



**R2111**  
**UNDERSTANDING GARDEN FEATURES, PLANT SELECTION & PLANNING**

**Level 2**

**Tuesday 21 June 2022**

**09:00 – 10:20**

**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

**Q1 a)** State the meaning of **EACH** of the following terms:

- i) site appraisal
- ii) garden survey

i) .....

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ii) .....

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**b)** Describe how **THREE** factors which should be recorded when carrying out a site appraisal would influence the choice of plants.

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**MARKS**

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**2**

**6**

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Please see over/ ....

**MARKS**

**Q2 a)** Name **FOUR** evergreen trees from different genera suitable for planting in a domestic garden giving **ONE** decorative merit for **EACH**.

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**b)** State **ONE** distinct site requirement for **TWO** of the trees named in a).

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**MARKS**

**Q3 a)** State what is meant by a 'garden planning principle'.

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**b)** Describe TWO distinct examples for EACH of the following design principles, used to create a successful garden design

i) scale and proportion

**4**

ii) rhythm

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i) .....

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Q4 a) Compare **TWO** distinct materials suitable for building a garden wall, under **EACH** of the following headings:

- i) named materials
- ii) practicality

Material	Practicality
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2.	

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b) Describe **TWO NAMED** features which could be used as an alternative to a wall for a garden boundary.

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**MARKS**

**Q6 a)** Describe **TWO** distinct hard landscape features suitable for a formal garden

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**b)** Describe **TWO NAMED** examples of features typical of a cottage garden style.

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**MARKS**

**Q7 a)** State what is meant by the environmental sustainability of landscaping materials

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**b)** State **TWO** hazards of including reclaimed materials in a garden.

**2**

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**c)** Describe **THREE** examples of sustainable practices that can be carried out during garden maintenance

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**MARKS**

**Q8 a)** Define the principle 'cohesion' in garden design.

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**b)** Describe **THREE** distinct examples of how soft landscaping can contribute to a cohesive garden design.

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**MARKS**

**Q9 a)**

Describe the distinct characteristics of **TWO NAMED** plants which make them suitable for screening an unsightly area in a garden.

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**b)**

Name **THREE** garden features which can be created by using metal.

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**c)**

Describe **ONE** benefit and **ONE** limitation of using a **NAMED** metal for constructing garden features.

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

**Q10 a)** Define EACH of the following terms as used in risk assessments:

- i) hazard
- ii) risk

**MARKS**

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**2**

i)

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ii)

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**b)** State **TWO** hazards for **EACH** of the following features identified during a site survey of a garden:

- i) a mature. Established tree
- ii) steps between different levels

**2**

**2**

by completing the table below:

	Hazard 1	Hazard 2
Established tree		
Steps		

**c)** Describe a design solution for **ONE** of the hazards stated in b):

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Total Mark
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## R2111

### UNDERSTANDING GARDEN FEATURES, PLANT SELECTION & PLANNING

#### Level 2

Tuesday 21 June 2022

<b>Candidates Registered</b>	<b>732</b>		<b>Total Candidates Passed</b>	480	78%
Candidates Entered	618	85%	Passed with Commendation	161	26%
Candidates Absent/Withdrawn	91	12%	Passed	319	52%
Candidates Deferred	23	3%	Failed	138	22%

#### 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 the meaning of **EACH** of the following terms:

- i) site appraisal
- ii) garden survey

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Candidates who were awarded full marks had a clear understanding of the differences between the terms site appraisal and garden survey.

i) Site appraisal

A site appraisal is an assessment and record of the general nature and conditions of a site, including physical and environmental characteristics which could affect the design. These include soil conditions, drainage, aspect, microclimates and the surroundings as well as views, good or bad.

ii) Garden survey

A garden survey is an assessment of the location, position and measurements of features which could have an impact on the future design/use of the garden. These may include; existing plants and trees, buildings and hard landscaping, boundaries and access, overhead and underground services as well as an assessment of health and safety issues.

