞ selected appropriate hand tools and were capable in their use;
- ∞ firmed the area appropriately and evenly;
- ∞ were able to transfer their theoretical knowledge of 3/4/5 triangles (or other acceptable system) for right angles onto the plot in marking out a rectangle, and checked length of sides and diagonals;
- ∞ could calculate and weigh out correct quantities of grass seed;
- ∞ were able to use an acceptable technique to sow grass seed evenly at the correct density and lightly raked it in;
- ∞ tidied the working area when finished, leaving no large mounds of soil and stones on, or around, the immediate edge of the plot..

- Q6**
- a) Across the width of the plot, prepare the soil in readiness for planting spring cabbage transplants labelled **H**.
 - b) Select and plant out **TWO** rows of the spring cabbage transplants labelled **H** at appropriate spacing.

Candidates gaining highest marks were those who:

- ∞ prepared the ground appropriately, forking, raking and firming;
- ∞ set out two parallel rows across the width (shorter side) of the plot, with taut lines;
- ∞ protected transplants during the preparation and planting processes;
- ∞ planted to a taut line at appropriate in-row and between-row spacings: 12-18" (30-45cm) between rows and 8-10" (20 – 25cm) between plants in rows;
- ∞ firmed in transplants;
- ∞ tidied the working area when finished.

Q7 Plant the container-grown woody plant provided labelled **I**.

Candidates gaining highest marks were those who:

- ∞ prepared the ground appropriately, forking, raking and firming;
- ∞ set out two parallel rows across the width (shorter side) of the plot, with taut lines;
- ∞ took out drills against the lines evenly to correct depth 1" (2-3cm) and spacings 12-15" (30-38/40cm) using corner of draw hoe or by other appropriate method, ;
- ∞ spaced seeds appropriately in rows approx 1" (2-3cm apart), or at stations approx 3-4" apart (8-10cm);
- ∞ covered without disturbing seeds and firmed appropriately;
- ∞ tidied the working area when finished.

Q8 a) Across the width of the plot, prepare the soil in readiness for sowing **TWO** rows of the seed labelled **J**.

b) Sow **TWO** rows of the seed labelled **J** across the width of the plot at appropriate spacing, with rows 30cm apart, leaving **HALF** of **EACH** row uncovered.

Candidates who achieved the highest marks were those who:

- ∞ ensured that the hole was of appropriate depth, with the bottom loosened and the sides lightly forked;
- ∞ incorporated soil ameliorant into the base of the hole and into the soil that was to be returned;
- ∞ teased out the roots of the plant and removed weeds and surface of compost on root ball;
- ∞ ensured that the plant was central to hole and upright, and planted to depth with top of rootball marginally below soil surface;
- ∞ firmed plant after planting;
- ∞ mulched to at least 2" (5cm) depth over root zone, approx 2ft (60cm) radius, ensuring mulch is away from stems of shrub;
- ∞ tidied working area when finished.

Please note that an additional 15 marks are available for effective and efficient outdoor working techniques.

Section C: Practical Science (Plant, Pest, Disease and Disorder Identification)

Q9 Using a simple test, identify the texture of soil samples **K** and **L**.

Although a very basic horticultural technique, as last year, once again this question was not as well answered as could have been expected. Marks were awarded for appropriate close answers but there was a degree of confusion between the characteristics of silty and clay soils. This is clearly an area of laboratory (and field) work that would benefit from more practice.

Q10 Determine the pH of the soil sample **M**, using the kit provided.

High marks were achieved by most candidates in this question. More practice in matching testing requirements to soil texture would improve marks even further.

Q11 On the proforma provided, identify the plant specimens labelled **1 - 40**, giving the generic name and specific epithet in **EACH** case.

Most candidates achieved high marks, clearly stating generic and specific epithet of all or most of the 40 specimens selected.

Q12 On the proforma provided, identify the pest, disease or disorder affecting **EACH** of the specimens labelled **41 - 50**, giving the common name in **EACH** case.

Most candidates achieved high marks, being able to name the pests, diseases or disorders that were presented.

Q13 On the proforma provided, identify the weeds and seeds labelled **51 - 60**, giving the generic name and specific epithet in **EACH** case.

Most candidates achieved high marks, being able to give generic and specific epithet of all or most of the specimens presented.