Including examiner comments

R3111

UNDERSTANDING GARDEN SURVEY TECHNIQUES & DESIGN PRINCIPLES

Level 3

Thursday 22 June 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.

ANSWER ALL QUESTIONS

MARKS

Q1 a) A client has expressed a wish to develop a garden for fruit and vegetable growing. State **SIX** pieces of information that would be required from the client to develop the design brief. **6**

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MARKS

b) Describe **TWO** distinct microclimates that might limit the scope of a design for a fruit and vegetable garden. **4**

Total Mark

Please turn over/…..

		MARKS
Q2	Describe **FIVE** distinct ways in which existing services can influence the planning and design of a garden, giving a specific example for **EACH**.	**10**

Please see over/…..

MARKS

Please turn over/…..

Total Mark

MARKS

Q3 a) Define **THREE** types of readings that are taken from a staff in the rise and fall method of level surveying using a levelling instrument. **6**

Please see over/…..

MARKS

b) Define the following terms used in level surveying:

i) benchmark **1**
ii) change point **1**
iii) reduced level **1**
iv) line of collimation **1**

Total Mark

Please turn over/…..

MARKS

Q4 A new community garden is to be designed and built on a small local green space.

i) State **FOUR** ways in which information about the community's aspirations for the garden could be gathered. **4**

ii) List **SIX** possible ways in which the community might intend to use the garden. **6**

MARKS

Total Mark

Please turn over/…..

MARKS

Q5 Describe **FIVE** distinct ways by which TV and media influence the design of the domestic garden today. **10**

Please see over……

MARKS

Total Mark

Please turn over/…..

MARKS

Q6 a) Define texture as a principle of garden design. **2**

b) Describe how use of texture can achieve **FOUR** distinct design effects in a garden. **8**

Please see over/…..

MARKS

Total Mark

Please turn over/…..

MARKS

Q7 You have been asked to carry out a site appraisal for a client's garden that is located adjacent to a busy road in an urban area.

a) i) Identify **THREE** pollutants associated with the road. **3**

ii) State a distinct negative **EACH** of the pollutants named in i) will have on the garden or its users. **3**

Please see over/…..

MARKS

b) Describe a design solution for minimising **TWO** of the negative effects identified in a). **4**

Total Mark

Please turn over/…..

MARKS

Q8 a) Describe how **TWO** characteristics of Medieval gardens can be incorporated into contemporary garden designs. **4**

Please see over/…..

MARKS

b) Describe **THREE** further characteristics of a garden from the Medieval period. **6**

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Total Mark

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R3111

UNDERSTANDING GARDEN SURVEY TECHNIQUES & DESIGN PRINCIPLES

Level 3

Thursday 22 June 2023

Candidates Registered	**41**		**Total Candidates Passed**	33	85%
Candidates Entered	39	95%	Passed with Commendation	15	39%
Candidates Absent/Withdrawn	2	5%	Passed	18	46%
Candidates Deferred	0	0%	Failed	6	15%

General comments

Where a plant example is chosen, it is important to write the FULL botanic name and not just a partial name, following the correct naming protocols. Where named plant examples are required, common names are not credited at Level 3.

Spellings of scientific terms and botanic plant names need to be full and accurate - poor spellings may be penalized.

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) A client has expressed a wish to develop a garden for fruit and vegetable growing. State **SIX** pieces of information that would be required from the client to develop the design brief.

b) Describe **TWO** distinct microclimates that might limit the scope of a design for a fruit and vegetable garden

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Q1 a)

This proved to be a straightforward question for most candidates. There were only a few answers that confused the client brief with the site survey information. Pieces of information required to develop the design brief for fruit and vegetable growing needed to be information that could be gathered from the client about their wants and needs for the site. Answers pertaining to the site, and information from a site appraisal, were not accepted. Suitable items of information could have included: 'Types of crops to be grown', 'Growing system preferred, e.g., bed system, 'Possible preference for organic/permaculture methods', 'Extent to which production area should occupy the space', 'Need for a composting facility' and 'Need for a storage facility/shed'.

b)

Most candidates were able to quote two distinct microclimates; frost pockets and shade being two of the most frequently described factors. Very few mentioned sun traps and south facing walls.

Two distinct microclimates that might limit the scope of the design for fruit and vegetable growing could have been e.g., 'Shade cast by adjacent buildings or trees' and 'Presence of frost pocket at the base of a slope'. For a full description in each case, it was necessary to state how the design might be limited. For the shade, it 'could limit success of sun-loving crops e.g., asparagus' and for the frost pocket, it might 'limit the choice of e.g., stone fruit crops'. It should be noted that answers relating to drainage were not awarded marks as this is not a microclimatic effect. Examples of answers that wouldn't have been considered sufficiently distinct from each other could have been 'exposure to prevailing wind at the top of a slope' and 'presence of a wind tunnel effect'.
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Q2 Describe **FIVE** distinct ways in which existing services can influence the planning and design of a garden, giving a specific example for **EACH**.

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Q2

Most candidates were able to describe five suitable services that can influence the planning of a garden. However, some mentioned services and their effect on garden construction which is not what this question required.

In describing five ways in which existing services can influence the design and planning of a garden, there were two statements that were required for each. The first statement to identify the type of service and the design intention that was likely to be impacted by it, and second to identify how design or planning could address the problem/opportunity caused by this impact.

E.g., one suitable answer could have stated initially that 'Overhead services could impact on the positioning of trees in the design'. This could have been followed by a statement such as 'that trees could be positioned at such a distance from the services so that, at maturity, their branches weren't likely to cause damage'.

Other situations that could have been described include

'Overhead services being an eyesore in the design', Underground services e.g. (gas) impacting on construction of foundations', 'Underground services potentially providing useful supply for features within a garden' or 'Services (underground or overhead) impacting on future maintenance work such as tree surgery'.

As stated above, in each of these cases, for the maximum available marks, a statement would have been necessary on how design and planning could have addressed or responded to the issue.

Examples of two answers which would have been considered insufficiently distinct from each other could have been 'an underground service impacting the digging of foundations' and 'an underground service impacting the digging of tree pits'. It is also important to note that answers relating simply to the practicalities of the construction phase such as 'overhead services obstructing access with machinery' were not accepted as relevant to the 'planning and design' of a garden.
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Q3 a) Define **THREE** types of readings that are taken from a staff in the rise and fall method of level surveying using a levelling instrument.

b) Define the following terms used in level surveying:

i) benchmark
ii) change point
iii) reduced level
iv) line of collimation

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Q3 a) The question involving surveying is always one of the weakest as far as candidate's answers are concerned. Several candidates did correctly identify the three types of reading taken in a rise and fall level survey as 'backsight',' intermediate sight' and 'foresight'. In defining these terms, full marks would have been awarded where reference was made to the positioning of the levelling instrument. So, backsight could have been defined as 'the first reading after positioning the instrument' and foresight as 'the last reading before moving the instrument'. Intermediate sight refers to 'all the readings between backsight and foresight'.

b) Candidates' knowledge of the terms used in level surveys was generally more variable.

A simple definition was needed for each of the four terms listed.

i) The term' benchmark' led to confusing answers; relatively few being able to state it is 'a fixed mark at a known elevation'.
ii) 'Change point', is 'the staff position where the level is moved'
iii) 'Reduced level' can be defined as 'the level (relative to the datum) at a survey point'
iv) Line of collimation is 'the horizontal line of sight through a levelling instrument', but was not properly defined by several candidates.

Of course, there are several different ways of expressing these meanings in words but the meanings had to be clear for the definitions to be accepted.
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Q4 A new community garden is to be designed and built on a small local green space.

i) State **FOUR** ways in which information about the community's aspirations for the garden could be gathered.

ii) List **SIX** possible ways in which the community might intend to use the garden.

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Q4

Most candidates were able give clear full answers on gathering information regarding the creation of a community garden

i) Ways in which the views of a local community could be gathered about the use of a proposed community garden, include through 'an online survey ', a 'public meeting asking for comments', 'visits to local schools to discuss with children' and 'door knocking in the local neighbourhood to talk through a questionnaire'. It would also have been acceptable to state methods used in a questionnaire such as 'multi-option questions' or 'open questions asking for comments'.

ii) The second part of this question was answered using suitable examples of the ways that community could use the garden.
A variety of proposed uses was credited through simple statements such as; 'growing food for sharing', 'children's play area', 'wildlife garden', 'socialising/picnicking etc', 'environmental education' and 'community events, e.g., food fair'. It was important that answers represented an actual use of the land and not just a benefit of greenspace such as 'wellbeing'. 'Calming space for wellbeing' or 'meditation garden' for examples, would have been suitable answers.
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Q5 Describe **FIVE** distinct ways by which TV and media influence the design of the domestic garden today.

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Q5

Most candidates were able to give five examples of where TV and the media can influence garden design. The main media mentioned by candidates were TV with programmes such as Gardener's World and the TV coverage of Chelsea Flower Show, and Garden Magazines.

The most effective answers identified an example of TV and/or media delivering garden-related content and then suggested a way in which that influences the design of contemporary home gardens.

Examples might have included

- 'TV garden makeover shows', e.g., 'creating demand for instant gardens, e.g., using large nursery stock'
- 'Radio programmes' such as Gardeners Question Time, for 'educating garden owners on design solutions to common problems such as plants for dry shade, or sustainable gardening methods'
- 'Travel articles in garden magazine', which would 'inspire garden owners with new/exotic ideas for planting',
- 'Social media sites e.g., Pinterest where garden photos are shown' which encourages, 'garden owners sharing their ideas for designs and completed projects'
- 'Banner adverts for garden products on websites' which would 'encourage use of new technologies, and 'encourage the purchase of new products e.g., of garden furniture'.

