# RHS LEVEL 3 ADVANCED/DIPLOMA IN HORTICULTURE
# WRITTEN EXAMINATION

## 10:00am Wednesday 8th July 2009

# MODULE I

## Restoring Established Ornamental Gardens
## Planning Layout & Construction of Ornamental Gardens

### Section A – Short Answer Questions

Candidate Number:……

Candidate Name:……

Centre Number/Name:……..

**IMPORTANT – Please read carefully before commencing.**

i) The duration of the papers in Module **I** is **2 hours**.
ii) Answer **ALL** questions in Section **A**.
iii) **ALL** questions in Section **A** carry equal 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.

**Please turn over/…..**

## ANSWER ALL QUESTIONS

**MARKS**

**Q1** State necessary safeguards, when using a natural water supply in the garden. **2**

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**Q2** Describe, how the proximity of a building can affect the planning of a new garden. **2**

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**Q3** List **FOUR** different materials suitable for use on paths and driveways, and state **ONE** advantage of each. **2**

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**Please see over/…..**

## ANSWER ALL QUESTIONS

**MARKS**

**Q4** List **FOUR** appropriate edging materials for a new path or driveway. **2**

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**Q5** Define the term ‘cut and fill’ as used in the landscape construction stage of a new garden. **2**

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**Q6** Explain what is meant by the term ‘heritage garden’ and give **ONE NAMED** example. **2**

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**Q7** List **FOUR** different types of fence suitable for an urban garden, and state **ONE** advantage of each. **2**

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**Please turn over/…..**

## ANSWER ALL QUESTIONS

**MARKS**

**Q8** List **FOUR** factors to be assessed in a site appraisal of a new garden. **2**

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**Q9** Identify **FOUR** commonly encountered faults with pre-existing hard landscape features in the garden due for restoration. **2**

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**Q10** List **FOUR** invasive plants often associated with a neglected garden site. **2**

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**The Royal Horticultural Society, Wisley, Woking, Surrey, GU23 6QB.**

RHS Registered Charity No: 222879/SC038262

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**WRITTEN EXAMINATION**

**10:00am Wednesday 8th July 2009**

# MODULE I

## Restoring Established Ornamental Gardens
## Planning Layout & Construction of Ornamental Gardens

**Sections B & C - Structured Questions**

**IMPORTANT – Please read carefully before commencing.**

i) The duration of the papers in Module **I** is **2 hours**.
ii) Answer **ONE** question from Section **B** and **TWO** questions from Section **C**.
iii) **ALL** questions carry equal marks.
iv) Write your answers legibly in the answer booklets provided.
v) Use metric measurements **ONLY**.
vi) Where plant names are required, they should include genus, species and where appropriate cultivar.

**Please turn over/…..**

## Section B – Restoring Established Ornamental Gardens

**Answer ONE question only from this section**

**MARKS**

**Q11** Describe and explain the importance to garden design of **FOUR** of the following:

| | | |
|---|---|---|
| i) | wild garden; | **5** |
| ii) | panterre; | **5** |
| iii) | carpet bedding; | **5** |
| iv) | garden 'rooms'; | **5** |
| v) | scree. | **5** |

**Q12** a) Describe **FIVE** considerations to be made when reviewing existing planting and features within the garden. **15**

b) Explain why existing plantings and features should be retained in the restoration of a garden. **5**

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**Please see over/…..**

## Section C – Planning Layout & Construction of Ornamental Gardens

### Answer TWO questions from this section

**MARKS**

**Q13** a) Explain how **FOUR** of the following features, can contribute to ornamental garden design:

| | | |
|---|---|---|
| i) | water; | **3** |
| ii) | pergola; | **3** |
| iii) | artificial stone; | **3** |
| iv) | lighting; | **3** |
| v) | crushed glass. | **3** |

b) State **FOUR** limitations of use of hard landscape features in the ornamental garden. **8**

**Q14** Relate **EACH** of the following site conditions to the most appropriate garden design style, giving reasons for your choice:

| | | |
|---|---|---|
| i) | infertile soil; | **4** |
| ii) | poorly drained site; | **4** |
| iii) | desirable external views; | **4** |
| iv) | low labour availability; | **4** |
| v) | heavy shade from trees. | **4** |

