

**R3114****UNDERSTANDING A RANGE OF SPECIALIST ELEMENTS IN THE  
ESTABLISHMENT OF GARDEN & URBAN PLANTINGS****Level 3****Thursday 9 February 2023****15:35 – 16:40****Written Examination****Candidate Number:** .....**Candidate Name:** .....**Centre Number/Name:** .....**IMPORTANT – Please read carefully before commencing:**

- i) The duration of this paper is **65** 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) Describe **TWO** characteristics of plants suitable for a sub-tropical bedding scheme, giving an appropriate plant example for **EACH** by completing the table below.

Characteristic	Named Plant Example
1.	
2.	

**2**

**2**

- b) Describe **THREE** site preparation tasks that should be carried out before planting to benefit a sub-tropical bedding scheme.

**6**

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**Please see over/.....**

Total Mark

**Q2** a) State **TWO NAMED** distinct plants suitable for training/pruning for **EACH** of the following techniques by completing the table below.

Training/pruning	Named plant 1	Named plant 2
Pleaching		
Pollarding		

b) State **TWO** reasons for pleaching plants.

**Please see over/.....**

4

c) Describe formative pruning for a plant to be used for pleaching.

Total Mark

**Please turn over/.....**

**Q3** a) State **TWO** characteristics of a living wall.

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b) State **TWO** benefits of installing a living wall.

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**Please see over/.....**

6

c) Describe **THREE** management considerations when planning a site for a living wall.

Total Mark

**Please turn over/.....**

**Q4** a) State **TWO** reasons why water conservation is important in a garden.

2

b) Describe **FOUR** distinct ways in which irrigation could be reduced in a garden.

8

**Please see over/.....**



Total Mark

**Q5** a) State **FOUR** distinct factors that need to be considered when selecting a site for a wildflower meadow.

4

**Please see over/.....**



**Q6**

Describe the training and formative pruning of a maiden whip/unfeathered tree, to produce a fan trained peach under **EACH** of the following headings:

- i) year 1
- ii) year 2

55

**Please see over/.....**

Total Mark

13

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**R3114**

**UNDERSTANDING A RANGE OF SPECIALIST ELEMENTS IN THE  
ESTABLISHMENT OF GARDEN & URBAN PLANTINGS**

**Level 3**

**Thursday 9 February 2023**

<b>Candidates Registered</b>	<b>TBC</b>		<b>Total Candidates Passed</b>	<b>TBC</b>	<b>71%</b>
Candidates Entered	49	TBC%	Passed with Commendation	14	29%
Candidates Absent/Withdrawn	TBC	TBC%	Passed	21	43%
Candidates Deferred	TBC	TBC%	Failed	14	29%

**General comments**

Some candidates gave more answers than asked for in the question, which resulted in the excess not being marked. Several candidates did not structure answers clearly and/or did not separate answers into appropriate sections as per question. Some candidates did not provide answers in the context of the question, for example where 'describe' is the command word, this invites detailed description.

**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) Describe **TWO** characteristics of plants suitable for a sub-tropical bedding scheme, giving an appropriate plant example for **EACH** by completing the table below.

Characteristic	Named Plant Example
1.	
2.	

2

2

- b) Describe **THREE** site preparation tasks that should be carried out before planting to benefit a sub-tropical bedding scheme.

6

- Q1** a) Many candidates gave good answers with two clear plant examples and with good descriptions of characteristics related to sub-tropical bedding such as exotic looking architectural foliage, *Canna indica*, or hot bright coloured flowers such as *Celosia argentea* var. *cristata*.

Marks were lost for incorrect examples and/or poor spelling and only naming a Genus but no species, or giving weak/limited descriptive detail of characteristics. Some candidates just stated a comment such as 'tender' and the temperature range required.

- b) Most candidates gained high marks by describing site preparation tasks related to sub-tropical bedding such as clearing weeds by hand or using glyphosate herbicide three weeks prior to planting, improving fertility by incorporating well-rotted manure or adding appropriate balanced fertilisers as a base dressing, covering the soil with fleece or membrane for a few weeks to aid soil warming and to benefit establishment of plants and microbial activity, and gave good description of the tasks needed in doing so.

Some candidates did not answer the question in the context of sub-tropical bedding but gave generalised answers relating to site preparation and without any task detail. Also a few candidates did not describe tasks but only briefly stated tasks. Some candidates used trade names of fertilisers rather than give detail of nutrients appropriate for sub-tropical bedding. Where candidates described more than the three tasks asked for, only the first three were marked.



- Q2** a) State **TWO NAMED** distinct plants suitable for training/pruning for **EACH** of the following techniques by completing the table below.

Training/pruning	Named plant 1	Named plant 2
<b>Pleaching</b>		
<b>Pollarding</b>		

2

2

b)

- c) State **TWO** reasons for pleaching plants.

2

Describe formative pruning for a plant to be used for pleaching.

4

- Q2** a) Most candidates scored highly with good fully named suitable plants for each of the subjects. Such as *Carpinus betulus* for pleaching and *Eucalyptus pauciflora* for pollarding.

Candidates lost marks by incorrect spelling of plant names, by only stating a Genus and not full botanic name, or using common names.

b)

Several very good answers given, with reasons, for pleaching, such as:

- providing screening at height above a wall,
- creating an avenue as a walkway and/or create a view to a focal point and
- better use of well-rotted space creating area underneath for further planting.

Marks were lost for very brief statements or no clear reason.

c)

Good marks were achieved by candidates who described formative pruning only, as per the question and included details of the time of year/season when tasks are to be carried out, how many buds to prune to, and where. e.g., laterals, sub-laterals and leader and clearing of trunk to a specified height etc.

For example

In winter – prune back to 1-4 buds, shorten laterals by a third, prune sub-laterals to 3-4 buds, prune leader when desired height is reached.

Marks were not awarded for tasks such as planting, training, tying in and general maintenance. Some diagrams given were poor/unclear, or not relevant to formative pruning.

		<b>MARKS</b>
<b>Q3</b>	a) State <b>TWO</b> characteristics of a living wall.	<b>2</b>
	b) State <b>TWO</b> benefits of installing a living wall.	<b>2</b>
	c) Describe <b>THREE</b> management considerations when planning a site for a living wall.	<b>6</b>

**Q3) a)** This question was generally answered well, with high marks awarded for characteristics such as:

- re-circulating, self-contained controlled automatic or timed irrigation/fertigation systems often with an example system;
- vertical self-sufficient planting system securely attached to buildings;

Also, points related to characteristics of plantings in the living wall were credited, such as a range of plants suited to microclimate conditions, and/or with a constrained root system which can be grown in medium inserted into pockets e.g., fibrous rooted plants.

Some candidates lost marks due to very minimal statements and/or very generalised nonspecific points made. Some candidates stated more than TWO characteristics, but only the first two were marked.

**b)** Generally good answers provided with appropriate examples of benefits including greening the visual environment aesthetically, wellbeing benefits, improved biodiversity, thermal insulation benefits, regulating urban temperatures.

**c)** Good detailed answers were given from most candidates with examples including:

- high risks of injury from working at height;
- issues of weight and structural integrity;
- high costs of installation and running costs;
- planning permission issues;
- maintaining irrigation systems;
- protection against damp ingress into walls

and many other good management considerations were described by candidates.

- Q4** a) State **TWO** reasons why water conservation is important in a garden. **2**
- b)
- Describe **FOUR** distinct ways in which irrigation could be reduced in a garden. **8**

- Q4** a) Most candidates gained high marks by providing good answers such as:
- reducing costs/reducing use of mains water and responding to environmental responsibility by reducing demand on a finite resource;
  - preventing wastage and overwatering of plants such as by using hoses;
  - negating hosepipe bans and many others.

- b)
- Most candidates gave a very good range of described answers. Good answers included:
- use of timed irrigation systems such as seepage hose;
  - use of drought resistant/tolerant plants with examples such as xerophytes such as *Lavandula angustifolia*;
  - denser planting to reduce evapotranspiration;
  - not watering some plants/lawns and concentrating on those that need it;
  - use of tubes inserted into the root zone when planting trees and shrubs so watering can be targeted;
  - watering at specific times of the day when temperatures are cooler;
  - mulching at specified depths to reduce evaporation, plus many other good answers.

Marks were lost for lack of description of tasks, lack of detail such as minimum depth for effective mulching to reduce evaporation. If structures were used to provide shade, then orientation of these would be important so that problems from lack of light or rainfall would not occur. Some candidates gave more than FOUR answers, therefore only the first four were marked. Credit was not given for collecting and using rainwater or grey water as this would not reduce irrigation overall.

<b>Q5</b>	<p>a) State <b>FOUR</b> distinct factors that need to be considered when selecting a site for a wildflower meadow.</p> <p>b) Describe the establishment and maintenance of a wildflower meadow under <b>EACH</b> of the following headings:</p>	<b>4</b>
	<p>i) site preparation</p> <p>ii) weed management for the established meadow</p>	<b>4</b>
		<b>2</b>

- Q5 a)** Most candidates gained good marks by giving four suitable factors such as:
- open sunny site;
  - the fertility of the topsoil, because low fertility is better to allow wildflowers to establish;
  - the existing vegetation, as indicating what types of plants will thrive in that habitat;
  - accessibility for establishment and maintenance.

Many other points were credited including examples of undesirable characteristics for a site.

- b) i)** Variable marks gained by candidates for this part of the question on site preparation. Good answers included descriptions of a suitable task such as stripping existing vegetation with various methods cited and stripping topsoil if too fertile and the method used. A good example being strip existing vegetation such as by grazing or cutting for hay, then scrape off remaining vegetation, leave as stale seedbed followed by spraying with an approved herbicide or use flame gun to kill weeds.

Other tasks included:

- Cultivating to a suitable tilth for sowing with plough, disc harrow or rotavate.
- Removal of debris and stones followed by fine raking or grading to create a tilth for seed sowing

Marks were lost if little description was given. Some points made by candidates were not specific to wildflower meadows.

**ii)** Most candidates scored well for this question with good clear description of weed management methods ranging from specific herbicides, flame guns, and others including spot weeding of pernicious perennial weeds, removal of tree and shrub seedlings, machine topping to stated height to remove debris and weed seeds.

Candidates lost marks by repetition of points between the two sections i) and ii) and/or little description. Again, some points made were not specific to wildflower meadows.

<b>Q6</b>	Describe the training and formative pruning of a maiden whip/unfeathered tree, to produce a fan trained peach under <b>EACH</b> of the following headings:	<b>MARKS</b>
	i) year 1	<b>5</b>
	ii) year 2	<b>5</b>

**Q6** Some candidates scored well for this question with good answers including descriptive detail of key points including timing of operation i.e., months or seasons, detail as to spacing distances of supports and wires, formative pruning detail as to how many buds or shoots were to remain, angles of training and removal of appropriate growth.

- i) In year 1 erect horizontal wires set/fixed at 40cm from ground level and with a gap of 15cm between wires. In spring, cut back the main stem of the whip to 40cm leaving 3 strong buds to grow. In the summer select one of these and train to grow vertically, tie the other two, one each side, to canes angled at 45°.

When the two side arms are about 45cm long remove the central shoot. At the end of the growing season shorten these by half and lower supporting canes to near horizontal and retie the shoots. Remove surplus side shoots any other shoots from the trunk

- ii) Year 2 In Summer – July to August select four healthy shoots on each arm and train one at the end to extend the main arm, two on the upper side and one on the lower side. Tie all onto canes to give year four ribs to each wing. Leave an open centre and remove all surplus shoots as they develop.

Marks were lost due to some candidates giving a disproportionate description of training and few or no points about pruning, giving planting detail or maintenance pruning which were not required, incorrect or no seasons when the pruning should take place. Some candidates' points were geared to espaliers rather than a fan trained tree. Some candidates confused years 1 & 2 and/or made points which were poorly sequenced or structured and repeated.

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