Including Examiners comments

RHS
Inspiring everyone to grow

R2111
UNDERSTANDING GARDEN FEATURES, PLANT SELECTION & PLANNING

Level 2

Tuesday 11 February 2020

09:30 – 10:50

Written Examination

Candidate Number: .....

Candidate Name: .....

Centre 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 spaces 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. Ensure that all diagrams are labelled accurately with the line touching the named object;
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 Name **FIVE** distinct trees suitable for use in a domestic garden, giving a decorative merit for **EACH**, by completing the table below:

NAMED tree	Decorative merit	
1.		**2**
2.		**2**
3.		**2**
4.		**2**
5.		**2**

Total Mark

Please see over/…..

MARKS

Q2 a) Name **TWO** distinct items of equipment necessary to carry out a linear survey. **2**

.....

.....

.....

.....

b) Describe how to carry out the following linear survey techniques:

i) offsets **4**
ii) triangulation **4**

.

i).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

ii).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please turn over/…..

MARKS

Q3 a) Name **TWO** grass species suitable for **EACH** of the following types of lawn by completing the table below:

Type of lawn	**Species 1**	**Species 2**	
Utility			**2**
High quality ornamental			**2**
Shade tolerant			**2**

b) Describe **TWO** soft landscaping features which could be used to minimise the size of a lawn in a more sustainable garden design. **4**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please see over/…..

MARKS

Q4 a) Name **FOUR** distinct materials which could be used in the construction of a pond. **4**

.....

.....

.....

.....

.....

.....

.....

b) Describe **ONE NAMED** water feature suitable for an informal garden style. **3**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

c) Describe **ONE NAMED** water feature suitable for a formal garden style. **3**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please turn over/…..

MARKS

Q5 Name **FIVE** distinct herbaceous perennial plants giving site requirements for **EACH** by completing the table below:

Plant name	**Site requirements**	
1.		**2**
2.		**2**
3.		**2**
4.		**2**
5.		**2**

Total Mark

Please see over/…..

MARKS

Q6 a) State **FIVE** distinct factors which must be recorded when carrying out a site appraisal. **5**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

b) State **FIVE** distinct hazards which will make a garden site appraisal difficult to carry out. **5**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please turn over/…..

MARKS

Q7 a) State the meaning of **EACH** of the following garden planning principles:

i) repetition **2**
ii) simplicity **2**

i).....

.....

.....

ii).....

.....

.....

b) Describe **TWO** ways in which the use of repetition contributes to the successful design of a knot garden. **4**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

c) Describe **ONE** way by which simplicity contributes to the successful design of a knot garden. **2**

.....

.....

.....

.....

.....

Total Mark

Please see over/…..

MARKS

Q8 a) Describe the suitability of **ONE NAMED** man-made material and **ONE NAMED** natural material for a garden screen by completing the table below:

	Man-made	**Natural**	
Name of material			**2**
Practical suitability			**2**
Design suitability			**2**

b) Name **FOUR** distinct evergreen plants suitable for a garden screen. **4**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please turn over/…..

MARKS

Q9 a) Describe **TWO** hazards associated with **EACH** of the following:

i) garden ponds **4**
ii) hard landscaping materials **4**

i).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

ii).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

b) State how a **NAMED** risk relating to garden steps can be minimised in a domestic garden. **2**

.....

.....

.....

.....

.....

.....

Total Mark

Please see over/…..

MARKS

Q10 a) State what is meant by the term 'environmental sustainability'. **2**

.....

.....

.....

.....

b) State **FOUR** distinct sustainable practices for **EACH** of the following:

i) garden construction
ii) garden maintenance

by completing the table below.

	Garden construction	**Garden maintenance**	
1.			**2**
2.			**2**
3.			**2**
4.			**2**

Total Mark

****

**©These questions are the property of the Royal Horticultural Society.
They must not be reproduced or sold.**

**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB.
Charity Registration Number: 222879/SC03826**

Inspiring everyone to grow

R2111
UNDERSTANDING GARDEN FEATURES, PLANT SELECTION & PLANNING

Level 2

Tuesday 11 February 2020

Candidates Registered	**804**		**Total Candidates Passed**	**574**	**85%**
Candidates Entered	675	84%	Passed with Commendation	293	43%
Candidates Absent/Withdrawn	112	14%	Passed	281	42%
Candidates Deferred	17	2%	Failed	101	15%

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.