**Q15** a) Describe with the aid of a clearly labelled cross-sectional diagram, an appropriate foundation for steps to achieve a total rise of 0.7m height. **10**

b) State **FOUR** materials suitable for the treads of the steps in a), which are to be located in heavy shade. **8**

c) Describe **TWO** design features, which facilitates water removal from the steps. **2**

**Q16** a) Explain what must be reviewed when designing a drainage system suitable for a small formal lawn on a clay soil. **8**

b) Explain the factors which must determine a suitable outlet for the drainage system in a). **6**

c) Describe with the aid of a clearly labelled diagram, a suitable drainage system for this situation. **6**

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# MODULE I

## Restoring Established Ornamental Gardens
## Planning Layout & Construction of Ornamental Gardens

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|---|---|---|---|---|---|
| **Candidates Registered** | **153** | | **Total Candidates Passed** | 112 | 81.16% |
| Candidates Entered | 138 | 90.20% | Passed with Commendation | 23 | 16.67% |
| Candidates Absent | 14 | 9.15% | Passed | 89 | 64.49% |
| Candidates Deferred | 1 | 0.65% | Failed | 26 | 18.84% |
| Candidates Withdrawn | 0 | | | | |

## Section A – Short Answer Questions

**Q1** State necessary safeguards, when using a natural water supply in the garden.

Good answers contained the following information:-

- Test water pH
- Test for pathogens etc
- Obtain extraction licence/permission from Environment agency
- Ensure sufficient flow downstream
- Health and Safety factors such as labelling as non drinking water, fencing where applicable etc

**Q2** Describe, how the proximity of a building can affect the planning of a new garden.

Candidates showed a good understanding of the situation and gave answers such as:-

- Rain shadow
- Microclimate
- Wind turbulence
- Awareness of the services/drains
- Shade

Note: The building need not be in the garden to be designed, but adjacent to the garden.

**Q3** List **FOUR** different materials suitable for use on paths and driveways, and state **ONE** advantage of each.

This question was well answered with:-

- Gravel: no skill to put down, cheap etc
- Precast concrete slabs: relatively cheap, can be nonslip, patterned etc
- In situ concrete: durable, low maintenance
- Tarmac: hard wearing

Paviors, etc . Marks were given for 'Bricks', although Engineering bricks would have been a better answer as far more durable.

**Q4** List **FOUR** appropriate edging materials for a new path or driveway.

Well answered, the more detail the better ie pre-cast concrete kerb stones is clearer than pre-cast concrete, which would not get a mark. Other examples include:-

- Granite setts
- Wooden gravel board with pegs
- Proprietary plastic strip
- Proprietary metal edge
- Log roll

**Q5** Define the term 'cut and fill' as used in the landscape construction stage of a new garden.

Good answers explained logically the procedure for 'cut and fill', as a series of steps; A technique for creating changes to the gradient and contours in a garden, often used for the creation of terraces, or level areas. The top soil is removed from the site to be graded. The subsoil from the higher portion is removed 'cut' and placed on the lower portion 'filled' to create a level, a retaining wall may be required. The top soil is then replaced over the new surface. Diagrams are very helpful, and marks were given for these.

**Q6** Explain what is meant by the term 'heritage garden' and give **ONE NAMED** example.

A 'heritage garden' is a garden of historical interest, frozen in time, maintained in the style of a particular epoch. It is not necessarily listed by English heritage or any other body. One mark was given for an example, the choice of well known examples is vast and indisputable examples should be used ie Hidcote, Stowe, Hestercombe. Less well known sites were perfectly acceptable where they were 'heritage gardens' and not merely gardens open to the public.

**Q7** List **FOUR** different types of fence suitable for an urban garden, and state **ONE** advantage of each.

Good answers contained enough detail to identify the type of fence. ie

- Wood panel fence; easily available, relatively cheap etc
- Traditional shiplap fencing; strong, can take in changes in level
- Wooden palisade: wind resistant,
- Hit and miss: wind resistant
- Willow hurdle: ecologically sound
- Iron railings: Strong, traditional front garden fence

**Q8** List **FOUR** factors to be assessed in a site appraisal of a new garden.

Well answered with broad headings such as:-

- Aspect
- Soil type, texture, pH
- Orientation
- Services
- Views
- Existing vegetation, TPOs

**Q9** Identify **FOUR** commonly encountered faults with pre-existing hard landscape features in the garden due for restoration.

