



R3111

**UNDERSTANDING GARDEN SURVEY TECHNIQUES &
DESIGN PRINCIPLES**

Level 3

Thursday 30 June 2011

13:30 – 14:45

Written Examination

Candidate Number:.....

Candidate Name:.....

Centre Number/Name:.....

IMPORTANT – Please read carefully before commencing.

- i) The duration of this paper is **75 minutes**.
- ii) **ALL** questions should be attempted.
- iii) **EACH** question carries **10 marks**.
- iv) Write your answers legibly in the spaces provided.
- v) Use **METRIC** measurements only.
- vi) Where plant names are required, they should include genus, species and where appropriate, cultivar.
- vii) Please note, sufficient lined space is provided. It is not necessary that all lined space is used in answering the questions.

ANSWER ALL QUESTIONS

MARKS

Q1 a) Identify the practical considerations to be incorporated in a design when developing a **NAMED** area for users with restricted mobility.

4

Please see over/.....

- b) Identify the information required when developing a client brief to design the following:

- i) an outdoor entertaining area;
- ii) a children's play area.

3

3

Total Mark

6

Q2 a) Describe **SIX** features that would be characteristic of large Victorian gardens.

Please see over/.....

b) State **TWO** innovations that influenced the development of the Victorian garden style.

2

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

c) State **ONE** significant difference between Victorian and Edwardian garden styles.

2

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Total Mark

6

- Q3** a) List **SIX** distinct items of information which will need to be noted about existing trees when carrying out a site appraisal.

Please see over/.....

Total Mark

Q4

Describe how **FIVE** existing **NAMED** soil factors on a site can affect the design of a new garden.

10

Please see over/.....

Total Mark

- Q5** a) State **TWO** factors to be considered in determining a scale when drawing up the linear survey of a site.

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- b) Explain the purpose of **THREE** types of plan which could be generated from the initial survey drawing.

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- c) State **FOUR** items of information which should appear in the title box of a landscape plan drawing.

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Total Mark

Q6 a) Explain what is meant by the term 'unity' in garden design.

2

b) Describe **FOUR** distinctly different ways by which unity can be achieved when designing a garden.

8

Total Mark

Q7 a) Differentiate between a site appraisal and a client brief.

4

Please see over/.....

Total Mark

Q8

Describe the use of **EACH** of the following when surveying a site:

- | | | |
|------|------------------|---|
| i) | baseline; | 2 |
| ii) | measuring tape; | 2 |
| iii) | datum; | 2 |
| iv) | triangulation; | 2 |
| v) | automatic level. | 2 |

Please see over/.....

Total Mark

17

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**RHS LEVEL 3 CERTIFICATE IN THE PRINCIPLES OF GARDEN
PLANNING, CONSTRUCTION AND PLANTING
WRITTEN EXAMINATION**

13:30pm Thursday 30 June 2011

R3111

**UNDERSTANDING GARDEN SURVEY TECHNIQUES
AND DESIGN PRINCIPLES**

Candidates Registered	86		Total Candidates Passed	48	77.42%
Candidates Entered	62	72.09%	Passed with Commendation	16	25.81%
Candidates Absent	12	13.95%	Passed	32	51.61%
Candidates Deferred	7	8.14%	Failed	14	22.59%
Candidates Withdrawn	5	5.81%			

- Q1**
- a) Identify the practical considerations to be incorporated in a design when developing a **NAMED** area for users with restricted mobility.
 - b) Identify the information required when developing a client brief to design the following:
 - i) an outdoor entertaining area;
 - ii) a children's play area.

The aim of this question is to assess the candidate's ability to analyse a client brief and use the information alongside a site appraisal to suggest suitable design solutions for a range of garden areas and users.

In part a), marks were awarded for inclusion of:

- adequate width of access and turning space for wheelchair users,
- no steps,
- no steep slopes – inclusion of ramps with appropriate specifications,
- hard smooth surfaces (no loose gravel),
- accessible planting areas – possible inclusion of raised beds reachable from a wheelchair,
- non slip surfaces, with adequate drainage,
- hand rails,
- well lit,
- accessible catches and latches.

This question was generally answered well but some candidates identified considerations which were not necessarily specific to users with restricted mobility. For instance the inclusion of scented plants, the exclusion of poisonous plants, or the provision of shade, were not exclusively relevant to mobility problems. Although the majority of answers included wheelchair users, others gained marks for the consideration of other mobility issues such as the use of crutches, Zimmer frames etc.

In part b) marks were awarded in each section for:

(i)

- time of day/year area is to be used (sun/shade considerations, etc),
- type of entertaining requiring access/proximity to house, especially the kitchen,
- number of people expected and therefore space needed and the numbers and style of furniture to be accommodated,
- utilities present/required – i.e. water, lighting, power,
- ages/infirmity of users,
- privacy requirements,
- storage requirements,
- security.