**b)** Describe how **THREE** factors which should be recorded when carrying out a site appraisal would influence the choice of plants.

6

Most candidates were able to describe how factors which should be recorded when carrying out a site appraisal would influence the choice of plants and gained maximum marks. Suitable answers included:

**Aspect** the direction the garden faces, i.e. north, south, east or west will affect the sunlight availability. A south facing border will receive the maximum amount of sunlight resulting in warm temperatures and bright light. Mediterranean type plants would thrive in this situation e.g. *Salvia*, *Rosmarinus*.

**Soil drainage** – if there is an area in the garden which is prone to flooding or waterlogging, plants suited to these conditions would need to be selected e.g. bog garden plants, *Primula bulleyana*.

**Exposure** – or shelter from the physical damage of wind and lower temperatures can limit plant choice. An area that is particularly exposed would not be suitable for fruit trees due to possible wind damage and the difficulty for pollinators to fly in high winds.

Candidates who described factors e.g. soil pH, soil texture, unsightly external views, microclimates were awarded marks

Please see over/ ....

- Q2 a)** Name **FOUR** evergreen trees from different genera suitable for planting in a domestic garden giving **ONE** decorative merit for **EACH**.

8

A range of suitable evergreen trees and their decorative merits were provided by the best candidates who achieved full marks. These included:

*Arbutus unedo* – urn-shaped white flowers or red, warty, strawberry-like fruits.

*Abies koreana* 'Silberlocke' – purple cylindrical cones held upright on branches.

*Ilex aquifolium* 'J.C. van Tol' – ovate, almost spineless glossy dark green leaves.

*Olea europaea* – grey/green leathery, narrowly oval leaves with a silvery underside.

- b)** State **ONE** distinct site requirement for **TWO** of the trees named in a).

2

Full marks were awarded to candidates who were able to provide the site requirements for trees that were correctly named. Acceptable answers included:

*Arbutus unedo* – requires well drained soil. It thrives in a south or west facing aspect in full sun.

*Abies koreana* 'Silberlocke' – requires moist but well drained soil which has an acidic or neutral pH.

*Ilex aquifolium* 'J.C. van Tol' – requires soil which is moist but well drained.

*Olea europaea* – requires a south facing, sunny and sheltered position.

N.B – Many candidates stated that *Arbutus unedo* requires an acidic soil which is incorrect. It is a tree which will grow in any soil pH including acidic.

Candidates who named trees over 12m in height or evergreen shrubs not considered as trees could not be awarded any marks.

Please see over/....



**Q3 a)** State what is meant by a 'garden planning principle'.

2

Candidates who stated that a garden planning principle is one of a number of widely recognised design concepts that follow accepted rules, conventions or guidelines aimed at producing a garden plan that works functionally for the users and is aesthetically pleasing to the eye gained full marks.

The key words which gained marks were: rules to follow to produce a garden that works and is pleasing.

**b)** Describe TWO distinct examples for EACH of the following design principles, used to create a successful garden design

i) scale and proportion

ii) rhythm

i)

4

4

#### **Scale and proportion**

In a successful garden the proportions of the sizes and shape of all of the elements of the garden are in proportion to each other and in scale with the site and surroundings.

In a successful garden design this can be achieved by selecting unit sizes of hard landscape materials which are appropriate to the area of the surface being constructed. A large rectangular patio can use large paving slabs e.g. 900mm x 600mm to be in proportion with the size and shape of the patio. Small blocks would look out of proportion to the overall size.

Selecting specimen trees and large shrubs which have an ultimate growth size proportionate to the size of the garden and their proximity to the house. Tall hedging would work well in a large garden where there was a maze whereas in a small garden hedging which is low e.g. *Buxus sempervirens* is more appropriate. This is because the size is in proportion to the size of the space and is not overpowering.

Candidates who confused scale and proportion with balancing garden features using visual weight could not be awarded any marks.

ii)

#### **Rhythm**

In a successful garden the use of repetition of similar features at regular intervals or flowing lines to draw the eye and the visitor through a space creating rhythm.

Rhythm is when the eye is drawn around the garden on a visual walk by placement of items which attract the eye.

The placing of repeated forms in the garden creates a sense of motion and rhythm. Topiarised *Buxus sempervirens* balls can be repeated in the foreground, mid ground and distance in borders and along paths so that the eye moves from one to the next as you look to the distance.

**Q4 a)** Compare **TWO** distinct materials suitable for building a garden wall, under **EACH** of the following headings:

- i) named materials
- ii) practicality

2  
2

Good comparisons of specific materials suitable for building a garden wall and their practicality were provided by many candidates who gained full marks. These included:

Material	Practicality
1. Engineering bricks	Hard wearing and durable. Last a long time and resist weathering. Bricks are small units which are easy to lift or enable the construction of curving walls.
2. Slate blocks	Very durable. Can be used to build a dry- stone wall which does not require knowledge of using mortar. They are heavy to move and transport making them difficult to use.

Other materials provided by candidates that gained marks included; decorative concrete blocks, London clay bricks, dressed stone blocks, dry-stone local rock e.g. Cotswold limestone or sandstone.

When describing the practicality of materials cost, aesthetic aspects and environmental sustainability were not awarded any marks as they are not relevant.

**b)** Describe **TWO NAMED** features which could be used as an alternative to a wall for a garden boundary.

6

The majority of candidates provided good descriptions of features which could be used as an alternative to a wall for a garden boundary and achieved maximum marks. Suitable answers included:

**Post and panel fence** – constructed of upright timber or concrete posts which are sunk into the ground with close-board or lap softwood timber panels attached between them which are a standard width of 1.8m.

**Deciduous hedge** - e.g. *Fagus sylvatica*, closely planted and pruned into a head height rectangular shape. Such hedges retain their juvenile brown leaves throughout the winter providing continuous privacy. The dense growth of this hedge can provide a habitat for nesting garden birds.

**Picket fence** – constructed of timber posts and two cross pieces of timber at the top and bottom of the posts. Upright vertical planks, curved or pointed at the top are spaced at regular intervals which are traditionally painted white. Due to the gaps in this type of fence, climbing plants can interweave and climb up it.

Additional examples of suitable features included; hazel hurdle and evergreen hedge which gained marks.

**MARKS****10**

**Q5** Name **FIVE** distinct patio or basket plants suitable for a summer display in full sun, giving **ONE** decorative merit for **EACH**.

Candidates provided a range of suitable patio or basket plants for a display in full sun and were awarded full marks. These included:

*Lobelia erinus* 'Cambridge Blue' – clear light blue two-lipped flowers.

*Fuchsia* 'Thalia' – dark olive-green leaves which are tinged purple beneath. It also has clusters of pendent bright orange-red flowers.

*Dahlia* 'Bishop of Llandaff' – deep blackish-red foliage and semi-double brilliant red flowers.

*Helichrysum petiolare* – white stems bearing broadly ovate, grey hairy evergreen leaves and small dull white flowerheads.

*Salvia splendens* – spikes of tubular scarlet flowers with large red bracts.

Candidates who named shrubs which are too large for a patio container, plants requiring shaded conditions or plants for spring displays could not be awarded any marks.

Please see over/ ....

**MARKS**

**Q6 a)** Describe **TWO** distinct hard landscape features suitable for a formal garden

**4**

Many candidates provided good descriptions of hard landscape features suitable for a formal garden and gained full marks. Acceptable answers included:

Paths constructed with square cut slabs laid to make straight paths with clearly defined edges on the long and cross axes of a garden.

Square shaped pool, raised and edged with dressed granite containing a central fountain. The planting would be minimal to enable the water to reflect the light.

Other examples which were awarded marks included; a Greek classical statue, a set of granite steps and a rill.

