



**RHS LEVEL 3 DIPLOMA IN HORTICULTURE
JULY 2006**

PRACTICAL EXAMINATION – MODULE H

PAPER 1

IMPORTANT:

- i) Duration of Paper is **3 hours**;
- ii) **ALL** questions to be attempted;
- iii) **ALL** work must be labelled with appropriate candidate number.

	Marks
Q1 Prick out the seedlings labelled A into the modules provided until stopped by the examiner.	15
Q2 Pot on SIX plants labelled B into the appropriate compost, selecting a suitable container for EACH .	20
Q3 Selecting a suitable compost and container, sow ONE container for EACH of the seeds labelled C , D and E . Leave half the seed sown uncovered.	20
Q4 Prepare and insert EIGHT cuttings from EACH of the plant material labelled F , G and H into an appropriate container using suitable rooting media.	20

Please turn over/.....

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| Q5 | Chip bud the scion wood labelled I onto the rootstocks provided. | 30 |
| Q6 | Plant, stake and tie the tree provided. | 20 |
| Q7 | Discuss with the examiner the area of garden indicated to you. | 20 |



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PAPER 2

IMPORTANT:

- i) Duration of Paper is **3 hours**;
- ii) **ALL** questions to be attempted;
- iii) **ALL** work must be labelled with the appropriate candidate number.

	Marks
Q8 Discuss with the examiner the safe operation of the machinery/equipment indicated.	20
Q9 On the pro-forma provided: <ul style="list-style-type: none">a) Identify the plant pests, diseases or disorder numbered 1–15.b) Indicate a suitable control strategy to include chemical, cultural and biological, as appropriate.	30
Q10 On the pro-forma provided, identify the plants labelled 16 – 40 giving in EACH case the generic name, specific epithet and where appropriate the variety or cultivar name.	50
Q11 On the pro-forma provided, identify the seeds numbered 41 – 50 .	20

Please turn over/.....

Q12	On the pro-forma provided, identify the substances numbered 51 – 55 .	10
Q13	Discuss with the examiner the selection of equipment numbered 56 – 58 .	15
Q14	Discuss with the examiner the range of hand tools numbered 59 – 62 and demonstrate their use as required.	20
Q15	For the glasshouse indicated, calculate using the pro-forma provided:	
	a) The volume of the glasshouse;	8
	b) The quantity of nicotine shreds required as a fumigant if applied at 225gm per 560 cubic metres.	4
	c) The number of lettuce plants required when planting at 200mm centres and allowing for 15% path area.	8
Q16	On the pro-forma provided, carry out a risk assessment of the area indicated and identify the safe working practices.	15



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Examiners Report

Candidates Registered	118		Total Candidates Passed		
Candidates Entered	105	88.98%	Passed with Commendation	17	16.19%
Candidates Absent	7	5.93%	Passed	64	60.95%
Candidates Deferred	6	5.09%	Failed	24	22.86%
Candidates Withdrawn	0	0.00%			

General comments

1. Candidates putting themselves forward for the examination must recognise that the competence demonstrated at Advanced Certificate level needs to be replaced by proficiency. The 2006 practical examination has shown that many candidates have not raised their levels of practical skills sufficiently. Successful candidates should be able to operate at an acceptable commercial level within the industry.

2. Proficiency comes from practice and as a result confidence and efficient working. Lack of proficiency manifests itself not only in slow speed in performing tasks but in such things as poor work bench preparation and organisation in the potting shed and lack of confidence in discussing situations and equipment with examiners.

3. A number of approved centres are offering practical skills sessions in advance of the examination and where possible candidates should take advantage of these. The Examinations Office at Wisley will be able to provide information of the centres.

4 Candidates are advised to bring with them their own knives and secateurs and ensure that they are sharp and well maintained. Familiar tools such as these are comfortable to work with and this in turn instils confidence within the candidate.

Q1 Prick out the seedlings labelled **A** into the modules provided until stopped by the examiner.

