

RHS LEVEL 3 DIPLOMA IN HORTICULTURE JULY 2012

PRACTICAL EXAMINATION – MODULE H

PAPER 1

IMPORTANT: Please read carefully before commencing.

- i) Duration of this paper is **3 hours**.
- ii) **ALL** questions are to be attempted.
- iii) **ALL** work to be labelled with the candidate's number.
- iv) Use **METRIC** measurements **ONLY**.
- v) Use full botanical (latin) names, including genus and species, for plants.

ANSWER ALL QUESTIONS

MARKS

Q1 From the plant material provided, select, prepare and insert **THREE** cuttings at appropriate spacing, for **EACH** of the methods listed. Select an appropriate container and a suitable rooting medium for each:

- | | | |
|------|-----------------------------|---|
| i) | evergreen hardwood cutting; | 5 |
| ii) | softwood cutting; | 5 |
| iii) | leaf petiole cutting; | 5 |
| iv) | leaf lamina cutting. | 5 |

Q2 From the material labelled **A**, prepare **TWO** scions and graft **ONE** onto **EACH** of the two rootstocks labelled **B**, using the 'side veneer method'. **20**

Proficiency mark **10**

Q3 In discussion with the examiner, evaluate the following:

- | | | |
|------|------------------------|----|
| i) | seed sowing in drills; | 12 |
| ii) | broadcast seed sowing; | 6 |
| iii) | turf laying. | 6 |

Q4 Prune **EACH** of the plant specimens labelled **C**, **D** and **E** in order to complete the annual plant maintenance at the time of year indicated. **15**

Leave all the prunings on the work bench.

Proficiency mark **3**

Please see over/.....

ANSWER ALL QUESTIONS

	MARKS
Q5 Review the ornamental shrub border indicated and answer EACH of the following using the pro-forma provided:	
i) Identify and record EIGHT plants (not weeds) in the border.	16
ii) Identify and record TWO visual examples of plant damage caused by a NAMED pest, disease OR disorder.	4
iii) Recommend FOUR plants, which could be added to this border to provide interest for the visitor in April.	8
iv) State FOUR methods of reducing the maintenance time spent on this border.	2
 Q6 Visually assess the EIGHT trays labelled F, G, H, I, J, K, L and M that have been sown with fine or medium seed. Evaluate the seed tray preparation and the standard of seed sowing and record your observations on the pro-forma provided.	 16
Visually assess the standard of pricking out of the seedlings in the TWO seed trays labelled N and O and record your observations on the pro-forma provided.	4
 Q7 Using the pro-forma provided to record your answers:	
i) Identify, using generic and specific names, the predominant lawn grass within EACH of the circles marked P, Q and R .	6
ii) Identify, using generic and specific names, the lawn weeds marked S, T and U .	6
iii) State an acceptable method of cultural control for EACH of the weeds identified in ii).	6
 Q8 In the capacity of a professional horticulturist, carry out an assessment of the area indicated. On the pro-forma provided, list EIGHT hazards in the area indicated and for EACH hazard record a safe working practice to minimise the risk for EACH .	 20
	180

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RHS LEVEL 3 DIPLOMA IN HORTICULTURE JULY 2012

PRACTICAL EXAMINATION – MODULE H

PAPER 2

IMPORTANT: Please read carefully before commencing.

- i) Duration of this paper is **3 hours**.
- ii) **ALL** questions are to be attempted.
- iii) **ALL** work to be labelled with the candidate's number.
- iv) Use **METRIC** measurements **ONLY**.
- v) Use full botanical (latin) names, including genus and species, for plants.

Please turn over/.....