MARKS

Q1 *Name **FIVE** distinct trees suitable for use in a domestic garden, giving a decorative merit for **EACH**, by completing the table below:*

NAMED tree	***Decorative merit***	
1.		***2***
2.		***2***
3.		***2***
4.		***2***
5.		***2***

Q1) A wide range of trees and their merits which are suitable for a domestic garden were provided by the best candidates who were awarded full marks. These included:

Acer griseum – has peeling papery chestnut-brown bark or leaves which are whitish beneath, turning brilliant red and orange in autumn.

Arbutus unedo – has urn-shaped white flowers in summer/autumn, appearing as the strawberry-like fruits from the previous years' flowers ripen.

Luma apiculata – has cinnamon and cream-coloured bark or small white flowers in summer.

Malus x zumi **'Golden Hornet'** – has white flowers in spring or yellow fruits in autumn and winter.

Sorbus **'Joseph Rock'** – has pinnate leaves which turn orange, red and purple in autumn or butter yellow fruits in autumn.

MARKS

Q2 *a) Name **TWO** distinct items of equipment necessary to carry out a linear survey.* ***2***

b) Describe how to carry out the following linear survey techniques:

i) offsets ***4***
ii) triangulation ***4***

Q2a) The majority of candidates named suitable equipment required to carry out a linear survey and gained maximum marks. These included:

30m or 50m landscape measuring tape, rigid measuring tape, datum pegs and string line, paper, pen/pencil.

Candidates who named equipment used to draw the plan could not be awarded any marks.

Q2b) Candidates who were able to describe specific linear survey techniques, supported by a clear diagram gained full marks. Suitable answers included:

i) **Offsets** – Establish a fixed baseline along a fixed datum line e.g. a house, wall or elsewhere in the garden. Measurements are taken from the feature being surveyed to the baseline ensuring that it meets the baseline at a 90° right angle. A second measurement is taken along the baseline to where it is met by the offset measurement to accurately position the offset. All measurements are recorded on a survey sketch.

ii) **Triangulation** – Establish two known datum points along a fixed baseline or corners/known points on a house wall and label them on a sketch e.g. A & B (the further apart these are the more accurate the triangulation). Use a carefully fixed tape to measure from one of the datum points to the feature being surveyed e.g. from point A to the feature. This is repeated with a measurement from point B to the feature.

MARKS

Q3 *a) Name **TWO** grass species suitable for **EACH** of the following types of lawn by completing the table below:*

Type of lawn	***Species 1***	***Species 2***	
Utility			***2***
High quality ornamental			***2***
Shade tolerant			***2***

*b) Describe **TWO** soft landscaping features which could be used to minimise the size of a lawn in a more sustainable garden design.* ***4***

Q3a) Many candidates were able to name suitable grass species for specific types of lawn. Acceptable answers included:

Utility – *Lolium perenne, Festuca rubra rubra, Poa pratensis, Agrostis capillaris.*

High Quality Ornamental – *Agrostis capillaris* + *Festuca rubra* subsp. *commutata.*

Shade Tolerant – *Festuca rubra rubra, Poa nemoralis, Poa trivialis, Lolium perenne.*

Q3b) Full marks were awarded to candidates who described appropriate features to minimise the size of the lawn in a more sustainable garden design. These included:

- Replace the majority of the lawn with a mixed shrub and herbaceous border. Include drought tolerant plants to reduce the use of water and plants that have been selected for their ability to attract pollinators and provide seeds for birds in winter.

- Sow a wildflower meadow to replace the lawn. This can include native species e.g. *Papaver rhoeas* and *Leucanthemum vulgare* to provide food and habitat for bees, butterflies and birds. The inclusion of *Rhinanthus minor* will reduce the vigour of competing grasses.

Other suitable examples included: herbaceous borders, island beds, borders for hardy annuals, vegetable gardens and ground cover planting/'flowering lawn'.

		MARKS
Q4 *a)*	*Name **FOUR** distinct materials which could be used in the construction of a pond.*	***4***
b)	*Describe **ONE NAMED** water feature suitable for an informal garden style.*	***3***
c)	*Describe **ONE NAMED** water feature suitable for a formal garden style.*	***3***

Q4a) Most candidates were able to name a range of suitable materials for use in the construction of a pond. These included:

Butyl liner, puddled clay, pre-formed plastic liner, poured concrete, fibre glass liner, concrete blocks, engineering bricks, sandstone rocks.

Q4b) Most candidates described a wildlife pool which is a suitable water feature for an informal garden style and achieved maximum marks. The best answers included:

A wildlife pool is irregular in shape with edges that have been softened with planting and natural stone. The pool would contain various levels for marginal, deep water and submerged plantings of native plants. Part of the pool should have a shallow or sloping edge to enable wildlife to enter and exit safely.

