



R2111

**UNDERSTANDING GARDEN FEATURES, PLANT SELECTION
& PLANNING**

Level 2

Tuesday 20 June 2017

09:30 – 10:50

Written Examination

Candidate Number:

Candidate Name:

Centre Number/Name:

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **80** 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.

ANSWER ALL QUESTIONS

MARKS

Q1 a) State **ONE** risk associated with **EACH** of the following hazards in a garden situation:

- i) an overhead cable;
- ii) steeply sloping ground;
- iii) a pond;
- iv) a named underground service.

1
1
1
1

i)

ii)

iii)

iv)

b) Describe **THREE** distinct hazards of established trees with **ONE** associated risk for **EACH** by completing the table below.

Hazard	Associated Risk
1.	
2.	
3.	

2

2

2

Total Mark

Please see over/.....

MARKS

Q3 a) Compare the characteristics of **ONE NAMED** natural material and **ONE NAMED** man-made material suitable for constructing a garden wall by completing the table below.

Named natural material	Named man-made material
Aesthetics/Appearance 1. 2.	1. 2.
Sustainability/Durability 1. 2.	1. 2.

2

4

4

Total Mark

Please see over/.....

MARKS

Q4 a) State **TWO** factors that need to be recorded during a site appraisal for **EACH** of the following:

- i) aspect;
- ii) exposure.

2
2

i).....
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.....
.....

ii).....
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b) Name **TWO** distinct plants suitable for use in **EACH** of the exposed situations stated in a) ii).

1.....

1

2.....

1

3.....

1

4.....

1

c) Name **TWO** additional items of information that need to be recorded during a site appraisal.

2

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Total Mark

Please turn over/.....

MARKS

Q5 a) Describe how balance is achieved in garden design, with the aid of diagrams, for **EACH** of the following terms:

- i) asymmetry;
- ii) symmetry.

2
2

b) Name **TWO** garden planning principles, other than those in a), that contribute to a garden design that 'works'.

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2

c) Describe the **TWO** garden planning principles named in b).

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4

Total Mark

Please see over/.....

MARKS

Q6 a) Name **THREE** distinct deciduous trees/large shrubs, suitable for a domestic garden, by completing the table below.

Tree/large shrub	Decorative merit	Height
1.		
2.		
3.		

3

3

3

b) State **ONE** reason why trees may not be suitable for planting in a small domestic garden.

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1

Total Mark

Please turn over/.....

MARKS

6

Q7 a) Describe **THREE** factors which may limit work during the construction of a garden.

1.....
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2.....
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3.....
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b) Describe what is meant by 'offsets' in relation to linear surveying of a garden, with the aid of a diagram.

4

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Total Mark

Please see over/.....

MARKS

Q10a State **ONE** distinct hazard and the associated risk for **TWO NAMED** hedging plants, by completing the table below.

Plant	Hazard	Risk
1.		
2.		

3

3

b) State **TWO** distinct herbaceous plants considered to be hazardous in gardens, by completing the table below.

Plant	Hazard
1.	
2.	

2

2

Total Mark

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

R2111

**UNDERSTANDING GARDEN FEATURES, PLANT SELECTION
& PLANNING**

Level 2

Tuesday 20 June 2017

Candidates Registered	645		Total Candidates Passed	453	83.43%
Candidates Entered	543	84.19%	Passed with Commendation	228	41.99%
Candidates Absent/Withdrawn	89	13.80%	Passed	225	41.44%
Candidates Deferred	13	2.01%	Failed	90	16.57%

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.

Q1 a) State **ONE** risk associated with **EACH** of the following hazards in a garden situation:

- | | | |
|------|------------------------------|----------|
| i) | an overhead cable; | 1 |
| ii) | steeply sloping ground; | 1 |
| iii) | a pond; | 1 |
| iv) | a named underground service. | 1 |

b) Describe **THREE** distinct hazards of established trees with **ONE** associated risk for **EACH** by completing the table below.

