



Including examiner comments



R3111

UNDERSTANDING GARDEN SURVEY TECHNIQUES & DESIGN PRINCIPLES

Level 3

Thursday 9 February 2023
09:00 – 10:25

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.

Q7

Define what is meant by **EACH** of the following surveying terms by completing the table below:

Term	Definition
Baseline	
Triangulation	
Offsets	
Running measurements	
Datum level	

2

2

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2

Total Mark

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UNDERSTANDING GARDEN SURVEY TECHNIQUES & DESIGN PRINCIPLES

Level 3

Thursday 9 February 2023

Candidates Registered	TBC		Total Candidates Passed	TBC	88%
Candidates Entered	74	TBC%	Passed with Commendation	22	30%
Candidates Absent/Withdrawn	TBC	TBC%	Passed	43	58%
Candidates Deferred	TBC	TBC%	Failed	9	12%

Questions - It is essential to read the question carefully and to note the **key words** before starting to write to ensure answers are relevant. Candidates should take account of the command statements in the question e.g. 'list', 'describe', 'explain', together with the mark allocation, to judge the depth of the answer required. Extra information, even if it is accurate, does not gain extra marks.

Where a number of answers were specified in the question and a candidate gave a list with more than that number, **only the first answers** in the list were marked, e.g. where the question stated 'Name **TWO** locations' or 'State **TWO** ways' only the first **TWO** answers were marked even if the correct answers were given further down. It is helpful (but not essential) if the answers are numbered in the text or separate paragraphs or bullet points are used.

Plant names - Where named plant examples were asked for, **full botanical names are required** to achieve full marks: genus, species and where appropriate variety, cultivar etc. needed to be written and spelt correctly. Where genus alone was given, all species in that genus need to show the characteristic asked for to gain any credit. **Common names were NOT accepted** and misspellings were penalised. Candidates needed to use unambiguous plant examples from sources such as the RHS Plant Finder and/or the RHS A-Z Encyclopaedia of Plants together with examples given in the syllabus and avoid obscure or difficult to verify plant examples, which risked being not credited.

Labels on diagrams must be carefully and correctly positioned to avoid ambiguity. Marks can be easily lost if this is not followed. Labels must actually touch the appropriate part of the diagram and must not be left hanging in mid air. Annotations on diagrams can be accepted as an alternative to description in the text as long as these are clear and answer the question. No marks were awarded for artistic merit or for unlabelled diagrams.

Continuation sheets - Where these have been included, it is vital that the relevant question number is included in the left hand margin if information written here is to be considered. These should also be attached to the answer booklet in the appropriate place and candidates should indicate in their answer booklet that they have written part of their answer on the attached sheet/s.

Q1 A client has expressed a wish for an environmentally friendly garden. State **FIVE** pieces of information that could be required in developing the client brief, indicating the environmental relevance of **EACH**.

10

Q1 This question was reasonably well answered. Some students did not make sufficient reference to the environmental relevance of the question, turning it more into a general client requirement. The most frequently stated subjects of answers were reclaimed materials, wildlife ponds and wildflower meadows.

The information that could be required when developing a client brief for an environmentally friendly garden could have been expressed as questions for the client. These could have included practical considerations such as whether they want 'an area for drying clothes' or an 'area for compost bins' or 'water harvesting facilities'. Other questions may have focused more on the ecology of the garden such as whether they want 'a wildlife pond' or 'to plant as many trees as possible'. The most popular topics were use of reclaimed materials, wildlife ponds and wildflower meadows.

In each case, in order to gain full marks, it was important to clearly state the environmental relevance of the feature being suggested. For a drying area this could have been that it would 'reduce the need for energy in operating a tumble dryer'. For a composting area, the environmental relevance could have referred to 'production of garden compost which would help maintain healthy soil ecology'. Similarly, water harvesting could have been related to 'water conservation', a wildlife pond to 'biodiversity' and tree planting to 'carbon sequestration'. There are many such examples that could have been given.

