



Including examiner comments



R3112

**UNDERSTANDING THE SELECTION & USE OF LANDSCAPING ELEMENTS
IN THE GARDEN**

Level 3

Thursday 8 February 2024

11:25 – 12:50

Written Examination

Candidate Number:

Candidate Name:

Centre Name:

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **85** 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.

MARKS

c) Describe **THREE** ways a driveway can be used to create contrast in a garden.

6

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Total Mark

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Q3

Name **FIVE** pond plants from different genera suitable for planting in a water features stated locations, and describe **TWO** decorative features, by completing the table below.

Location in pond	Plant name	Decorative features
Deep water		1. 2.
Deep water		1. 2.
Marginal		1. 2.
Marginal		1. 2.
Floater		1. 2.

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Q4 a) Describe **TWO** ways in which turf contributes to the aesthetic of a garden.

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b) State **TWO** ways that turf improves the environmental sustainability of a garden compared hard surfaces.

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c) Describe how the maintenance of turf can be made more sustainable.

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Q6

Select **FOUR NAMED** trees from different genera suitable for a domestic garden and state for **EACH** their height and spread, and **ONE** decorative merit, by completing the table below:

Name of tree	Height and spread	Decorative merit

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2.5

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MARKS

b) Describe **TWO NAMED** plants suitable for a scree garden.

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Q8 a) State **TWO** characteristics of plants used for effective ground cover.

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b) Describe **THREE NAMED** evergreen plants from different genera suitable for ground cover planting by completing the table below:

Plant name	Decorative merit 1	Decorative merit 2

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c) Describe **ONE** way that ground cover plants may be set out from a planting plan.

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					MARKS
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Q1	Question	
a.	Name TWO distinct materials suitable as a driveway surface	2
b.	Describe ONE way of improving the environmental sustainability of a new driveway	2
c.	Describe THREE ways a driveway can be used to create contrast in a garden	6

a)

Candidates were asked to name two distinct materials suitable as a driveway surface.

Expected answers included two from: tarmac, resin-bound aggregate, clay brick, engineering brick, gravel, precast concrete blocks, poured concrete.

This was answered well with most candidates gaining both marks. Full marks could not be gained where detail was insufficient, for example 'concrete' needs detailing – is it poured concrete or precast concrete pavers?

b)

Candidates were asked to describe one way of improving the environmental sustainability of a new driveway.

Expected answers included:

- Source material for driveway locally, e.g. gravel, to reduce carbon footprint of transport
- Source reclaimed materials e.g. engineering bricks to reduce carbon footprint of extracting and manufacturing new materials
- Ensure driveway is permeable e.g. gravel on permeable sub-base to reduce run-off and contribution to potential flooding events

Many candidates gained full marks for this part question through stating a way of improving sustainability and then detailing how it improves sustainability. Whilst nearly all candidates gained a mark for stating a way of improving sustainability, not all gained the second mark for detailing the link. It's essential to justify points – for example. if sourcing a material locally is stated, why is that sustainable? (reduces carbon footprint of transport).

c)

Candidates were asked to describe three ways a driveway can be used to create contrast in a garden.

Answers were expected to focus around contrasts in colour, texture and shape, for example:

- Tarmac driveways create a uniform dark colour which can be contrasted with surrounding plantings which have a colour contrast with e.g. green leaves of *Pachysandra terminalis* as adjacent groundcover.

- Poured concrete driveways have a uniform texture that can be contrasted with surrounding plantings that have a softer, more varied texture, e.g. *Hakonechola macra*
- Patterns of bricks in the driveway e.g. herringbone pattern contrast with regular-bond pattern of bricks in the adjacent house
- Gravel can be used to create curved edges to the parking space to contrast the formality with straight edges of adjacent house
- Gravel has a highly textured surface that can contrast with a smooth-textured York-stone pathway leading to house
- Driveways create a void in the garden which is contrasted with surrounding plantings, which bring a vertical element to the space

Responses to this question were quite mixed with the majority describing contrasts in colour and texture. Highest scoring candidates split each of their answers into stating a way contrast can be achieved, e.g. with colour, and then exemplifying it by naming the driveway hard landscaping material and examples of plants in the adjacent border that contrast that colour. Many candidates did not gain full marks because of lack of detail in their answers. A notable number of candidates suggested installing a sinuous driveway to contrast the geometric shapes of adjacent borders – whilst technically correct it is not usually practical to have a sinuous driveway in most properties and it would make more sense to have a rectilinear driveway and sinuous, organically shaped borders.