Hazard	Associated Risk	
1.		2
2.		2
3.		2

Q1a) The majority of candidates were able to state associated risks for the named hazards and were awarded full marks. Acceptable answers included:

- i) **An overhead cable** – there is a high probability of fouling with machinery, long-handled pruners, ladders etc. which may result in electrocution.
- ii) **Steeply sloping ground** – pedestrians may slip and fall, especially in wet weather causing cuts, bruises and broken bones.
- iii) **A pond** – people may fall in, especially children playing around the edge. There is a risk of drowning where young children can drown in shallow water.
- iv) **A named underground service** – there is a possibility of hitting unmarked services with hand tools or machinery when digging. This could result in electrocution if an electric cable is damaged or an explosion resulting in injuries to people if a gas pipe is damaged.

Q1b) Candidates provided a range of hazards and their associated risk of established trees and gained maximum marks. Suitable answers included:

- Exposed tree roots protruding above the soil surface which will cause trips and falls resulting in bruises, abrasions or broken bones
- Leaf fall, especially from deciduous trees overhanging hard surfaces can cause slips leading to falls resulting in possible bruises, abrasions or broken bones
- Fallen debris e.g. broken branches falling on people. This can cause broken bones or head injuries

Candidates who described falling trees and poisonous or thorny species were also awarded marks.

Q2 a) Describe **TWO** landscape features of a knot garden.

4

b) Name and describe **TWO** distinct plants suitable for edge planting in a knot garden.

6

Q2a) Most candidates were able to describe landscape features of a knot garden and achieved full marks. These included; the use of low clipped evergreen hedging, formal interweaving geometric patterns, infill between the hedging can be either; filled with gravel, herbs or medicinal plants.

Q2b) Candidates who clearly understood that plants suitable for edge planting in a knot garden need to have dense foliage, be small and compact in size, slow growing with small leaves which may be glossy gained full marks. Suitable examples included:

Buxus microphylla which has small, evergreen leaves with a compact growth habit which responds well to hard pruning. It has a slow growth rate which does not necessitate regular clipping.

Rosmarinus officinalis which is dense and bushy and has narrow leathery dark green aromatic foliage which are white-felted beneath. Tubular purple-blue flowers are produced in mid spring to early summer.

Candidates who described *Taxus baccata* could not be awarded any marks as it grows too large for this style of garden. Topiary which is another specialist horticultural technique could not be awarded any marks as it is not specifically related to the edges of knot gardens.

Q3 a) Compare the characteristics of **ONE NAMED** natural material and **ONE NAMED** man-made material suitable for constructing a garden wall by completing the table below.

<i>Named natural material</i>	<i>Named man-made material</i>	
Aesthetics/Appearance		2
1.	1.	4
2.	2.	
Sustainability/Durability		4
1.	1.	
2.	2.	

Q3a) Candidates who distinguished between natural and man-made materials gained full marks. Suitable answers included:

Natural – Sandstone, limestone, flint, slate.

Man-Made – Concrete (poured or blocks), clay bricks, glass bricks.

The best candidates compared specific materials for constructing a garden wall and were awarded full marks. Acceptable answers included:

Sandstone – Aesthetics/Appearance

- Sandstone can be used to relate to the local environment creating cohesion
- Sandstone has a rough texture which suits rural situations and naturalistic gardens

Sandstone – Sustainability/Durability

- Some sandstones do not weather well and may not last a long time
- Sandstone is not a renewable material and extraction may be harmful to wildlife and the environment

Concrete Blocks – Aesthetics/Appearance

- Unnatural and looks man-made. It is more suited to urban environments
- The unit size is regular and has a smooth finish. This suits contemporary designs

Concrete Blocks – Sustainability/Durability

- Extremely durable although they may require coating periodically to improve the appearance of the blocks
- The manufacturing process involves processes which are very harmful to the environment

Q4 a) State **TWO** factors that need to be recorded during a site appraisal for **EACH** of the following:

- i) aspect; 2
- ii) exposure. 2

b) Name **TWO** distinct plants suitable for use in **EACH** of the exposed situations stated in a) ii).