In this timed question the examiners are looking for proficiency which is judged on ability to grade out seedlings and handle them carefully together with a speed of pricking out which would be acceptable to the industry. Better candidates demonstrated the ability to organise their work bench and produced trays which had the seedlings well graded and inserted to the correct depth. In many cases the speed of pricking out was disappointing.

Q2 Pot on **SIX** plants labelled **B** into the appropriate compost, selecting a suitable container for **EACH**.

Marks were gained where candidates were able to demonstrate the selection of healthy plants, examine the root system and where required tease out/prune the roots. Plants were expected to be upright and centred in the pots filled with the appropriate compost, firmed and avoiding air pockets. This should be consistent across the batch of plants. Poor bench organisation hindered the ability of some candidates.

Q3 Selecting a suitable compost and container, sow **ONE** container for **EACH** of the seeds labelled **C**, **D** and **E**. Leave half the seed sown uncovered.

Whilst the majority of candidates were able to sow and cover seed to a good standard there are still some who are not able to consistently fill the seed tray to a uniform and evenly firmed depth, allowing for covering where appropriate and future watering. Fine, medium and large seed had to be sown and it was clear that weaker candidates should practise sowing skills, particularly fine seed.

Q4 Prepare and insert **EIGHT** cuttings from **EACH** of the plant material labelled **F**, **G** and **H** into an appropriate container using suitable rooting media.

Candidates were required to demonstrate proficiency in the taking of evergreen, semi ripe and leaf bud cuttings. This question tests not only the use of the propagation knife but also the ability to select uniform quality cutting material from the stock plants and prepare suitable propagules. Better candidates were able to demonstrate uniform insertion (depth and spacing) into the correct type of container with the correct compost. It is important to ensure that where appropriate stock plants are left in good condition for regrowth and that candidates ensure their benches are kept clean and organised.

Q5 Chip bud the scion wood labelled **I** onto the rootstocks provided. This question was not done well and demonstrated that the majority of candidates had minimal practice at this skill. Indeed very few were able to achieve a creditable performance. It is an important technique within the industry and it is essential that candidates presenting themselves for the practical are proficient at this more exacting skill. Key points are the preparation of the bud stick and the selection of the buds together with the correct procedure selecting the position on the stock and making cuts of the right type (depth, length and order of doing them). Cambial contact is essential for success as is the correct tying in of the bud. This task requires a high degree of knifemanship and it was clear that many candidates were barely competent yet alone proficient.

Q6 Plant, stake and tie the tree provided.

This question was carried out by most candidates to an acceptable standard, however in many cases the proficiency of candidates was weak especially speed and confidence in doing the task. Confidence comes with repeated practice. Candidates should make themselves aware of current thinking as far as tree planting and staking is concerned, particularly with regard to hole preparation, depth of planting and height of stake and tie. With this task a technician is available for knocking in the stake under the candidate's directions. Weak points of note were poor positioning of the tree in the hole, failing to take account of the prevailing wind (if in doubt always ask the examiner) and poor positioning of the stake and tie.

Q7 Discuss with the examiner the area of garden indicated to you.

This question enables the examiner to question candidates on plant selection, management and maintenance of a selected garden area. Candidates should be prepared to meet a wide range of plant situations including ornamentals, turf, fruit and vegetables. Better candidates were able to offer good quality answers to a range of problems and routine management and in some cases present a variety of appropriate solutions to situations presented demonstrating good practical experience

Q8 Discuss with the examiner the safe operation of the machinery/equipment indicated.

This question concerning the safe operation and use of a knapsack sprayer was generally well done, however the better answers were given by candidates who had clearly used a sprayer in a number of practical situations. Some candidates gave weaker answers suggesting lack of experience with the equipment. Whilst knowledge of health and safety issues was generally satisfactory many candidates could not tell the difference between different types of nozzles (fan, cone and anvil) and their specific use. Similarly the positioning of filters was poorly known. This question is another example of how a candidate's confidence increases from familiarisation and use of the equipment.