Good answers gave full details, such as:-

- Brickwork spalled due to frost action
- Paving raised or cracked due to root invasion
- Wooden members of pergola collapsed due to wood rot
- Terrace steps collapsing due to subsidence

**Q10** List **FOUR** invasive plants often associated with a neglected garden site.

Any invasive plant found in a neglected garden was acceptable including:-

- Acer pseudoplatanus
- Fallopia japonica
- Rumex obtusifolius
- Ranunculus repens
- Senecio jacobaea
- Equisetum arvense
- Urtica dioica
- Rubus fruticosus

Very pertinent examples were given, all had to be in Latin, Genus and specific name for marks to be awarded.

## Sections B & C – Structured Questions

## Section B – Restoring Established Ornamental Gardens

**Q11** Describe and explain the importance to garden design of **FOUR** of the following:

i) wild garden;
ii) panterre;
iii) carpet bedding;
iv) garden 'rooms';
v) scree.

i) There were two aspects to this question, the historic one of the influence William Robinson in the 19th century and the 'natural' landscape developed by Richard Payne-Knight in the 18th century. The more recent developments of the wild life of the late 20th century. One or two candidates did mention the so called 'wilderness' landscapes of the late 17th and early 18th century, these were in fact in the form of mazes and therefore maintained. The answer points are as follows:

- The wild garden first promoted by William Robinson who introduced the idea of more informal garden
- Richard Payne-Knight in the 18th century
- Victorian 'picturesque' landscapes
- Modern approach is as an ecological planting to encourage wild life and also natural predators of plant pests.
- Low maintenance wild flower grasslands
- Use of annuals, perennials and shrubs to provide habitat, shelter and food for vertebrates and invertebrates.
- Wild life ponds
- Reduced maintenance requirement
- Reduced use of pesticides

ii) This part was answered well by most candidates, the answer points are as follows:

- Parterre is of Roman origin which was widely adopted in later Italian renaissance gardens, French landscape gardens and Dutch.
- Earlier examples were more like knot gardens, often more labyrinth-like. Later French styles were in a Broderie style of Glaude Mollet and Andrea Le Notre.
- Dutch parterre landscapes.
- Patterns created using low growing plants such as box, thrift, and lavender.
- Early parterres were either not in filled with plants or only sparsely planted. Most 19th century parterres are more densely planted with bedding plants.
- Modern use of the parterre is more in layout but has been used in designs such as those by Thomas Church.

iii) This question caused some confusion as many candidates described ordinary summer bedding. The answer points are as follows:

- Carpet bedding originated during the 19th century to provide elaborate patterns such as 'coats-of arms'
- Low growing tender perennials are used such as *Alternanthera, Sagina,* and *Echeveria* . Annuals such as *Pyrethrum parthenium* are also used.
- Carpet bedding is normally carried out by more wealthy local authorities. In recent years it has become more elaborate with the use of '3-D' bedding schemes depicting scenes from say nursery rhymes.
- Modern carpet bedding in now designed with the aid of CAD and is therefore planted by contractors on a 'ten-plate' which is lowered into place in the bed.
- Expensive both in creation and in maintenance.
- Needs to be planted very evenly and accurately, constant maintenance such as weeding and trimming are required to maintain the pattern.

iv) This answer can be divided into two parts. There are the so-called 'garden rooms' developed by designers such as Lawrence Johnson (Hidcote) and Vita Sackville-West and Harold Nicholson at Sissinghurst, where the landscape is divided up into compartments with a different layout, hard landscaping materials and planting in each. The modern concept is as follows:

- The concept of the garden room was first used by John Brookes in his book 'The Room Outside'.
- Garden Rooms are often enclosed
- Relatively small spaces
- Continuation of inside rooms often through glass patio doors.
- Use hard features in surfaces, use of furniture.
- Planting around perimeter of the site, architecturally striking.
- Use of small water features.
- Vertical surfaces often painted.

v) Scree is normally feature of Alpine features such as rock gardens and raised beds. The more modern use such as gravel gardens is also an acceptable answer.

- Scree was first used in late Victorian Alpine and rock gardens by enthusiasts such as Reginald Farrer.
- Consists of loose well drained stony material ranging from larger stones and smaller in size from 75mm to 3mm diameter.
- Scree plants include *Androsace, Asperula, Saxifraga* and *Calceolaria* for example.
- Scree has been developed for use with dry gardens and gravel gardens, these use Xerophytic shrubs and perennials.
- Good examples of scree gardens are at Wisley, Kew and Edinburgh Botanic gardens.
- Gravel gardens at Rosemoor and Beth Chatto's garden.
- Scree can also be found on raised island features and 'table' rock features.

**Q12** a) Describe **FIVE** considerations to be made when reviewing existing planting and features within the garden.

b) Explain why existing plantings and features should be retained in the restoration of a garden.

a) The considerations can be grouped under each of the following headings; the landscape and aesthetic value, historic value, information available, legal constraints and conservation protection, general state of structures and plants, grant availability for restoration work, health and safety and protection of the public and the availability of skilled labour to undertake restoration work and future maintenance.

- General condition of plants or features.
- Historic importance of plants and features.
- Plants are botanically significant, 'Champion Trees' and rarity of the plants.
- Impact on the site, removal of both plants and structures.
- Conservation protection that exists including TPO, English Heritage listings, conservation area, SSSI.
- Pest and disease problems.
- Wildlife habitats.
- Existing use of site and changing function.
- Evidence for the restoration work, information on the site and historic research.
- Grants and finance available.
- Future maintenance implications following restoration.
- Availability of skilled work force to undertake restoration.

b) The retention of existing features will:

- Provide maturity to the site
- Provide landscape and historic context to the site.
- Conservation factors including landscape protection.
- Aesthetic reasons and site impact.
- Plants are botanically significant.
- Wildlife and nature conservation.

## Section C – Planning Layout & Construction of Ornamental Gardens

**Q13** a) Explain how **FOUR** of the following features, can contribute to ornamental garden design:

i) water;
ii) pergola;
iii) artificial stone;
iv) lighting;
v) crushed glass.

b) State **FOUR** limitations of use of hard landscape features in the ornamental garden.

The aim of this question is to show that the candidate has an understanding of how common features are used effectively in the design and construction of gardens, and to be able to describe their properties and evaluate their potential contribution both individually and collectively to the overall scheme.

a) This part of the question required an explanation of the value of the inclusion of the feature in the design of a garden. Marks were awarded in each case for including details of the following aspects:

i) Movement and sound, focal point (especially in vertical fountains etc), cooling, tranquillity, light and reflection, ie of sky and features/plants, increase plant range, wildlife etc, unity with style – ie Dutch.
This was mostly answered well with candidates being able to quote the majority of these points.

ii) Instant vertical height, provision of plant support and increase in plant range, shade, privacy, screening, division, direction, focal point (of feature itself or as frame or guide to eg. an ornament or seat), provision of mystery, outdoor room, extension of house architecture, unity with style – ie Japanese.
This was mostly answered well.

iii) Usually this could be equated to situations where the use of natural stone may be used, by quoting unity with existing architecture, complementing/contrasting with planting, provision of functional hard surfaces, surfacing in areas of difficult soil conditions, low maintenance etc. In many cases it was not clear that the candidate understood exactly what “artificial stone” is and a brief description or an example would have clarified this. Also in some cases the answer was inadequate because some comparison with other materials was required – for instance quoting “cost effective”, “cheap” or “expensive” alone was meaningless. Likewise the aesthetic appearance of the material may be important but is very subjective and requires a more detailed explanation than “attractive or unattractive”. Many answers were narrow in only describing artificial rockery stone. Many answers also quoted that artificial stone is environmentally more acceptable than natural stone; factors concerning the raw material extraction, the energy

requirements and emissions in the manufacture of what is basically concrete, and the heavy transport involved, are unlikely to justify this statement.

iv) Security, safety, highlighting/floodlighting features, extending use of an outside space into evenings (especially in late spring/early autumn), guiding, creating a mood, the ornamental properties of the lighting fixtures themselves. Few candidates were able to go into much depth for this part of the question and concentrated too much on describing different types of ornamental lighting effects and/or their installation.

v) Reflection, especially in shaded areas, different texture, varying colours and mixes, decorative mulch and container toppings. Especially appropriate in modern settings. Often quoted as environmentally friendly because of the recycling aspect. This may be true if it is used as an alternative to unseen construction aggregates, but the process to get it to an aesthetically acceptable finish and colour for a design feature is intensive and expensive, for example not a lot of pure blue glass bottles go into the recycling plants but this is considered one of the more desirable colours.

b) Marks were awarded for stating limitations of choice of colours and textures in relation to unity with other features and the house, the fact that some materials deteriorate quickly, problems with slippery properties in damp shady situations, problems with drainage (ie SUDS), and cost implications particularly compared with planted areas.
This part of the question was generally not well answered. Many candidates approached it considering that hard landscaping is a necessary evil, it is not attractive and a limitation is that it is detrimental to the planting. A properly designed garden should use both soft and hard landscaping to fulfil the functions of the brief and purpose of the garden and its proposed style; to quote categorically that too much hard landscaping is out of proportion is not a limitation of the feature but a result of poor or inappropriate design. In fact very often it is the lawn that is out of proportion with the narrow borders around its boundary. Almost all answers stated that hard landscape features are high maintenance – a statement like this must be qualified – compare a hedge and a wall of similar size on a boundary and the hedge is going to require much more maintenance, as would a lawn compared with an area of paving. Many answers stated that hard landscape features are permanent and can't be moved easily when no longer wanted. This could be considered a bad design fault if features need to be altered or moved. It is possibly more likely that plants are positioned inappropriately and have to be moved when they become too big or over crowded – and it would be comparably more difficult to move a mature tree than many hard features. Also many hard landscape features can actually be designed to be temporary or moveable – as in the case of furniture, containers and ornaments, overhead screening, etc. The access to the site is going to be just as restrictive to carry out many soft landscape activities as hard.

**Q14** Relate **EACH** of the following site conditions to the most appropriate garden design style, giving reasons for your choice:

i) infertile soil;
ii) poorly drained site;
iii) desirable external views;
iv) low labour availability;
v) heavy shade from trees.

The aim of this question is to show that the candidate is able to identify and implement a suitable design style taking into account existing site conditions as identified during a site appraisal and relating this to the design brief.

In answering this question it is important that the existing conditions were considered and a suitable style chosen to fit with these as existing and not that the conditions were changed to suit a style. Marks were awarded for stating a style, giving appropriate examples of both hard and soft materials and features and their layout, and giving reasons why they are typically suited to this style.

i) Most candidates stated a wildflower meadow as suitable and many were able to give some examples of typical plants but very few were able give in depth reasons for their selection and suitability. There was some confusion between wildflower meadows and wildlife gardens. Another example could be a minimalist garden with a high dependency on hard landscaping with little planting – possibly with a Japanese theme. Few candidates explored the layout (ie formal or informal etc) or the use of hard landscape features within their chosen style.

ii) Most candidates stated a bog garden as being suitable. Most were able to give examples of suitable plants – almost all with the inclusion of Gunnera manicata! There was confusion between being badly drained and permanently underwater and some answers included aquatic plants and features and actually suggested the installation of butyl liners. In fact a big problem with badly drained sites is the fluctuations between water logging and drought over the seasons – this was mentioned in very few cases. The addition of decking and boardwalks was often correctly quoted as suitable surfacing but often without any reasons.

iii) Most answers quoted the “Landscape Style” and went on to describe ha-has and parkland with clumps of trees beyond, quoting Brown and Repton as designers. Although not incorrect, it is unlikely that many candidates will be working on this scale today, and in fact most of the “external” views in these gardens relied on contrived scenery still within the wider context of the property. Marks were awarded for describing “borrowed” views or the use of external features such as a church spire, and methods of drawing the eye to them by using avenues and framed openings in the boundary. Very few candidates described how to use planting and features within the property which reflect or contrast the shape of external features – ie tall and spiky with the church spire, or echoing the organic shapes of distant hills, etc. Few answers suggested repeating planting themes from outside – ie the use of native trees in a country garden. No answers suggested that the garden might

be in a town or city, or be a roof garden, where external architectural features may be echoed to complement a style with great effect – this is a situation the candidate is much more likely to encounter these days than a Capability Brown landscape.

iv) Most answers advocated a "low maintenance garden" – this is not a garden style. However marks were awarded for stating what would need addressing to minimise the labour requirement. This included providing more paved areas, rationalising lawn sizes and shapes, no bedding or roses etc, use of groundcover (with examples), no containers requiring watering etc. Modern perennial planting styles were sometimes quoted but with confusion as to the actual maintenance requirements, especially during the establishment stages.

v) A woodland garden was the most common answer. This is not incorrect but few candidates then went on to qualify it would need a suitable setting. Heavy shade from trees is likely to be a problem in small town gardens where overgrown inappropriate species of trees dominate from neighbouring gardens – in which case a "woodland" garden, although possible, is likely to be less acceptable. Many then went on to suggest suitable under storey planting taking into account the seasons, with bulbs coming into flower before the tree canopy came into leaf in the spring, followed by a series of suitable ferns, woodland perennials and shrubs. In very few cases were examples of hard landscaping mentioned with the problems of algae and slipperiness in the shade. Very few answers took into consideration that it would most likely be extremely dry shade.

**Q15** a) Describe with the aid of a clearly labelled cross-sectional diagram, an appropriate foundation for steps to achieve a total rise of 0.7m height.

b) State **FOUR** materials suitable for the treads of the steps in a), which are to be located in heavy shade.

c) Describe **TWO** design features, which facilitates water removal from the steps.

The aim of this question is to show that the candidate has an understanding of the construction of common garden features, the properties of the materials used in their construction, and to be able to specify the construction details.

This was not a popular question and very few candidates attempted it; those that did mostly produced poor answers.

a) Marks were awarded for correctly showing and specifying materials and dimensions of a small flight of garden steps in a clear drawing. The question asks for the details of the foundation and, although not specifically required, the inclusion in the drawing of both the steps themselves, and the appropriate calculations to achieve a rise of 0.7m, helped to clarify the construction details. In most cases a combination of bricks and concrete slabs were chosen as the materials and a good understanding of the calculations was shown. However specifications for the subgrade, formation and sub-base were vague and inadequate and the foundation

construction itself was not clear. Most of the drawings were of a poor quality and didn't always clearly show the intentions of the answer. Generally drawings of this type should be drawn in pencil with a ruler and, although probably not to an exact scale, they should be as proportionally accurate as possible. In some cases poor perspective drawings or projections were produced – these were not asked for and should be avoided unless the candidate is very competent.

b) Marks were awarded for stating appropriate materials and this usually required a brief description of their non slip properties, or properties that allow the water to drain off or through the surface quickly, in relation to the steps being in heavy shade. Appropriate materials would include natural or reconstituted stone with a textured or riven surface, engineering bricks, no fines concrete, shingle or gravel in a woodland or informal situation. Some answers did not provide three distinctly different materials or an adequate description of the suggested material – just to quote "paver" or "paviour", for instance, was not sufficient alone.

c) Marks were awarded for stating two methods of ensuring rapid dispersal of water from the surfaces of the treads to prevent the formation of algae or ice. This typically involved describing the provision of an adequate slope to the surface and a satisfactory method of allowing the water to drain through the surface of both the treads and the landing at the base of the steps.

**Q16** a) Explain what must be reviewed when designing a drainage system suitable for a small formal lawn on a clay soil.

b) Explain the factors which must determine a suitable outlet for the drainage system in a).

c) Describe with the aid of a clearly labelled diagram, a suitable drainage system for this situation.

The aim of this question is to show that the candidate is able to recognise drainage problems during the site surveying and appraisal process, to analyse the data gathered and to specify an appropriate system to alleviate poorly drained areas.

This was not a popular question with few candidates attempting it. Many candidates were confused with the difference between the information that was required for parts a) and b) of the question, and consequently often repeated the same information in both parts or omitted important facts altogether. Some candidates failed to relate their answer to a small formal lawn on a clay soil, which is clearly stated in the question.

a) Marks were awarded for reviewing factors which will need to be considered in making appropriate decisions when selecting a drainage system. This includes details of the size and shape of the site, gradients, soil types (topsoil and subsoil) and depths, depth and nature of water table etc.

b) This part of the question refers to the selection of an appropriate disposal/dispersal method once the water has been collected in the drainage system. Marks were awarded for explaining appropriate criteria

including details of the quantity and flow rate of water for disposal from the drainage system, especially at heavy rainfall periods, and the ability of the outlet to cope with it, water quality, legislation, erosion control, etc.

c) A suitable drainage system would be a piped system in a herringbone or fan pattern. Marks were awarded for producing a clear plan drawing specifying type and dimensions of pipes, falls, spacings and depths, appropriate junction details, positions of access points, silt traps, dispersal points etc. Some candidates also produced a cross section drawing which, although not entirely necessary, clarified the actual pipe installation specifications. Many candidates also produced details of a silt trap which was not required. Most candidates were able to draw and name a suitable system but in many cases the drawing was of a poor quality and lacked the necessary specifications. Many answers spent far too long on describing the setting out of the system and some specified the use of french drains, sand slitting and mole drainage which would be inappropriate to a small ornamental lawn.