Candidates were asked to describe five **distinct** ways; examples of answers that would not have been considered sufficiently distinct from each other are 'Advertisements in magazines' and 'Banner ads on websites'. However, some marks would have been awarded if the influence had been described with distinctly different examples for each. For example, some advertisements might 'promote the services of an award-winning garden designer' and others might 'promote new products such as solar lighting' and this would have made them sufficiently distinct.
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Q6 a) Define texture as a principle of garden design.

b) Describe how use of texture can achieve **FOUR** distinct design effects in a garden.

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Q6 a) The definition of texture was variable in the answers given.

A suitable definition of texture would have referred to the visual quality (e.g., fineness, courseness, glossiness) of the surface of an object. It would also have included examples of the visual characteristics of the surface which give rise to that quality, e.g the size, shape or spacing of the component parts of the surface. Where texture was also described as a tactile quality, this would have enhanced the answer and reduced the need for detail concerning visual texture. However, if texture was defined only as a tactile quality, full marks would not have been awarded.

b) In describing examples of texture being used to create design effects, many of the most effective answers begun by stating a suitable design effect. In each case, for full marks, a further statement or example would have been required to reinforce the description.

Examples include:

'Introducing movement through sequential changes in texture' could have been followed by 'e.g., 'bold foliage blending gradually into finer foliage'. 'Enhancing focalisation using bolder texture at key focal points' could have been further developed with an example such as 'tree with large leaves planted on outcurve of sweeping border',

'Creation of macro-textural effect using mass planting of a single species' by 'multiple individuals of a hummock shaped shrub planted en masse' and 'Illusions of distance' can be achieved by 'fine textures in the background and bold textures in the foreground'.

There are various other effects that could have been described but it was important that they were sufficiently distinct from one another. The weakest area in candidates' answers was the repeated use of textural contrast in materials and how this contributes to the unity of a space in their answers. The other repetition was the use of fine textured materials to enhance the illusion of space in small gardens. 'Bold texture used to stand out from a background of finer texture 'would not have been sufficiently distinct from the earlier point about focalisation. It was also important that the effects described could be clearly attributed to texture and not from other qualities. 'Achieving balance by planting the same textured plant in a symmetrical arrangement' would not have been awarded full marks as there are clearly other visual qualities at play.
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Q7 You have been asked to carry out a site appraisal for a client's garden that is located adjacent to a busy road in an urban area.

a) i) Identify **THREE** pollutants associated with the road.

ii) State a distinct negative **EACH** of the pollutants named in i) will have on the garden or its users.

b) Describe a design solution for minimising **TWO** of the negative effects identified in a).

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Q7 a)

i) All candidates could name three pollutants associated with a road.
Car exhaust fumes, noise from traffic and light from street lamps are all examples of pollutants associated with a busy road. Candidates who simply answered with e.g., 'light', 'noise' or 'air pollution' were not awarded full marks.

ii) Most candidates were able to state the negative effects of each of the pollutants stated in the first part of the question.
With exhaust fumes, for example, reference could have been made to the 'damaging health effects on both plants and people'.
For 'noise', the negative effect would be 'difficulties with enjoying/relaxing in the garden'.
For 'light', 'effects on wildlife behaviour or plants flowering' for example, would have been suitable answers.

It was necessary, for full marks, that the negative effects were distinct from each other so 'disturbance to bird behaviour' wouldn't have been accepted for both noise and light pollution.

b)

The design solutions to mitigate the effects of pollution were described fully by candidates.

In describing a design solution for two of the effects stated in a), it was acceptable to either identify one solution which addressed both negative effects or a separate solution for each individual effect. Acceptable answers for minimising air pollution would have referred to some kind of densely planted shrub barrier, or trees, between the road and the garden and, for traffic noise in particular, constructions like 'acoustic barrier fencing' and distractors like 'wind chimes' were also accepted. 'Height', 'density' and 'evergreen qualities' of plantings would have been important considerations in describing soft landscape solutions to the different pollutants.
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Q8 a) Describe how **TWO** characteristics of Medieval gardens can be incorporated into contemporary garden designs.

b) Describe **THREE** further characteristics of a garden from the Medieval period.

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Q8 a) Most candidates could describe two features of a medieval garden and chose examples that can be used in designing a modern garden.

Features of medieval gardens that are found in gardens today include ‘Stew ponds’, ‘Fruit trees’ and Trellis arbours’. For each feature given, some description was necessary in order to achieve full marks. For the ponds, it could be said that ‘although used for edible fish in medieval gardens, they are often incorporated into hard landscape areas in contemporary gardens for displaying decorative fish’. Fruit trees, commonly used in medieval gardens might now be used within ‘the vertical structure of a multi-strata forest garden’. For trellis arbours, it could be said that they ‘serve a similar function (of privacy) in contemporary gardens and often have climbing plants growing up them’.

b)

Further characteristics of medieval gardens might have included, turf seats, raised beds, flowery meads, and herb gardens. Again, for each feature stated, full marks would only have been awarded if some description was given, e.g., turf seats were raised banks of soil covered with turf, scented herbs and used for seating. Raised beds may have been described as ‘set out in geometric formal arrangement and often edged with willow hurdles. Flowery meads were ‘grassy areas for walking around with wild flowers such as primroses, poppies and daisies’.

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