(ii)

- age and sex of children,
- supervision requirements and the need to screen the area or keep it visible from the house/other areas of the garden,
- shade requirements,
- no of children/people expected to use area,
- quantity and style of play equipment preferred,
- safety – restricted access to water/roads etc.

Both parts of this question were well answered with most candidates being able to identify the majority of the above information requirements.

- Q2**
- a) Describe **SIX** features that would be characteristic of large Victorian gardens.
 - b) State **TWO** innovations that influenced the development of the Victorian garden style.
 - c) State **ONE** significant difference between Victorian and Edwardian garden styles.

The aim of this question is to assess the candidate's knowledge of the development of historical garden design styles and their characteristics.

In part b), marks were awarded for descriptions of the following:

- formal seasonal bedding schemes and carpet bedding,
- italianate parterres – close mown grass,
- exotic planting schemes – with examples,
- glass conservatories/ferneries,
- elaborate fountains in the Italianate style,
- extensive “natural” rockwork including artificial stone such as Pulhamite,
- specimens and collections of conifers – the Monkey Puzzle from Chile and especially plants introduced from North America by David Douglas,
- themed areas or “rooms” – i.e. Chinese such as at Biddulph Grange.

The question asked for descriptions of the features and many answers did not provide adequate information to identify the feature as being typically Victorian. A “water feature” or “fountain” alone was not sufficient to gain full marks.

In part b) appropriate innovations were Budding’s lawnmower and the Wardian case which facilitated the development of some of the above features. Many answers given were not actually innovations – for instance “foreign travel” to bring back plants was not an innovation as such, it was the invention of the Wardian case which allowed many more plants to survive the journey. Likewise “glasshouses” required the inventions of sheet glass, wrought iron glazing bars and steam heating to grow the plants successfully.

Most answers for part c) correctly stated that Edwardian gardens started to become much more informal with more reliance on perennials and co-ordinated colour schemes. Many quoted William Robinson or Gertrude Jekyll as the instigators of this movement and quoted it as the Arts and Crafts style. A surprising number of candidates thought that the Edwardians preceded the Victorians or that the First World War was a reason for these changes in style.

- Q3**
- a) List **SIX** distinct items of information which will need to be noted about existing trees when carrying out a site appraisal.
 - b) Explain how **TWO** of the factors in a), can limit the overall design of the garden.

The aim of this question was to assess the candidate’s ability to gather information about existing site factors and use the results to assess the impact on design proposals.

In part b), marks were awarded for inclusion of

- species,
- spread,
- height,
- height under canopy,
- girth of trunk,
- habit/shape/form,
- condition – presence of pests and diseases,
- age,
- amenity/rarity/botanical/educational value,
- presence of TPO,
- remedial surgery required,
- shade cast.

Most candidates were able to list a sufficient number of these points to gain high marks. However some candidates included information, such as the position of the tree, which would be included in the site survey or information which would be difficult to ascertain without major excavation, such as damage to drains or foundations. Such things as “evergreen” or “deciduous” should be indicated by the species.

Depending on the factor chosen most candidates adequately explained the limitations on planting under or around trees but many failed to mention the influence on the positioning of hard landscape areas, either because of the users’ requirements to sit in sun or shade, or the problems of the tree’s roots and foundations. Many answers stated the influence of trees in positioning ponds and greenhouses. Most candidates quoted the presence of TPOs as one of their factors but only said that the tree couldn’t be removed without expanding on how that would influence the design proposals other than being stuck with it.

Q4 Describe how **FIVE** existing **NAMED** soil factors on a site can affect the design of a new garden.

The aim of this question was to assess the candidate’s understanding of the application of a site appraisal within the design process.

Marks were awarded for descriptions of

- texture,
- structure,
- organic matter content,
- fertility/nutrient status,
- water content/drainage/water table,
- depth of topsoil,
- pH,
- contamination (to include sulphate content),
- stone content,
- compaction/builders residue etc.

This was mostly answered well but basically, with better answers including suitability for plants, stability of foundations of hard landscape features and other things such as access considerations as appropriate to each factor selected. The main problem was that five distinctly different factors were often not selected. For example there was some confusion over texture with some candidates quoting clay and sand separately. Likewise pH was sometimes split into “acid” and “chalky”. Better answers gave examples of suitable plants and design styles in their descriptions. Many answers described remedies to change the conditions, including complete replacement; the point of the question was to describe how to design around existing conditions. Some answers described cultivation requirements, which was not asked for.

- Q5**
- a) State **TWO** factors to be considered in determining a scale when drawing up the linear survey of a site.
 - b) Explain the purpose of **THREE** types of plan which could be generated from the initial survey drawing.
 - c) State **FOUR** items of information which should appear in the title box of a landscape plan drawing.