ANSWER ALL QUESTIONS

MARKS

- Q9** Discuss with the examiner, **TWO** of the following horticultural machines:
- i) lawn scarifier;
 - ii) cylinder mower;
 - iii) knapsack sprayer.
- 20**
- Q10** On the pro-forma provided, using common names for the pest/disease/disorder:
- a) Identify **EACH** of the pests, diseases and disorders numbered **1 – 15**.
 - b) State **ONE** suitable control strategy for **EACH**, from chemical (the mode of action only), cultural **OR** biological methods, as appropriate.
- 30**
- Q11** On the pro-forma provided, identify the plant specimens numbered **16 – 40**, giving in **EACH** case the generic name, specific epithet (if applicable) and the cultivar **OR** variety name (if applicable).
- 50**
- Q12** On the pro-forma provided, identify the substances numbered **41 – 45** and state the main horticultural use of **EACH**.
- 10**
- Q13** On the pro-forma provided, identify the seeds and weeds numbered **46 – 55**. State in **EACH** case, the generic name for the **seed** specimens, and the generic name with specific epithet for the **weed** specimens.
- 20**
- Q14** Using the pro-forma provided, answer **EACH** of the questions for the equipment numbered **56 – 58**.
- 10**

Please see over/.....

ANSWER ALL QUESTIONS

MARKS

Q15 Using the pro-forma provided, identify **ONE** distinct plant modification (adaptation) for **EACH** of the specimens numbered **59 – 68**. State **ONE** advantage to the plant for **EACH** of the modifications (adaptations). **20**

Q16 For the glasshouse bench labelled Question 16, calculate:

- a) the surface area of the bench; **3**
- b) the number of pots labelled **V**, that will fit onto the bench surface if they are displayed in:
 - i) straight rows – pot thick; **6**
 - ii) staggered rows – pot thick. **6**
- c) how much of **EACH** of coir and perlite is required, if the growing media ratio is 3:1 coir/perlite for the number of pots calculated in b) i) straight rows. **5**

180

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RHS Level 3 Diploma in Horticulture July 2012

Practical examination - Module H

Candidates Registered	28		Total Candidates Passed	22	95.65%
Candidates Entered	23	82.14%	Passed with Commendation	5	21.74%
Candidates Absent	3	10.72%	Passed	17	73.91%
Candidates Deferred	0	0.00%	Failed	1	4.35%
Candidates Withdrawn	2	7.14%			

Guidance notes for candidates and tutors

Please note that this practical examination operated for the last time in 2012. RHS practical qualifications are now assessed within approved centres.

This examination report concentrates on areas which candidates found challenging or appeared not to be fully prepared. The report contains two components.

1) The examination question is recorded with the marks allocated.

2) Comments.

These comments relate to:

- a) Was the task completed safely?
- b) Did the candidate use the appropriate resources efficiently?
- c) Was the method used correct and appropriate for the task?
- d) The method used relates to modern* horticultural practices
*within the last 10 years.
- e) An overall comment on the performance of candidates with each question.

Important Note

A common misconception by candidates is “we must do this the RHS way”. There is no RHS way. Examiners mark candidates’ work with reference to the criteria as recorded under the specific comments in this report.

Paper 1

Q1 From the plant material provided, select, prepare and insert **THREE** cuttings at appropriate spacing, for **EACH** of the methods listed. Select an appropriate container and a suitable rooting medium for each:

- | | | |
|------|-----------------------------|----------|
| i) | evergreen hardwood cutting; | 5 |
| ii) | softwood cutting; | 5 |
| iii) | leaf petiole cutting; | 5 |
| iv) | leaf lamina cutting. | 5 |

This question was efficiently completed by the majority of candidates. The specific comments listed below are made on each cutting, based on candidate performance:

- Evergreen hardwood cuttings: The tips of these cuttings were often removed which was not necessary. The removal of too many leaves was commonly observed which would have stressed the cutting material. Very large cuttings were observed which would take longer to root.
- Softwood cuttings: The tips of these cuttings were removed which was not necessary as no flower buds were present. Too many leaves were removed which is not necessary especially as the cuttings would be placed in a propagation unit. A large number of long cuttings were observed which is wasteful of cutting material.
- Leaf petiole cuttings: Some rather long petioles were observed, this makes the development of the bud more difficult. Some petioles were placed rather high in the compost, leaving the leaf suspended some 2cm above the compost.
- Leaf lamina cuttings: Good examples were observed. A number however did not have a plant vein, which would prevent successful establishment.