Q9 On the pro-forma provided:

- a) Identify the plant pests, diseases or disorder numbered **1–15**.
- b) Indicate a suitable control strategy to include chemical, cultural and biological, as appropriate.

The identification of the problems was generally good however many candidates gave very "thin" answers in part b). Candidates at this level should be familiar with the correct strategies for control. Weaker answers often gave incorrect chemicals and with cultural and biological control lack of detail was evident.

Q10 On the pro-forma provided, identify the plants labelled **16 – 40** giving in **EACH** case the generic name, specific epithet and where appropriate the variety or cultivar name.

This predictable question is designed to test the candidates' knowledge across a wide range of plants, woody and non woody found regularly in the different sectors of horticulture. Better candidates were able to demonstrate their superior plant knowledge whilst weaker candidates must ensure they practise their plant identification. Regular visiting of nurseries, garden centres, horticultural colleges and gardens where accurate labelling of plants occurs is very important.

Q11 On the pro-forma provided, identify the seeds numbered **41 – 50**.

This question was generally either well or poorly done. Weaker candidates should ensure that they thoroughly prepare for this question by familiarising themselves with a wide range of seeds of ornamentals, grasses, woody plants and vegetables.

Q12 On the pro-forma provided, identify the substances numbered **51 – 55**.

A regular question in which many candidates do not perform as well as they should. It is important that candidates familiarise themselves with as wide a range of common materials and substances as possible used in the industry. For example: compost ingredients, fertilizers, water retention granules etc.

Q13 Discuss with the examiner the selection of equipment numbered **56 – 58**.

This year the question was limited to three pieces of equipment thus allowing more time to discuss the use of each. Examples of equipment chosen in this question could include an aspirated screen, EC meter, light meter, whirling hygrometer, liquid feed equipment, soil moisture tensiometer and other similar types. Candidates do not generally find this question easy failing either to correctly identify the equipment or more usually unable to explain how it works.

Q14 Discuss with the examiner the range of hand tools numbered **59 – 62** and demonstrate their use as required.

This question provides the opportunity for candidates to identify and demonstrate the proficient use of selected hand tools. The tools chosen this year were a fine toothed rake for obtaining a final tilth, a garden line, a draw hoe and trowel so that planting transplants could be demonstrated. Weaknesses were that many candidates are not competent in putting down a taught line, producing a firm level tilth and disappointingly a lack of proficiency in using a trowel. In the latter case it is important to use a technique that uses efficient hand movements together with speed of planting and adopting a posture that will allow the person to carry out the job of planting effectively and without excess tiredness.

Q15 For the glasshouse indicated, calculate using the pro-forma provided:

- a) The volume of the glasshouse;
- b) The quantity of nicotine shreds required as a fumigant if applied at 225gm per 560 cubic metres.
- c) The number of lettuce plants required when planting at 200mm centres and allowing for 15% path area.

This question required candidates to accurately measure the width, length, height to the eaves and ridge in order to calculate the volume of the glasshouse. The correct quantity of fumigant had to be calculated and the number of lettuce plants required if planted at 200mm centres and allowing for paths.

The answers fell very much into two categories. Better candidates were confident in handling the raw data and consequently produced accurate answers, however a significant number of candidates are not confident in the basic mathematics and as a result obtained incorrect answers. This was particularly with the volume calculation and quantity of nicotine shreds. It is important that candidates can carry out a mental reckoning of the calculation in order to check that answers are in the realms of possibility.

Q16 On the pro-forma provided, carry out a risk assessment of the area indicated and identify the safe working practices.

A rotovator was set up for cultivating within a polythene tunnel/ glasshouse situation and a number of hazards had been set up which needed to be identified. The machine itself was required to be looked at to consider whether it was safe to use.

This question was not generally well done with candidates failing to identify potential hazards and not stating appropriate safe working practices.

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The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB