



**R2112**

**UNDERSTANDING THE CHOICE, ESTABLISHMENT &  
MAINTENANCE OF GARDEN PLANTS & LAWNS**

**Level 2**

**Tuesday 19 June 2018**

**11:20 – 12:10**

**Written Examination**

**Candidate Number:** .....

**Candidate Name:** .....

**Centre Number/Name:** .....

**IMPORTANT – Please read carefully before commencing:**

- i) The duration of this paper is **50** minutes;
- ii) **ALL** questions should be attempted;
- iii) **EACH** question carries **10 marks**;
- iv) Write your answers legibly in the lined space provided. It is **NOT** necessary that all lined space is used in answering the questions;
- v) Use **METRIC** measurements only;
- vi) Use black or blue ink only. Pencil can be used for drawing purposes only;
- vii) Where plant names are required, they should include genus, species and where appropriate, cultivar;
- viii) Where a question requires a specific number of answers; only the first answers given that meet the question requirement will be accepted, regardless of the number of answers offered;
- ix) Please note, when the word '**distinct**' is used within a question, it means that the items have different characteristics or features.







**MARKS**

**Q4 a)** Name **FIVE** distinct trees grown for winter interest.

**5**

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**b)** Describe **TWO** distinct methods of staking when planting trees.

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**c)** Name **ONE** common disease that affects trees.

**1**

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|------------|
| Total Mark |
|------------|

**Please turn over/.....**

**MARKS**

**Q5 a)** Describe the maintenance of alpine or rock garden plants under **EACH** of the following headings:

- i) mulching;
- ii) winter protection.

**2**  
**2**

i).....  
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ii).....  
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**b)** Describe the maintenance of aquatic plants under **EACH** of the following headings:

- i) water/vegetation balance;
- ii) maintenance of water levels in summer;
- iii) management of ice formation.

**2**  
**2**  
**2**

i).....  
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ii).....  
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iii).....  
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Total Mark

**Please see over/.....**



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**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB.  
Charity Registration Number: 222879/SC038262**





Sharing the best in Gardening

**R2112**

**UNDERSTANDING THE CHOICE, ESTABLISHMENT &  
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**Tuesday 19 June 2018**

|                              |            |     |                                |            |            |
|------------------------------|------------|-----|--------------------------------|------------|------------|
| <b>Candidates Registered</b> | <b>827</b> |     | <b>Total Candidates Passed</b> | <b>502</b> | <b>73%</b> |
| Candidates Entered           | 692        | 84% | Passed with Commendation       | 191        | 28%        |
| Candidates Absent/Withdrawn  | 127        | 15% | Passed                         | 311        | 45%        |
| Candidates Deferred          | 8          | 1%  | Failed                         | 190        | 27%        |

**Senior Examiner's Comments:**

- 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. This is particularly important when answering questions relating to particular (named) plant(s). Marks can only be awarded for these narratives where the example(s) are correctly and fully identified.
- 2** Candidates must be able to display accurate knowledge of the technical terms and concepts detailed in the syllabus, in the context of horticulture and also be aware that wider interpretation will not be rewarded. The examination should be regarded as a possible introduction to higher level studies, which will only be open to those who are in possession of a clear understanding of the horticultural terms and concepts which are current.
- 3** The introductory rubric given on the first page of each question paper should be read carefully by candidates. At each examination there are a significant number of candidates who ignore or misread the instructions given and consequently may not perform as well as they could have done.

- 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. They should take care to write as legibly as possible, so that the examiner is in no doubt about what is intended.
- 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** It is important to ensure that responses to questions are to the point. Candidates should bear in mind that small sketches might be used to convey information more succinctly than words.
- 7** Successful candidates ensure that their answers are focused 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 can enhance an answer and where appropriate can replace detailed descriptions. They should be large, clear and well annotated, ensuring that labels are properly attached to the features they describe. Diagrams should preferably be in pencil. Colour may be used successfully but only where it is relevant to the answer.
- 9** In each examination it is clear that some candidates are ill prepared to answer papers of the type set. It is essential that candidates have the opportunity to practice questions. Ideally some papers should be answered in a time constrained situation. Appropriate feedback must, in any case be provided.

|   | <b>MARKS</b> |
|---|--------------|
| <b>Q1 a)</b> Describe what is meant by the term groundwork (infill) suitable for a traditional spring bedding display, giving <b>TWO</b> distinct plant examples. | <b>4</b>     |
| b) <b>NAME ONE</b> pest <b>AND ONE</b> disease that affect plants suitable for spring bedding displays.   | <b>2</b>     |
| c) Describe how <b>TWO</b> distinct <b>NAMED</b> materials are used during soil preparation when planting summer bedding.   | <b>4</b>     |

**Q1a)** Marks were gained by candidates who described the term groundwork (infill) for a traditional spring bedding display as the mass planting forming the bulk of the display, usually providing the main colour of the border and of medium height.

Suitable plant examples included: *Bellis perennis*, *Erysimum cheiranthoides*, *Primula polyantha* and *Myosotis sylvatica*.

**Q1b)** Candidates named a range of pests and diseases that affect plants suitable for spring bedding displays and gained maximum marks. These included:

**Pests** – slugs, aphids

**Diseases** – botrytis, powdery mildew

**Q1c)** Good descriptions were provided by candidates who could name suitable materials that are used during soil preparation when planting summer bedding. Acceptable answers included:

**Well-rotted organic matter or garden compost** incorporated during primary cultivation/digging of the soil.

**Fertiliser** e.g. Growmore applied broadcast in two directions at a rate of 70g/m<sup>2</sup> during secondary cultivation and then raked in.

**Coarse grit** incorporated during primary cultivation/digging of the soil.

**Q2 a)** Name **FOUR** distinct herbaceous perennials suitable for growing in shade.

**4**

**b)** Describe the planting of an herbaceous border with the use of bare-rooted plants.

**6**

**Q2a)** The majority of candidates named a range of herbaceous perennials suitable for growing in the shade and were awarded full marks.

These included: *Astrantia major*, *Bergenia cordifolia*, *Brunnera macrophylla* and *Epimedium x rubrum*.

**Q2b)** The best candidates provided descriptions of the planting of bare-rooted plants in an herbaceous border and gained full marks. Suitable answers included:

The border should be marked out using canes or sand at the appropriate spacing for the plants. Any surface weed is removed from the plants and the roots are trimmed. Prior to planting the plants are protected from drying out. Planting holes are dug to the correct depth to ensure that the crown of the plant is at soil level. The soil is carefully back filled and consolidated around the plant to ensure good contact between the roots and the soil and watered in.

**Q3 a)** Describe the pruning of **ONE** distinct **NAMED** flowering shrub for **EACH** of the following seasons:

- i)            *spring;*
- ii)           *summer.*

**5**  
**5**

**Q3a)** Candidates who were able to describe the specific pruning requirements of flowering shrubs for each of the seasons achieved maximum marks. The best answers included:

- i)            **Spring** e.g. *Forsythia x intermedia* 'Lynwood' is pruned after flowering from March to May. It flowers on the previous season's wood and is pruned by initially removing dead, diseased and damaged as well as crossing wood. Cuts should always be just above a bud at an angle of 45°. Prune to ensure that the natural shape of the plant is maintained and some of the oldest shoots removed at the base.
  
- ii)           **Summer** e.g. *Buddleja davidii* is pruned from November to March. It flowers on the current season's wood. All shoots of *Buddleja davidii* are pollarded into a stag's horn shape.

|   | <b>MARKS</b> |
|---|--------------|
| <b>Q4 a)</b> Name <b>FIVE</b> distinct trees grown for winter interest. | <b>5</b>     |
| b) Describe <b>TWO</b> distinct methods of staking when planting trees. | <b>4</b>     |
| c) Name <b>ONE</b> common disease that affects trees.                   | <b>1</b>     |

**Q4a)** The majority of candidates were able to name trees grown for winter interest and were awarded full marks. Suitable answers included:

*Acer griseum, Corylus avellana 'Contorta', Prunus serrula, Betula utilis var. jacquemontii, Salix daphnoides.*

**Q4b)** Candidates described a range of suitable methods of staking when planting trees and gained maximum marks. Acceptable answers included:

- A short stake at an angle of 45° at a height up to 1m and angled towards the direction of the wind can be used. A buckle tie can be used to secure the tree to the stake
- Double stakes which can be short up to 1m or up to the crown 2m and 30-45cm between the stakes can be used. Cross ties or a cross beam are used to secure the tree to the stakes
- A single upright stake can be used that is either 1m or 2m in height. A buckle tie can be used to secure the tree to the stake

**Q4c)** Most candidates named a suitable disease that affects trees and were awarded maximum marks. Suitable answers included: Honey Fungus, Fireblight, Bacterial Canker, Dutch Elm Disease.

**Q5 a)** Describe the maintenance of alpine or rock garden plants under **EACH** of the following headings:

- |     |                           |          |
|-----|---------------------------|----------|
| i)  | <i>mulching;</i>          | <b>2</b> |
| ii) | <i>winter protection.</i> | <b>2</b> |

**b)** Describe the maintenance of aquatic plants under **EACH** of the following headings:

- |      |   |          |
|------|---|----------|
| i)   | <i>water/vegetation balance;</i>              | <b>2</b> |
| ii)  | <i>maintenance of water levels in summer;</i> | <b>2</b> |
| iii) | <i>management of ice formation.</i>           | <b>2</b> |

**Q5a)** Many candidates provided good descriptions of the maintenance of alpine or rock garden plants and were awarded full marks. Suitable answers included:

- i) **Mulching** is carried out during the autumn or mid-late spring. Materials that can be used to a depth of 8-25mm include; limestone chips, granite chippings, coarse grit, gravel and glass chippings. It is applied around the plant and under any spread to reach the collar of the plant.
- ii) **Winter Protection** can be provided by the use of cloches, glass or twin walled polycarbonate sheets supported on a frame above the plants, an alpine glasshouse or unheated, well ventilated glasshouse.

**Q5b)** Candidates who described the maintenance of aquatic plants well gained full marks. Suitable answers included:

- i) **Water/Vegetation Balance** should ideally be maintained at 50% open water and 50% surface vegetation cover. This can be achieved by cutting back excessive growth or removing duckweed or blanket weed by twirling it around a stick or raking it off. The material should be left beside the pond for 24 hours to allow any wildlife to re-enter the pond.
- ii) **Maintenance of Water Levels in Summer** is important as during hot, sunny weather high evaporation and transpiration can cause water levels to reduce. Regularly topping up with collected rain water is ideal as tap water contains high levels of nutrients which encourage algae growth. The water should be added gradually.
- iii) **Management of Ice Formation** can be achieved by placing a floating object on the surface of the water in the pond e.g. a tennis ball or by the use of a pool heater. Alternatively a hot saucepan can be held on the surface of the ice to melt a hole.

**Q6 a)** Describe the process of establishing a lawn from turf under **EACH** of the following headings:

- |                      |          |
|----------------------|----------|
| i) soil preparation; | <b>4</b> |
| ii) turf laying;     | <b>4</b> |
| iii) aftercare.      | <b>2</b> |

**Q6a)** Marks were gained by candidates who provided good descriptions of establishing a lawn from turf. The best answers included:

- i) **Soil Preparation** commences with the removal of weeds by digging or the use of a translocated herbicide e.g. glyphosate followed by primary cultivation which includes single or double digging or rotary cultivation. Secondary cultivation includes the rough levelling of the site using a landscape rake, consolidation of the soil by treading or the use of a roller and the creation of a fine tilth using a garden rake.
  
- ii) **Turf Laying** is carried out by commencing at a long edge of the site and laying whole turves in a brick bond pattern ensuring that the joints are well butted together. Turf is laid standing on a board to avoid damage to existing turves. The whole area is systematically filled in with smaller pieces cut to fill in any gaps. Once the turf is laid consolidation by walking over it on the boards or by the use of a roller is important to ensure good contact of the turf with the soil. The joints should be dressed with top dressing which is a mixture of soil and sand by brushing it in with a besom broom.
  
- iii) **Aftercare** is very important for new turf to be successful. Irrigation (a thorough drenching) is required during hot, dry weather until it is established and mowing to a height of 10-15mm should take place once the lawn is established. Further consolidation with a roller may be required and the lawn should be monitored for any signs of pest or disease damage.