Where general information was referred to as part of a client brief such as age of users and budget, no marks were awarded except when the environmental relevance was explained. Also, where multiple pieces of information, all with a similar environmental significance, were given, full marks would not have been awarded for each. This was sometimes the case with habitat creation projects, where e.g., ponds, hedgerows, meadows and log piles may have been cited separately with the common rationale that they attract wildlife. As is the case with questions about client brief, some candidates answered with information that would be derived from a site survey or site appraisal. This kind of information would not have been awarded marks.

- Q2** a) Explain **THREE** benefits of creating a focal point within a garden design. **6**
- b) For a **NAMED** example of **EACH** of the following, describe its attributes for use as a focal point:
- i) soft landscaping **2**
 - ii) hard landscaping **2**

- Q2** a) Possible benefits of creating a focal point within a garden design could have included that it 'enhances the sense of unity/coherence in the garden', it 'creates a visual axis between the viewer and the focal point' and that it 'emphasises a destination towards which visitors can move'. The question required an explanation of each benefit stated. So, for example, the sense of unity can come about because 'all components of the design are seen in relation to the focal point'. The visual axis is beneficial because it is 'around that axis that visual balance is achieved'. Similarly, the benefits of a focal point as a destination could have been explained as 'enhancing the visitor's experience by encouraging circulation/movement through the garden'. Where a benefit of a focal point was explained simply in terms of the aesthetic attributes of the feature itself, e.g., it is 'visually distinctive and provides a dramatic effect in the garden' full marks would not have been awarded because without that quality, it would not be suitable for creating a focal point. The question was seeking explanations of benefits that arise from such distinctive characteristics.

b)

This part of the question was asking for descriptions of two examples of features that have those attributes that make them suitable for use as a focal point.

A soft landscape example could have been *Cornus controversa* 'Variegata' and a 'decorative oak bench' could have been given as a hard landscape example. In both cases, a description was required which could have simply referred to the feature itself but could also have referred to the garden context in which it is set. The *Cornus* could have been described as having a 'striking appearance from its layered branching pattern and variegated foliage'. A description of the bench may have referred to its 'ornate carving and construction detail as well as its location at the top of a central flight of steps'.

Although most candidates did well when answering this question, some could have given more details in their descriptions of selected examples.

		MARKS
Q3	a) List FOUR soil characteristics that could be recorded when carrying out a site appraisal.	2
	b) For EACH characteristic stated in a), describe its influence on the design choices.	8

Q3 a) Four soil characteristics that could be included at a site appraisal include 'presence of compaction', 'soil pH', 'soil texture' and 'presence of contaminants'. Sometimes 'water content' rather than 'soil moisture holding capacity' was stated by candidates but full marks would not have been awarded because that would depend on whether it had rained recently.

b) In order to gain full marks for each description, candidates needed to describe variables associated with the characteristic and the possible influence on design choices. So, for compaction, a suitable description could have been 'it may occur in the topsoil or subsoil and it could determine the need for building raised beds for growing vegetables in'. For soil pH it could have been stated that 'pH may be high (alkaline) or low (acid) and that it could affect plant selection, for example by making the choice of calcifuges such as *Pieris japonica* for acid soils'. As regards soil texture, reference could have been made again to plant selection with variables referred to such as 'clayey' and 'sandy'. Soil contaminants such as 'broken glass may be present or not' and this could influence 'selection of site for a play area'.

It is important to note that some descriptions given were not of influences on design choices, but rather influences on cultivation practices. For example, 'a sandy soil will need more irrigation than a clay soil'. In such a case, full marks would not have been awarded.