**b)** Describe **TWO NAMED** examples of features typical of a cottage garden style.

**6**

The best candidates provided descriptions of features typical of a cottage garden style which often include the use of rustic, natural and recycled materials and achieved maximum marks. These included:

**Path made of recycled bricks** set in a herringbone pattern with the same bricks as an edging. Plants are allowed to self-seed into the path and billow over the edge e.g. *Alchemilla mollis*.

**Mixed border** containing 'easy' perennials, hardy annuals, herbs and edible plants. The perennials are allowed to spread each year and the annuals permitted to self-seed to create an informal full appearance in the border.

Please turn over/ ....

**MARKS**

**Q7 a)** State what is meant by the environmental sustainability of landscaping materials

**2**

To gain full marks candidates needed to include why there is a need to recycle, re-use or reclaim landscape materials in their explanations of the environmental sustainability of them. Acceptable answers included:

- environmental sustainability of landscaping materials refers to the impact that the production, transportation and construction of materials has on the environment. For example, quarried stone has a high carbon footprint requiring transportation and quarrying depletes natural resources which destroys natural habitats.
- materials are environmentally sustainable if they are renewable or can be recycled without significant environmental cost now and for future generations. Their production should limit the level of carbon dioxide emissions and not exploit a natural

**b)** State **TWO** hazards of including reclaimed materials in a garden.

**2**

Suitable examples of hazards of including reclaimed materials in a garden, stated by candidates who were awarded full marks included:

- splinters from reclaimed timber boards which can pierce the skin
- crumbling clay bricks or sandstone may have sharp edges which can harm hands
- fragile glass which can break
- nails in timber which can pierce the skin
- tar oozing from old railway sleepers

**c)** Describe **THREE** examples of sustainable practices that can be carried out during garden maintenance

**6**

A range of sustainable practices that can be carried out during garden maintenance were described by many candidates who achieved maximum marks. Suitable answers included:

mulch the garden with garden compost to increase water retention in the soil and to reduce water loss by evaporation. This reduces the need to water the soil and conserves mains water

use a grey water harvesting and water butt collection system to reduce the need to use mains water for watering plants. This should be carried out early in the morning to reduce evaporation of water from the soil

collect green waste from mowing, pruning and weeding and compost it in a garden bin. This will reduce the amount of waste going to landfill and the carbon emissions involved in collecting green waste

when mowing a lawn cut the grass a bit longer and do not collect the clippings. This will return nitrogen to the lawn and retain moisture in hot weather, reducing the need for watering and use of mains water.

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

**Q8 a)** Define the principle 'cohesion' in garden design.

**1**

The principle, 'cohesion' was defined by most candidates as:

Creating a garden which has unity where the individual elements come together as a unified whole and 'work' together alongside the existing house and surroundings and were awarded full marks.

**b)** Describe **THREE** distinct examples of how soft landscaping can contribute to a cohesive garden design.

**9**

Candidates who described soft landscape situations or plants, a cohesive factor and the way in which the cohesive factor is used/the effect achieved gained maximum marks.

Cohesive factors include: colour, form or texture of flowers, foliage or stems; the style or theme of the garden or house; linkage to surrounding landscape vegetation.

Suitable examples included:

- through the repeated and consistent use of a single plant in borders throughout the garden, the whole garden space can be linked and viewed as a whole. Repeated planting of *Buxus sempervirens* topiary balls provide a year-round cohesion through small green leaves
- the repeated use of annuals, biennials and perennials throughout a cottage style garden provides cohesion with the style if they are mixed at random throughout all borders and allowed to self-seed freely. Examples include; *Calendula officinalis*, *Alcea rosea*, *Alchemilla mollis*
- many herbaceous perennials are grown for their flower colour. Repeating a particular colour throughout a space e.g. the white garden at Sissinghurst Castle Garden can be used to provide cohesion. The white theme could also be repeated between soft and hard landscaping features e.g. a white bench and *Anemone x hybrida* 'Honorine Jobert'.