			MARKS
Q2		Question	

	Give reasons for planting a hedge rather than building a garden wall as a new feature in a garden under EACH of the following headings:	
	i. TWO aesthetic comparisons:	4
	ii. THREE Environmental sustainability comparisons:	6

i. Expected answers included:

- Hedges can suit both informal gardens and formal (if tightly clipped), whereas walls are generally more formal
- In gardens backed by fields/countryside, hedges complement the surroundings whereas walls do not offer unity
- Brick walls' aesthetic doesn't change throughout the year and have less interest whereas hedging varies with the season or offers seasonal interest, e.g. fresh green spring growth versus darker green in summer
- Walls are typically visually impermeable and don't allow any view through whereas deciduous hedges can allow semi-permeable views through in winter, adding interest to the winter garden

Candidates must ensure they read command words carefully and ensure their answers are tailored to match – 'comparisons' requires every point to be comparative. Many answers did not directly compare hedges to walls and only referenced hedges, thereby limiting marks awarded. A notable proportion of candidates lacked detail in their answers and could not gain full marks. Detailed answers that included comparative detail gained full marks.

ii. Expected answers included:

- Walls have a much higher carbon footprint in manufacture and transport whereas hedge plants can usually be sourced more locally to reduce carbon footprint of transport
- Hedges sequester carbon through their lives as trunks/stems thicken whereas walls do not and have a net negative carbon footprint throughout their lives
- Hedges provide habitat forage for an array of animals, birds and insects, improving garden biodiversity, whereas walls only offer very limited habitats for species and don't significantly improve garden biodiversity
- Hedges can reduce the rate of run-off and absorb water/improve infiltration of water during heavy rain events, reducing the risk of flooding whereas walls can channel run-off to pinch points and contribute to flooding
- Hedge prunings can be composted and later used as a garden mulch to improve water and nutrient retention; walls cannot be used to improve garden soil.

As per comments above, candidates did not always directly compare hedges and walls. Most candidates made reference to wildlife value of hedges and the higher carbon footprint of walls. However, a significant portion of answers did not provide the comparative detail expected at level 3 and could not gain full marks. Candidates who made three relevant, comparative points and qualified each point they made were awarded full marks.

Q3	Question	MARKS
	Name FIVE plants from different genera suitable for planting in a water features stated locations, and describe TWO of their decorative features, by completing the table below	10

		Location in pond	Plant name	Decorative feature 1	Decorative feature 2
		Deep water			
		Deep water			
		Marginal			
		Marginal			
		Floater			

Candidates were asked to name five plants from different genera suitable for different pond locations, along with two decorative merits for each, by completing a table.

Example answers of expected detail below (note 'location in pond' was given in the table, candidates did not need to add this):

Location in pond	Plant name	Decorative features
Deep water	<i>Nymphaea 'Rose Arey'</i>	Pink, star-shaped flowers and deep green, rounded, floating leaves
Deep water	<i>Aponogeton distachyos</i>	Racemes of white flowers held just above water surface with deep green lance-shaped leaves
Marginal	<i>Carex elata 'Aurea'</i>	Bright yellow evergreen leaves with contrasting spikes of dark-brown flowers in early summer
Marginal	<i>Menyanthes trifoliata</i>	Pale pink star-shaped flowers in summer above trifoliate mid-green leaves
Floater	<i>Hydrocharis morsus-ranae</i>	Rounded green leaves with a distinct notch to the petiole and white three-petaled flowers with yellow stamens in summer

Candidates, overall, did not demonstrate a strong knowledge of pond plants suitable for different locations within a pond and few candidates gained full marks. Some candidates suggested marginal plants for deep water aquatics, or submerged plants for floaters. Many candidates gave very limited detail in their descriptions; comments such as 'upright growth' or 'white flowers' are too limited for the 'describe' command word.