Q4c) Candidates who described a specifically formal water feature for a formal garden style gained full marks. These included:

A geometrically shaped pool either square, rectangular or round. This would often be raised, constructed from dressed stone, with square cut stone edging and contain only one plant e.g. *Nymphaea alba.*

Other suitable answers described a similar pool with a classical statue or fountain made from granite or marble.

MARKS

Q5 *Name **FIVE** distinct herbaceous perennial plants giving site requirements for **EACH** by completing the table below:*

Plant name	***Site requirements***	
1.		***2***
2.		***2***
3.		***2***
4.		***2***
5.		***2***

Q5) To gain maximum marks it was important that candidates provided site requirements for each of the plants named. The best answers included:

Acanthus spinosus – well drained soil. Full sun or part shade.

Echinacea purpurea – well drained soil. South, east or west facing aspect.

Hylotelephium spectabile – well drained soil with alkaline or neutral pH. Full sun, south or east facing aspect.

***Rudbeckia fulgida* var. *sullivantii* 'Goldsturm'** – moist but well drained soil. Full sun or part shade.

Verbena bonariensis – moist but well drained or well-drained soil. Full sun only.

Candidates who named annual plants or sub-shrubs could not be awarded any marks.

MARKS

Q6 *a) State **FIVE** distinct factors, which must be recorded when carrying out a site appraisal.* ***5***

*b) State **FIVE** distinct hazards which will make a garden site appraisal difficult to carry out.* ***5***

Q6a) Candidates who clearly understood specific factors which must be recorded when carrying out a site appraisal were awarded full marks. These included:

- The aspect of the site, north, east, south, west facing areas of the garden which create sun or shade
- Soil pH to identify if the soil is acidic, neutral or alkaline. This will affect the selection of plants for the garden
- Soil drainage to include any areas of wet or waterlogged soil as well as any dry areas
- Microclimates within the garden e.g. frost pockets at the base of a slope and sun traps near south facing walls
- Existing garden structures e.g. sheds, walls, fences and their condition
- Views out of the garden to include borrowed landscapes and fine views as well as any eyesores e.g. electricity pylons which can be seen from the garden

Additional factors which were acceptable included; soil type, soil texture, contours, exposure, style of house.

Q6b) A range of suitable hazards which make a site appraisal difficult to carry out were provided by the best candidates who achieved full marks. These included:

- Overgrown plants on the ground which could trip the designer up or may be covering uneven ground or pot holes
- Neglected and overgrown thorny, poisonous or stinging plants e.g. brambles and nettles that the designer must reach through to measure
- Unsafe garden walls with crumbling mortar and bricks which could fall onto the designer
- Algae covered paths and decking which could be a slip hazard
- Trees with dead, diseased or damaged branches which could fall onto the designer if carrying out the appraisal in windy conditions
- Steep slopes in wet weather which are a slip hazard for the designer

MARKS

Q7 *a) State the meaning of **EACH** of the following garden planning principles:*

i) repetition ***2***

ii) simplicity ***2***

*b) Describe **TWO** ways in which the use of repetition contributes to the successful design of a knot garden.* ***4***

*c) Describe **ONE** way by which simplicity contributes to the successful design of a knot garden.* ***2***

Q7a) The best candidates were able to state the meaning of the two closely related principles giving suitable examples and were awarded full marks. These included:

i) **Repetition** involves the use of similar or the same elements multiple times. Repeating these elements consistently can aid cohesion and unity in a garden or give a sense of rhythm and movement e.g. the colour of painted furniture can be reflected in the colour of plants, archways and the house window frames. Using a similar colour throughout the garden aids cohesion, linking all of the spaces.

ii) **Simplicity** involves using a minimal number of elements to create a sense of calm, uncluttered or uncomplicated garden space e.g. using a restricted colour palette throughout the gardens' soft and hard landscape elements creates a feeling of a calm and uncluttered space.

Q7b) Candidates who provided the best descriptions of ways in which repetition contributes to the design of a knot garden included examples of features found in knot gardens in their answers. These included; clipped hedges, shapes, infill plants and materials, complex pattern of hedges.

Suitable examples provided in their descriptions included:

- The use of *Buxus sempervirens* plants repeated in a clipped hedge forming the pattern throughout the knot garden
- The use of a single plant species planted to infill within the knot patterns e.g. *Lavandula angustifolia*

Q7c) Full marks were achieved by candidates who were able to describe how simplicity is used to contribute to the design of a knot garden. Suitable descriptions included:

- Simplicity can be created by having blocks of plants of a single colour in infills which adds to the impact of the pattern
- The use of a single plant species for hedging e.g. *Buxus microphylla,* clipped to the same height throughout the pattern aids a simplified whole.

MARKS

Q8 *a) Describe the suitability of **ONE NAMED** man-made material and **ONE NAMED** natural material for a garden screen by completing the table below:*

	Man-made	***Natural***	
Name of material			***2***
Practical suitability			***2***
Design suitability			***2***

*b) Name **FOUR** distinct evergreen plants suitable for a garden screen.* ***4***

Q8a) A range of materials, including their practical and design suitability were described by many candidates who gained maximum marks.

Practical suitability relates to aspects e.g. ease of handling, durability and maintenance requirements whereas design suitability refers to the aesthetic or functional contribution the material makes to the design. Suitable examples of materials included:

Man-Made e.g. concrete decorative blocks are durable, weatherproof and long lasting with minimal maintenance. They are of a utilitarian style which is good for utility areas e.g. as a screen for refuse bins.

Other suitable man-made materials included; steel, plastic panel, recycled plastic planks, glass blocks, steel mesh.

Natural – Hazel poles are lightweight to carry and to construct with. Rustic poles are suitable for a cottage or informal garden style.

Other suitable natural materials included; willow rods, softwood timber, bamboo canes.

Q8b) The majority of candidates named a range of evergreen plants suitable for a garden screen and were awarded maximum marks.

Garden screens are used to interrupt a view or to block an unsightly view without creating a continuous line of plants i.e. a hedge. Plants selected for a screen should perform these functions from their natural form and not require regular trimming.

Suitable examples included:

- *Grisilinia littoralis*
- *Thuja plicata*
- *Taxus baccata*
- *Photinia x fraseri* 'Red Robin'
- *Prunus laurocerasus*
- *Prunus lusitanica*

MARKS

Q9 *a) Describe **TWO** hazards associated with **EACH** of the following:*

i) garden ponds ***4***
ii) hard landscaping materials ***4***

*b) State how a **NAMED** risk relating to garden steps can be minimised in a domestic garden.* ***2***

Q9a) Most candidates were able to describe hazards associated with specific situations and achieved full marks. Suitable answers included:

i) **Garden Ponds**

- Wet or boggy ground around the pond could cause a person to slip into the pond
- Surface vegetation e.g. algae or marginal plants can obscure the surface of the pond causing people to accidentally fall in
- An unfenced pond in a garden next to a children's play area could result in a child falling into the water

ii) **Hard Landscaping Materials**

- Splinters from timbers when handling them during construction or by brushing past a fence post
- Injury from lifting heavy sandstone slabs or constructing with them
- Injury from dropping softwood timber decking planks which can become slippery when wet in the winter

Q9b) Candidates who were able to identify suitable risks relating to garden steps and how to minimise them were awarded full marks. Acceptable answers included:

- Sprains to wrists or ankles as a result of tripping or falling can be minimised by the installation of a hand rail
- Cuts to knees and hands as a result of slipping and falling can be minimised by adding non slip surfaces to the treads of the steps e.g. wire mesh or grips

MARKS

Q10 *a) State what is meant by the term 'environmental sustainability'.* ***2***

*b) State **FOUR** distinct sustainable practices for **EACH** of the following:*

i) garden construction
ii) garden maintenance

by completing the table below.

	Garden construction	***Garden maintenance***	
1.			***2***
2.			***2***
3.			***2***
4.			***2***

Q10a) Candidates who clearly understood the meaning of 'environmental sustainability' achieved maximum marks. Suitable answers included:

- To use resources in a way to not deplete the earth's natural resources and damage or destroy ecological habitats. Not to take now to ensure that future generations can access the same
- Practices that do not exhaust natural resources now or in the future and do not damage the environment

Q10b) Full marks were awarded to candidates who provided sustainable practices for specific situations which will reduce, re-use, recycle the use of finite materials and not damage the environment. These included:

i) **Garden Construction**

- Turn off taps when not in use and ensure that hose pipes are not leaking
- Buy materials from local suppliers to lower carbon emissions from vehicles
- Use wood from sustainably managed sources e.g. FSC approved timber
- Minimise waste by ordering exactly what is required
- Purchase materials from a reclamation yard e.g. reclaimed bricks

ii) **Garden Maintenance**

- Leave some areas of the garden untidy i.e. leaf litter, seed heads over winter rather than cutting back herbaceous perennials in the autumn to provide food for birds and an overwintering habitat for insects
- Compost garden and kitchen waste on site to use as a soil improver or as a mulch
- Harvest rain water or use grey water for irrigation
- Use manual powered equipment e.g. a pedestrian lawn mower instead of electric or petrol ones
- Mulch borders to reduce evaporation and the need for watering

****