Q2 From the material labelled **A**, prepare **TWO** scions and graft **ONE** onto **EACH** of the two rootstocks labelled **B**, using the 'side veneer method'. **20**

Proficiency mark **10**

It was clear that some candidates were unsure of this method of grafting, this resulted in inappropriate grafting methods being used. The tying method for the grafted plants was poor, with no air gaps present which is essential to prevent the build-up of plant resin. The rootstock had been dried off for two weeks before the examination date to prevent flooding of the graft area. Candidates who were confident and had clearly received training with this grafting method produced some very successful grafted plants.

Q3 In discussion with the examiner, evaluate the following:

- | | | |
|------|------------------------|-----------|
| i) | seed sowing in drills; | 12 |
| ii) | broadcast seed sowing; | 6 |
| iii) | turf laying. | 6 |

This question was changed to be a pro-forma question. In general the answers indicated a good visual observation of the presented work. Some candidates used non-descriptive wording such as 'looks nice' and 'in my opinion it is not up to the required standard'. These comments are not measurable and therefore not helpful in this examination.

Q4 Prune **EACH** of the plant specimens labelled **C**, **D** and **E** in order to complete the annual plant maintenance at the time of year indicated. **15**

Leave all the prunings on the work bench.

Proficiency mark **3**

The pruning was poorly conducted by the majority of candidates. Poor identification of the plant specimens contributed to the poor performance on this question. The plant specimens were Forsythia x intermedia, Ribes nigrum (Blackcurrant) and Cornus alba (Dogwood).

The plants had been carefully selected and stored to present typical growth after flowering at the normal time of the year for the selected plant.

Q5 Review the ornamental shrub border indicated and answer **EACH** of the following using the pro-forma provided:

- | | | |
|------|---|-----------|
| i) | Identify and record EIGHT plants (not weeds) in the border. | 16 |
| ii) | Identify and record TWO visual examples of plant damage caused by a NAMED pest, disease OR disorder. | 4 |
| iii) | Recommend FOUR plants, which could be added to this border to provide interest for the visitor in April. | 8 |
| iv) | State FOUR methods of reducing the maintenance time spent on this border. | 2 |

In general this question was efficiently answered by the majority of candidates. The examiner however noted the following:

- Good identification of the plant genus, but poor identification of the species and where appropriate cultivars. All plants in the border are commonly grown in all areas of the UK.
- Poor examples of plants used by candidates for display in April. Many

plants selected were deciduous and therefore would not be attractive for the April period.

- There were several general statements used in the border maintenance question. Examples included: 'Weed the border' and 'Prune the plants appropriately'. These comments are not measurable and do not inform the examiner of the candidates' knowledge in garden maintenance.

Q6 Visually assess the **EIGHT** trays labelled **F, G, H, I, J, K, L** and **M** that have been sown with fine or medium seed. Evaluate the seed tray preparation and the standard of seed sowing and record your observations on the pro-forma provided. **16**

Visually assess the standard of pricking out of the seedlings in the **TWO** seed trays labelled **N** and **O** and record your observations on the pro-forma provided. **4**

This question was answered well by the majority of candidates. Some candidates however did not notice the thick covering of compost over the medium seeds. In addition the cover of compost on fine seed was not required and would inhibit successful germination.

Q7 Using the pro-forma provided to record your answers:

- i) Identify, using generic and specific names, the predominant lawn grass within **EACH** of the circles marked **P, Q** and **R**. **6**
- ii) Identify, using generic and specific names, the lawn weeds marked **S, T** and **U**. **6**
- iii) State an acceptable method of **cultural** control for **EACH** of the weeds identified in ii). **6**

This question was poorly answered by the majority of candidates. The turf grasses were poorly identified. The grasses were very common and it is expected at this level that candidates should be to identify common sward grasses. Turf weeds were identified correctly by the majority of candidates. Many candidates did not read the question clearly and provided chemical control for the control of weeds which was not requested.