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|-----------|----|---|----------|
| Q4 | a) | As part of a client brief, prepare FOUR questions to help identify the information that would be required to design a garden for a person with restricted mobility. | 4 |
| | b) | Describe THREE ways that a mobility restriction could affect the design of a parking area (excluding materials). | 6 |
| Q4 | a) | <p>This part of the question was answered well. Four questions for use in a client brief when identifying the possible design requirements of a person with restricted mobility could have been, 'Do you use a wheel chair or other mobility aid?', 'How do you want to use the garden, e.g., for relaxing or gardening?', 'Are there other users to consider, e.g., children?' and 'Do you want any areas lit at night?'. Answers which didn't have any clear relevance to this specific context of a garden for a person with restricted mobility, would not have been awarded marks. Examples of this may have been 'do you want privacy?' or 'what is your budget?'</p> | |
| | b) | <p>In describing ways in which a mobility restriction could affect the design of a parking area, candidates were required to state an adjustment to conventional design followed by a description of how that adjustment could help an individual with a mobility restriction. Adjustments could have included 'making the area larger', 'building a ramp with handrail from parking area to front door' and providing light and 'levelling the area or reducing the gradient'. A description of how the increase in size of the parking area could help, might have been 'to allow space to manoeuvre a wheelchair around the car'. The benefit of the ramp and handrail could have been described as 'facilitating easier/safer access into the house from the parking area'. Similarly, the levelling could have been described as 'facilitating easier/safer movement in and out of the car'.</p> | |

Q5 A client has asked that an area for outdoor food production be included in a garden design.

- a) Describe **THREE** distinct ways in which topography could influence the design. **6**
- b) Describe **TWO** distinct ways in which existing vegetation could influence the design. **4**

Q5 a) Topography could influence design of a food production area in various ways. These include ‘the susceptibility of steep slopes to soil erosion and water run-off’, ‘the difficulty and hazardous nature of working on steep slopes’ and ‘the likelihood of frost pockets forming at the bottom of slopes which could affect tender crops’. For each of these problems, full marks would have been awarded where the description was developed to include a way in which the problem could be mitigated. So, for erosion ‘the use of perennial crops such as fruit trees may be preferred’. For difficulty of working on the slope ‘the construction of terraces or raised beds, may have been suggested’. For risk of frost pockets, it could have been stated that ‘obstructions such as a dense hedge low down on the slope should be avoided’. Of course, not all influences are negative such as those outlined above. The merits of a relatively gentle south facing slope as a suitable site to select for food production could also have been described.

- b) The influence of existing vegetation on design of a food production area could have been described similarly in terms of the nature of the problem (or opportunity) and reference to an appropriate design response. One potential problem with existing vegetation would be ‘the presence of pernicious perennial weeds, e.g., *Aegopodium podagraria* (ground elder)’. ‘Selection of suitable crops such as fruit trees which could withstand competition from the weed’ may have been suggested. A more beneficial influence of existing vegetation may ‘the presence of plants which could provide pollination opportunities for food crops’. For example, ‘apple tree cultivars could be selected for cross pollination with a nearby crab apple tree’.

Other ways in which existing vegetation could influence the design were also accepted, such as indicator plants and the presence of trees with TPO’s which could not be removed, when the direct influence of the plants, in a horticultural sense, on design choices was made clear.

- Q6** a) Describe **THREE** characteristics of the Dutch Renaissance garden style **6**
- b) State **FOUR** differences between the Italian and Dutch Renaissance design styles. **4**

Q6 a) In describing characteristics of the Dutch Renaissance style, answers could have included 'Rectilinear design with central axis', 'Enclosure and compartmentalisation' and 'Strong emphasis on horticulture'. Full marks were awarded where statements such as these were accompanied by a further descriptive statement which showed a more detailed understanding. For example, it could have been stated that the 'central axis is linked to the symmetry of the house'. For enclosure and compartmentalisation, an additional statement could have referred to 'small square gardens enclosed by clipped hedges' or 'tree lined canals providing enclosure from the surrounding landscape'. The 'Dutch enthusiasm for growing flower bulbs' could have reinforced a statement about the emphasis on horticulture. Various other characteristics could have been described to include reference to arbours, parterres and lead statuary with appropriate descriptive statements as outlined above.

b) The differences between Dutch and Italian Renaissance garden design styles were well understood by candidates. Four differences between the Dutch and Italian Renaissance styles include the observation that Dutch gardens had 'a stronger sense of enclosure than the Italian gardens'. Dutch gardens were also 'generally flat while the Italian gardens were sloping'. Dutch gardens were also 'generally less opulent than their Italian counterparts' and had 'less emphasis on statuary and monuments'.