The aim of this question was to assess the candidate’s understanding as to how survey data is transferred to a paper drawing and how this information may then be used.

In the first part of the question, marks were awarded for any two of the following:

- size of site,
- size of paper,
- detail required,
- convention.

The vast majority of candidates gained full marks for this part of the question.

Possible plans in part b) could have been:

- utility plan – to show where services are located,
- planting plan – to show proposed planting schemes,
- concept plan – to show draft design proposals,
- setting out plan – to show dimensions in order to be able to set out proposed features,
- presentation plan – to show client final design proposals.

Most candidates could quote four suitable plans and describe their purpose. Some examples given were cross sections, elevations or projections and not plans as asked for in the question.

Virtually all candidates could easily state four items which should appear in the title box as name of client, name of designer, date of drawing, scale etc.

In general the whole of this question was well answered and candidates were awarded with high marks accordingly.

- Q6** a) Explain what is meant by the term 'unity' in garden design.
- b) Describe **FOUR** distinctly different ways by which unity can be achieved when designing a garden.

The aim of this question was to assess the candidate's knowledge and understanding of basic design principles.

Most candidates could state that unity was achieved by designing a garden as a "whole" and then often quoted such principles as balance, harmony, repetition, rhythm. Higher marks were awarded to those who could state that unity could be within the design itself, with existing features within the site, and with the surrounding environment.

The second part of the question then needed examples of how this is achieved, such as:

- unity with house/existing buildings/features on site – matching architecture, materials, colours shapes etc, grid set to dimensions of house,
- unity of proposed materials – shapes colours textures, repetition and reversion,
- unity of planting – using similar (and contrasting) forms, colours, textures, repetition, unity of three,
- unity with environment - using local/natural planting themes, rocks, shapes (i.e. of hills), matching architecture/materials etc as in surrounding area, borrowed landscape,
- using a grid to ensure shapes and proportions of the proposed layout are consistent and lines follow the same angles – this could be in relation to any of the above.

This question as a whole was not well answered with few candidates achieving high marks.

- Q7** a) Differentiate between a site appraisal and a client brief.
- b) Describe **THREE** methods of recording data when developing a client brief.

The aim of this question was to assess the candidate's understanding of the stages within the design process.

Marks were awarded for stating that the client brief should contain information about the client's and family status, requests, likes and dislikes, functional requirements (possibly with some examples), budget, etc, whereas the site appraisal is the recording of existing physical factors of a site (with examples) which could affect the design development. Nearly all candidates gained high marks for this part of the question.

Answers for the second part of the question could have included, along with an appropriate description:

- questionnaire,
- checklist,
- dictaphone /laptop/audio data collection,
- annotated plans, photos etc.

Again this was answered well in most cases. Most used the last example but many confused this with the recording of data for the site appraisal. Photographs can be used, such as in the form of a mood board, to ascertain client's likes and dislikes and to prompt them as to proposed features, not in this case to record what is existing on the site – this could however be taken further in the analysis by superimposing new ideas on to the existing site plan or pictures.

Q8 Describe the use of **EACH** of the following when surveying a site:

- i) baseline;
- ii) measuring tape;
- iii) datum;
- iv) triangulation;
- v) automatic level.

The aim of this question was to assess the candidate's knowledge of basic surveying, equipment, techniques and terminology.

Answers should have included at least the following information:

- (i) a straight fixed line either located on an existing straight feature, such as a building or fence, or set up to two known fixed points. It could be set up with tape measures or chains in order to take triangulation or offset measurements. There could be one or more baselines on larger sites creating a series of triangles.
- (ii) used to set up chain line (base line), take offset measurements, take running measurements, set up 3,4,5 triangles. It could be steel, or fibre and include shorter steel retractable tapes for measuring objects, such as doors and windows.
- (iii) a fixed point on a site to which all other levels relate, often located on a door threshold or DPC level. It can be site specific (TBM) - often given a value of 50 or 100 (m) - or relate to Ordnance Survey sea level data (OBM).
- (iv) method of dividing a site into triangles, which is the only shape which can be reproduced accurately to scale provided 3 sides or 2 sides and the included angle are known. It is more commonly used to locate objects accurately by measuring ties from two known points, often on a baseline.
- (v) a telescopic instrument to record level data. It is set up level on tripod by means of a circular bubble, sighted on to staff and cross hair reading taken as a back sight, intermediate sight or fore sight and the rise and fall and reduced level calculated from the readings.

Answers generally did not gain high marks simply because the candidate failed to supply sufficient information. In most cases, although it asks for the use of the item in surveying, a short description helped to clarify the candidate's understanding of it, as did a simple diagram. Only uses in surveying were required but sometimes candidates confused this with either setting out or drawing up, especially in the case of triangulation.

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