Q8 In the capacity of a professional horticulturist, carry out an assessment of the area indicated. On the pro-forma provided, list **EIGHT** hazards in the area indicated and for **EACH** hazard record a safe working practice to minimise the risk for **EACH**. **20**

The risk assessment was efficiently answered by the majority of candidates. Some candidates however did not walk the site efficiently and therefore did not observe the plastic netting in the hedge, which clearly was a safety concern.

Paper 2

Q9 Discuss with the examiner, **TWO** of the following horticultural machines:

- i) lawn scarifier;
- ii) cylinder mower;
- iii) knapsack sprayer.

20

Candidate responses were very variable, it was clear that candidates who have actually used the machines were able to provide effective answers to the examiners questions.

It was also very clear that several candidates were totally unprepared for this question. Machinery has been a question in this examination from many years, as it is clearly referenced in the syllabus of Module H, Diploma in Horticulture.

Q10 On the pro-forma provided, using common names for the pest/disease/disorder:

- a) Identify **EACH** of the pests, diseases and disorders numbered **1 – 15**.
- b) State **ONE** suitable control strategy for **EACH**, from chemical (the mode of action only), cultural **OR** biological methods, as appropriate.

30

Q11 On the pro-forma provided, identify the plant specimens numbered **16 – 40**, giving in **EACH** case the generic name, specific epithet (if applicable) and the cultivar **OR** variety name (if applicable).

50

Q12 On the pro-forma provided, identify the substances numbered **41 – 45** and state the main horticultural use of **EACH**.

10

Q13 On the pro-forma provided, identify the seeds and weeds numbered **46 – 55**. State in **EACH** case, the generic name for the **seed** specimens, and the generic name with specific epithet for the **weed** specimens.

20

These questions were based on the identification of plants, seeds, weeds, pests, diseases, disorders and horticultural substances.

The specimens are commonly used in the world of modern horticulture. All specimens have been carefully selected to represent all areas of the UK and the different disciplines of horticulture.

Q14 Using the pro-forma provided, answer **EACH** of the questions for the equipment numbered **56 – 58**.

10

The equipment was a Conductivity Meter, a Dutch Open Soil Auger and a Turf Lute. It was surprising to note that the Auger was not known to many candidates. Considerable confusion also was noted on the use of the lute in turf maintenance.

- Q15** Using the pro-forma provided, identify **ONE** distinct plant modification (adaptation) for **EACH** of the specimens numbered **59 – 68**. State **ONE** advantage to the plant for **EACH** of the modifications (adaptations). **20**

The plant adaptations were efficiently answered by the majority of candidates. The root nodules on the Trifolium specimen, was not correctly answered by many candidates. Several candidates were also confused over the identification of a thorn, which is a modified stem. The thorn has the ability to develop buds, which was clearly visible on the specimen.

- Q16** For the glasshouse bench labelled Question 16, calculate:

- a) the surface area of the bench; **3**
- b) the number of pots labelled **V**, that will fit onto the bench surface if they are displayed in:
 - i) straight rows – pot thick; **6**
 - ii) staggered rows – pot thick. **6**
- c) how much of **EACH** of coir and perlite is required, if the growing media ratio is 3:1 coir/perlite for the number of pots calculated in b) i) straight rows. **5**

The calculation question produced some variable results. Candidates who had been prepared for this examination produced good results, with many achieving full marks.

It was disappointing to record zero marks to the candidates who simply provided an incorrect answer without any working out. The examiner requested very clearly that working out notes should be provided in the candidate answers, in order to possibly allow some marks for the process of correct calculation, even though the actual answer was incorrect. This request was ignored by over one third of candidates, in this case candidates received little or no marks for this question.

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