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

- Q9 a)** Describe the distinct characteristics of **TWO NAMED** plants which make them suitable for screening an unsightly area in a garden.

4

Maximum marks were achieved by candidates who were able to describe specific plants which make them suitable for screening an unsightly area in a garden.

Suitable plants need to provide screening all year round, forming a dense growth that cannot be seen through. These could include:

*Taxus baccata* – is evergreen with closely-spaced dense foliage. It is also fast growing once it has been clipped.

*Fagus sylvatica* – is deciduous but retains its juvenile brown foliage throughout winter when clipped as a hedge, producing bright green leaves in spring.

Other examples which gained marks included;  
*Griselinia littoralis*, *Ilex aquifolium*, *Phyllostachys aurea*.

- b)** Name **THREE** garden features which can be created by using metal.

3

The majority of candidates were able to name garden features that can be created by using metal and were awarded full marks. Suitable answers included:

Pergola, arch, decorative screen panel, border edging, raised bed, garden bench, table, chair.

- c)** Describe **ONE** benefit and **ONE** limitation of using a **NAMED** metal for constructing garden features.

3

A range of benefits and limitations of using specific metals for constructing garden features were provided by the best candidates who gained full marks. Acceptable answers included:

#### **Aluminium**

Benefit – it is very light which makes it easy to lift and move.

Limitation – it can buckle and bend easily if put under pressure or damaged.

#### **Galvanised steel**

Benefit – is very durable and strong and is able to withstand weathering without rusting.

Limitation – it is very heavy which makes it difficult to work with and expensive to transport.

#### **Corten steel**

Benefit – it is able to rust without it affecting the strength of the metal.

Limitation – as with all metals it can become very hot to touch for people and plants when in full sun in summer.

#### **Cast iron**

Benefit - is strong and durable and able to support heavy climbing plants if used as an archway.

Limitation – if it is not painted regularly, it will rust and flake away and the strength of the structure will gradually weaken. It can cause skin grazes and stain clothing with brown rust if brushed against. Cast iron is also difficult to transport and install on site.

**Q10 a)** Define EACH of the following terms as used in risk assessments:

- i) hazard
- ii) risk

**MARKS**

**2**  
**2**

i) **A hazard** is a potential source of harm, adverse health effect or injury to people. It is a situation or physical thing which can cause injury to people, for example cracked and uneven paving slabs

ii) **A risk** is the degree of severity and likelihood of the outcome of being exposed to the hazard e.g. tripping on the cracked slabs and cutting or bruising an arm or leg when walking along it. A combination of likelihood and severity of outcome can grade hazards between low risk and high risk.

**b)** State **TWO** hazards for **EACH** of the following features identified during a site survey of a garden:

- i) a mature. Established tree
- ii) steps between different levels

**2**  
**2**

by completing the table below:

	Hazard 1	Hazard 2
Established tree	Dead or diseased limbs within the tree. Low hanging branches.	Exposed roots growing above ground. Damaged branches in strong winds.
Steps	Tread surface is slippery in wet or icy conditions. Uneven or broken surfaces on the treads	Steep steps with shallow treads or risers higher than 200mm. Risers of unequal height.

**c)** Good descriptions of design solutions for specific hazards were provided by many candidates who were awarded full marks. These included:

**2**

**Established tree**

**Dead or diseased limbs within the tree** – plan for an inspection of the tree by a specialist arboriculturist who will provide a plan for a regime of removal or remedial work to be carried out.

**Exposed roots growing above ground** – design a timber boardwalk above the roots if a path must be situated near the tree.

**Steps**

**Tread surface is slippery in wet or icy conditions** – the tread surface can be covered in chicken wire and secured firmly to provide a textured surface that will help to avoid slipping.

**Steep steps with shallow treads or risers higher than 200mm** – a handrail can be constructed alongside the steep steps to provide a firm structure to hold onto if the user trips.

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