Candidates who correctly named plants suitable for the given location and gave the detailed description of two decorative merits, as expected at level 3, were able to gain the marks available.

Q4		Question	MARKS
	a.	Describe TWO ways in which turf contributes to the aesthetic of a garden	4
	b.		2

	c.	<p>State TWO ways that turf improves the environmental sustainability of a garden compared with hard surfaces</p> <p>Describe how the maintenance of turf can be made more sustainable</p>	4
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a)

Candidates were asked to describe two ways in which turf contributes to the aesthetic of a garden. Expected answers included:

- Turf's green colour unifies and complements surrounding plantings, creating a soft aesthetic
- The green, relatively uniform/regular colour of turf contrasts to colourful flower borders
- Turf can be striped with a roller, creating formal patterns
- Turf art, where shapes are cut into the turf, creates a focal point and visual interest in a void
- Turf creates a void that can enhance a vertical element within it (e.g. specimen tree) or surrounding it (e.g. shrub borders)

Candidates generally had a good understanding of the aesthetic contributions of turf to a garden, with many answers including turf's role in creating a foil to colourful surrounding planting and the role of striping lawns to create formality. Full marks could be awarded where candidates made a point and then qualified/exemplified it, for example 'turf has a uniform green colour' needs to be qualified with 'which contrasts with flowering plants' colour in adjacent borders'.

A small number of candidates described turf's contribution as a recreation surface, but this is not an aesthetic feature and could not gain marks.

b)

Candidates were asked to state two ways that turf improves the environmental sustainability of a garden in comparison to hard surfaces. Expected answers included:

- Turf increases the biodiversity of a garden through the plant species and associated fauna where hard surfaces do not support much biodiversity
- Turf is permeable to rainwater when many hard surfaces are not and contribute to higher levels of run-off/contribute to flooding
- Turf from seed has a very low carbon footprint to install whereas hard landscaping has a high associated carbon footprint
- Turf has a relative cooling effect in hot weather whereas hard surfaces absorb and radiate heat, making conditions less habitable for fauna and people

Candidates generally had a clear understanding of the ways that turf can improve the environmental sustainability of a garden when compared with hard surfaces. Many candidates referenced turf's permeability to rainwater in order to reduce runoff and lessen contribution to flooding events, as well as its capacity to support biodiversity in the garden. Full marks could not be awarded for answers that lacked detail, for example stating 'turf is permeable to rainwater' is not enough as the link to sustainability has not been made. Those candidates giving answers that made a clear links between sustainability and qualities of turf were awarded the highest marks.

c)

Candidates were asked to describe how the management of turf can be made more sustainable. Expected answers included:

- Decrease frequency of mowing to reduce energy input required for mowing, which typically has a carbon-footprint
- Use an electric mower which can be powered by renewable sources of electricity
- Do not apply lawn herbicides, to allow broad-leaved plants to survive and increase the biodiversity of the lawn
- Compost lawn clippings on site and use as a mulch to keep nutrient cycles within the site/don't lose nutrients from site

Candidates largely had a good idea of different ways to manage turf in more sustainable ways, though not all candidates made clear links between the management technique and sustainability. Those that did could be awarded full marks.

Some candidates suggested using manual mowers to reduce the energy consumption of mechanised mowers – this is a more complicated issue as electric mowers recharged with renewable energy arguably negate this, especially as both manual and mechanised mowers have a manufacturing carbon footprint. Manual mowers versus petrol mowers and their associated refuelling carbon footprint is a clear and valid point. Another questionable point that was made by several candidates was to stop using herbicides to kill broadleaved weeds and to hand weed instead. Weeding negates the biodiversity benefit of allowing broadleaved weeds, and if no mention of reducing chemical usage (and associated carbon footprint) was referenced, this point could not gain marks. Some candidates suggested allowing the lawn to grow long so wildflowers could flower – this is suggestive of allowing a wildflower meadow to develop, which is no longer turf, so no marks could be awarded.

Q5	Question	MARKS
	Describe FIVE ways garden paths can be designed to improve accessibility of garden users with visual impairment.	10

Candidates were asked to describe five ways that garden paths can be designed to improve accessibility of garden users with visual impairment. Expected answers included:

- Ensure paths are well-lit so users with some vision can make out the extent of the path
- Install guide ropes along path edges 900mm high
- Keep planting along edges cut back to reduce risk of trip-hazards
- Edge paths with a different surface material e.g. brick edge to delineate path edge along a buff-coloured resin bound aggregate path
- Ensure surfaces are smooth to reduce the risk of trips and falls e.g. resin-bound aggregate
- Ensure surfaces have good grip to reduce the risk of slips in wet weather e.g. textured (poured) concrete
- Avoid use of steps and install ramps instead as steps present a trip hazard whereas slopes do not; the slope's maximum gradient 1:12
- If steps are installed, ensure path at top and bottom has a textured/ridged marker slab to indicate start/end of steps
- If steps installed, add bright/distinct colour contrast/pattern before steps to indicate start/end of steps
- Indicate change of path direction with different surface texture e.g. concrete block pavers to resin bound aggregate
- Ensure good drainage to prevent puddling of water/camber for water runoff to reduce slip hazard

The majority of candidates were able to provide detailed answers that made a point and qualified it/related it to how it improves accessibility for garden users with a visual impairment. Some candidates lacked sufficient detail to gain all marks, such as suitable height of handrail or maximum slope gradient, which is expected for level 3 answers.

Q6	Question	MARKS
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		Select FOUR NAMED trees from different genera suitable for a domestic garden and state their height and spread, and ONE decorative merit, by completing the table below:	10		
		Name of tree		Height and spread	Decorative merit

Candidates were asked to select four trees from different genera suitable for a domestic garden, state their height and spread, and one decorative merit, by completing a table given in the question paper. Table and credited example answers are given below:

Name of tree	Height and spread	Decorative merit
<i>Acer griseum</i>	H: 8-12m S: 4-8m	Peeling chestnut-brown bark / leaves turn bright orange/red in autumn
<i>Prunus serrula</i>	H: 8-12m S: 8+m	Mahogany, shiny, peeling bark, small white spring flowers
<i>Magnolia grandiflora</i> 'Kay Parris'	H: 4-8m S: 2.5-4m	Dark green, evergreen leaves with coppery brown underside/ white, cup-shaped flowers in summer
<i>Hoheria sexstylosa</i>	H: 8m S: 6m	White, star-shaped flowers in summer/ glossy evergreen, serrated-edged leaves

Overall responses were quite varied, with few candidates gaining full marks. Commonly candidates suggested large trees that are too big for the majority of domestic gardens, such as *Fagus sylvatica* f. *purpurea* (copper beech) or *Liquidambar styraciflua* (sweet gum). The majority of candidates did specify a number of suitably sized trees and gave detailed decorative merits (as indicated in the table above); some candidates lacked detail, e.g. 'pink flowers' is not detailed enough at level 3.

Q7	a.	Question Describe THREE distinct contributions that a rock garden can make to the design of a garden.	6
	b.	Describe TWO NAMED plants suitable for a scree garden.	4

a) Candidates were asked to describe three distinct contributions that a rock garden can make to the design of a garden.

Expected answers included:

- Utilise / enhance sloping site by embedding rocks into slope to appear as rocky outcrop
- Creates height and 3D interest in a garden from topographical variation and the vertical faces of rocks
- Creates a focal point: can provide a dominant feature as viewed from a key vantage point
- Provides unity in material selection e.g. with natural stone used in the house or other hard landscape features
- Provides visual unity with natural features i.e. with natural geology of surrounding landscape
- Creates habitat for rock garden plants because rocks/crevices provide free drainage and largely unshaded conditions for alpine/ rock plants
- Provides suitable visual setting for alpine/rock plants; these plants look natural juxtaposed with rocks/rock formations

Responses were mixed with those candidates giving three distinct points and qualifying/exemplifying each gaining highest marks. For full marks candidates must respond appropriately to the command word 'describe' and include detail in their answers. For example, 'Rock gardens offer suitable conditions for alpine plants' needs to be qualified with details of those conditions – i.e. freely draining, largely unshaded. Another example: 'Rock gardens can unify the garden with the surrounding landscape'; this needs detailing – i.e. what type of rock is mirrored between the rock garden and surrounding landscape?

Most candidates gained marks for their answers and had some knowledge of the contribution of rock gardens to the design of a garden, though a significant proportion needed to further qualify/exemplify their answers.

b) Candidates were asked to describe two named plants suitable for a scree garden.

Suitable plants and descriptions included:

- *Armeria juniperifolia*, forms a low, spreading mound with narrow, evergreen grey-green leaves and clusters of pink flowers forming dense mounds above the leaves in spring.
- *Campanula carpatica*, forms low cushion of mid-green leaves with open bell-shaped blue flowers in summer
- *Draba aizoides*, evergreen hummock of narrow leaves edged with white hairs. Clusters of yellow, four-petalled flowers are held above the leaves in spring
- *Dryas octopetalla*, creeping evergreen shrub with dark green leaves. White, usually eight petalled, open centered flowers with distinct yellow central stamens are produced in summer.

Most candidates were able to name two suitable plants and the majority described them with sufficient detail to gain full marks. Some candidates specified plants that are not suitable for a screen garden or did not give sufficient detail in their description, e.g. 'purple flowers' needs more detail at level 3 to be allocated marks (mention of shape of flower, flowering season etc. needed).

Q8	a)	Question State TWO characteristics of plants used for effective ground cover.	2
	b)	Describe THREE NAMED evergreen plants from different genera suitable for ground cover planting by completing the table below.	6

	c)	Plant name	Decorative merit 1	Decorative merit 2
		Describe ONE way that ground cover plants may be set out from a planting plan.		

a)

Candidates were asked to state two characteristics of plants used for effective ground cover. Expected answers should have included points such as:

- Low growing
- Spreading
- Dense foliage cover
- Evergreen (although not all ground cover plants are fully evergreen)
- Perennial

Most candidates had a good idea of characteristics specific to ground cover plants and scored well here. Some candidates gave answers that were not specific enough to ground cover to warrant marks, such as 'textured leaves' or 'bright flowers'. Likewise, points such as 'dense growth habit so don't allow weed growth' is also true of many other categories of plants, such as evergreen shrubs that are too tall to be useful for ground cover.

b)

Candidates were asked to describe three evergreen plants from different genera suitable for ground cover.

Example plants and expected level of descriptive detail below:

- *Stachys byzantina*: silver/grey, hirsute, evergreen leaves forming a dense carpet, with summer spires of purple flowers that attract pollinators
- *Vinca minor*: glossy, dark green evergreen leaves arranged oppositely on trailing stems, light purple flowers with five petals are produced in spring at or just above foliage height
- *Persicaria affinis*: mid-green evergreen leaves with a paler central stripe, pink flowers on erect racemes in summer

A large number of candidates could name three suitable evergreen groundcover plants and describe them in the detail expected. There were a notable number that only named three suitable plants but did not describe them, therefore unable to gain full marks for this question. Some candidates did not provide enough detail in their descriptions and could not gain marks – at level 3 candidates are expected to describe plants with more detail than 'green leaves'. Some candidates also misidentified flower colour or leaf shape.

c)

Candidates were asked to describe one way that groundcover plants may be set out from a planting plan.

Expected answers included:

- Planting density: number given for each area and plants set out onto ground at even spacings within area
- Planting centres/individual locations shown: plants set out onto ground to scale using the centre-points shown on plan

Most candidates could not answer this with clarity and few gained full marks. The majority of candidates largely referenced planting plans and how plants might be displayed on a planting plan, and plants ordered from the planting plan, which was not relevant to the question, or general points about placing the specimen plants first which would not apply to groundcover plants. The setting out of plants is the process of relating the planting plan to placing plants onto the ground before planting them, ensuring the locations and spacings are correct. Specifically for ground cover plants: these are typically planted at a regular density and evenly spaced after calculating the number required for each area marked on the plan (e.g. aiming for 300mm centres). Alternatively, a scale plan with individual plant centres can be used to place plants based on their exact locations/centres on the plan.