- 1..... 1
- 2..... 1
- 3..... 1
- 4..... 1

c) Name **TWO** additional items of information that need to be recorded during a site appraisal. 2

Q4a) Candidates who were able to state factors which are recorded during a site appraisal gained maximum marks. Acceptable answers included:

- i) **Aspect** i.e. the compass direction that the garden faces e.g. north, south etc. and any views e.g. to open countryside.
- ii) **Exposure** i.e. to what degree are areas of the garden exposed to sun, how many hours of sun does the garden receive, wind and its direction. If the garden is located near the coast salt laden winds are to be expected.

Q4b) Most candidates provided suitable plant examples for exposed situations in a garden and were awarded full marks. These included:

Sun – *Lavandula angustifolia*, *Phormium cookianum*

Strong winds – *Pinus mugo*, *Phyllostachys nigra*

Salt laden winds – *Griselinia littoralis*, *Armeria maritima*

Q4c) A range of additional items of information that need to be recorded during a site appraisal were named by candidates who achieved full marks. Suitable answers included: Soil type, contour, microclimate, drainage.

- Q5 a)** Describe how balance is achieved in garden design, with the aid of diagrams, for **EACH** of the following terms:
- i) asymmetry; **2**
 - ii) symmetry. **2**
- b) Name **TWO** garden planning principles, other than those in a), that contribute to a garden design that 'works'. **2**
- c) Describe the **TWO** garden planning principles named in b). **4**

Q5a) Good descriptions of how balance is achieved in garden design for each of the terms, were given by many candidates who gained maximum marks. Suitable answers included:

- i) **Asymmetry** is something that relates to balancing a large mass at a distance with a number of items in a smaller mass nearby.
- ii) **Symmetry** is when a design is balanced and in proportion. It is when each sector of the garden is the same e.g. paving patterns are regular, evergreen hedging is repeated, topiary balls, statues, urns etc.

Many candidates included notated diagrams in their answers and were awarded marks.

Q5b) The best candidates named appropriate garden planning principles and gained full marks. These included: unity or cohesion, form, scale/ proportion, movement/direction, rhythm, repetition, simplicity.

Q5c) Garden planning principles were described well by most candidates who were awarded full marks. Acceptable answers included:

Cohesion is the continuity within the garden design which also relates to the local environment e.g. hard landscape materials can be selected to link to those used in the house, rock should be the same as that found locally where possible and plants can link to the local environment e.g. by using native plants. Form and colour of plants can be repeated through the design to link areas and form a cohesive whole.

Scale/Proportion is where everything in the design should be selected according to the size of the garden. This includes all hard landscape elements e.g. buildings, size of paving units, containers, statues and urns. The selection of plants must also be considered according to their ultimate height and spread.

Q6 a) Name **THREE** distinct deciduous trees/large shrubs, suitable for a domestic garden, by completing the table below.

Tree/large shrub	Decorative merit	Height
1.		
2.		
3.		

3

3

3

b) State **ONE** reason why trees may not be suitable for planting in a small domestic garden.

1

Q6a) Marks were awarded to candidates who named and provided appropriate details for deciduous trees/large shrubs. Suitable answers included:

- *Crataegus laevigata* ‘Paul’s Scarlet’ has double, dark pink flowers in May and reaches a height of 8m
- *Sorbus* ‘Joseph Rock’ has clusters of pale yellow to orange-yellow fruits and reaches a height of 10m
- *Malus* ‘Golden Hornet’ has long lasting golden yellow fruits and reaches a height of 10m

Candidates who named evergreen trees/large shrubs or small shrubs could not be awarded any marks.

Q6b) Candidates gave a range of reasons why trees may not be suitable for a small garden and gained maximum marks. Acceptable answers included:

- Leaf fall can create slip hazards on hard surfaces
- Leaf fall may create undesirable maintenance issues on gravel
- Trees may shade other plants
- There is potential for tree roots to undermine house or wall foundations

Q7 a) Describe **THREE** factors which may limit work during the construction of a garden.