It was important that these answers referred to both styles of garden, either by mentioning both the Italian and Dutch explicitly, or just mentioning one and using comparative words, e.g., 'more' or 'less'. Candidates who simply described either Dutch or Italian gardens would not have been awarded full marks.

Q7

Define what is meant by **EACH** of the following surveying terms by completing the table below:

Term	Definition
Baseline	
Triangulation	
Offsets	
Running measurements	
Datum level	

2

2

2

2

2

Q7 In order to achieve full marks, correct definitions of the five different surveying terms needed to include both a statement of what the term means and a statement of what it is used for in surveying.

- i) For 'baseline', the initial statement could have been 'a fixed line between two known points' followed by a second statement 'used as a reference for plotting other points by means of measurements taken along, and to, the baseline'.
- ii) Likewise, for 'triangulation' the first statement could have been 'a surveying method that measures the line between two known points and the angles of a triangle' and the second statement 'It is used to plot an unknown point where the two other sides of the triangle intersect'. It should be noted that 'trilateration', using only linear measurements and not angles, was also accepted if fully defined in the way described above.

For the remaining three terms suitable answers would have been as follows:

- iii) Offsets are linear measurements taken at right angles to a baseline in order to plot the position of unknown points in relation to that baseline. (Note, oblique offsets were also accepted where correctly defined)
- iv) Running measurements are continuous (cumulative) measurements along a survey line to plot the position of various points that occur at intervals on that line.
- v) Datum level refers to a known level or benchmark used to establish the reduced levels over a site. Selection of an arbitrary reduced level was also accepted when correctly explained.

Q8

State how hard and soft landscaping can be combined to achieve the following design principles, using **ONE** practical example for each:

MARKS

- | | |
|----------------|---|
| i) unity | 2 |
| ii) symmetry | 2 |
| iii) harmony | 2 |
| iv) proportion | 2 |
| v) texture | 2 |

Q8

This question proved to be challenging for some candidates to apply the principles in combinations of hard and soft landscaping.

For each of the five different principles of design that were listed, candidates were asked to state how they could be achieved through the combination of hard and soft landscape. Successful answers generally set a garden context in which hard and soft landscape could be combined to achieve each principle, and then gave an example to illustrate how the effect might be actually realized.

- i) For unity, the context might have been 'a Mediterranean style garden' and the example of how unity might be achieved could have been, e.g., 'using lavender as an edging to a gravel terrace to achieve unity of style'.
- ii) For 'symmetry' a suitable answer would have been 'a central stone path within a formal garden' followed by a supporting statement such as 'with identical formally clipped evergreens on each side mirroring the side opposite'.
- iii) Harmony could have been set within the context of 'harmonising colours' with the example of 'reds and oranges of autumn leaf colour seen against a red brick wall'.
- iv) For proportion 'the relative sizes of adjacent surfaces' would be a suitable context for the principle to be achieved perhaps through 'water lilies planted to cover one-third of the water surface in a raised stone raised pond'.
- v) Adjacent surfaces could also have featured in the case of texture where 'pleasing textural contrasts between one surface and another' could have been illustrated with the example of 'the smooth texture of limestone paving contrasting with the bold and ribbed leaves of *Hosta sieboldiana*'.

It can be seen from the examples above, that each contains clear reference to both a hard landscape component and a soft landscape component and that these are described in combination with each other. This was important as full marks were not awarded where they were described in isolation from one another or only hard or soft landscape was described for each principle.