6

- 1.....
- 2.....
- 3.....

b) Describe what is meant by 'offsets' in relation to linear surveying of a garden, with the aid of a diagram.

4

Q7a) The majority of candidates were able to describe factors which may limit work during the construction of a garden and were awarded full marks. Suitable answers included:

- Financial constraints i.e. the need to carry out the work in stages due to cash flow issues of the client
- Difficulties with access for plant, equipment and delivery of materials to the site
- Difficulties with neighbours i.e. noise and timing of works
- Difficulties with the weather e.g. heavy rain causing flooding, winter weather i.e. day length, snow and ice

Q7b) Many candidates provided a good annotated diagram when describing offsets and gained maximum marks. The best answers included:

- Establishment of a base line labelled A-B
- Baseline accurately set against fixed points e.g. a house wall
- Running measurements along the baseline to accurately position the offsets
- Measurement from the feature to the baseline
- Offsets to be at a 90° angle to the baseline

Q8 a) Define the term 'cohesive' in relation to garden design.

1

b) Describe how **THREE NAMED** hard landscaping elements may contribute to the cohesiveness of a garden design.

9

1.....

2.....

3.....

Q8a) Candidates who included the following statements in their definition of cohesive were awarded full marks. These included:

- A oneness
- Harmony with surroundings
- Relationship with the house or other buildings
- Relationship with other materials and plants
- Relationship to the local environment

Q8b) A range of hard landscaping elements were named by candidates who described how they may contribute to the cohesiveness of a garden design. Suitable answers included:

Walls within the garden design should exhibit continuity with those of the house e.g. boundaries, area divisions or side walls for flights of steps. This can be achieved by using the same brick or a similar one as that used in the house.

Paths may relate to the house e.g. colour or material e.g. bricks may be used to create entire paths or to provide variety to areas of paving slabs. It is important that paving materials should be consistent throughout the garden.

Furniture wooden furniture can be selected to match timber used for other purposes in the garden. These may include pergolas or even the timber on the house if it has exposed timber. Timber may also be stained to pick up colour themes used in features e.g. ceramic pots.

- | | MARKS |
|--|--------------|
| Q9 a) Describe TWO alpine/rock garden plants suitable for use in a domestic rock garden. | 6 |
| b) State FOUR factors to be considered when selecting a site for alpine/rock garden plants. | 4 |

Q9a) The majority of candidates described a range of suitable alpine/rock garden plants for a rock garden and gained full marks. These included:

- *Dianthus alpinus* is a mat forming hardy perennial with dark green foliage and solitary, pale-spotted deep pink to cerise flowers. It reaches a height of 8cm.
- *Iberis sempervirens* is a spreading evergreen sub shrub with narrow dark green leaves and pure white flowers in spring. It reaches a height of 30cm.

Q9b) Most candidates were able to provide appropriate factors that need to be considered when selecting a site for alpine/rock garden plants and were awarded full marks. Acceptable answers included:

- Ideally a sloping site
- Free draining soil
- Sunny open site
- Free from overhanging trees
- Absence of invasive perennial weeds
- Good site access for machinery to deliver rock

Q10a State **ONE** distinct hazard and the associated risk for **TWO NAMED** hedging plants, by completing the table below.

Plant	Hazard	Risk
1.		
2.		

3

3

b) State **TWO** distinct herbaceous plants considered to be hazardous in gardens, by completing the table below.

Plant	Hazard
1.	
2.	

2

2

Q10a) Candidates gained maximum marks for providing the hazard and risk for specific hedging plants. Suitable answers included:

Berberis julianae has large spines which can cause puncture wounds, cuts and scratches from the spines.

Taxus baccata whose leaves and fruits are toxic. They are poisonous if ingested and can cause stomach upset and serious illness.

Q10b) The best answers were provided by candidates who stated specific herbaceous plants that are hazardous in gardens. These included:

Digitalis purpurea - the flowers, stems, leaves and seeds are poisonous if ingested.

Euphorbia characias subsp. *wulfenii* – the sap can cause irritation to the skin and eyes.
