



Including examiner comments



**R3114**

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

**Level 3**

**Thursday 8 February 2024**

**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.





**Q2** a) State the appropriate use for **EACH** of the following pruning tools by completing the table below:

<b>Pruning tool</b>	<b>Appropriate use</b>
<b>Secateurs</b>	
<b>Pruning saw</b>	
<b>Loppers</b>	
<b>Bow saw</b>	

1

1

1

1

Please see over/.....

**MARKS**















b) State **TWO** benefits and **TWO** limitations of using grey water in the garden by completing the table below:

Benefits of using grey water	Limitations of using grey water
1.	1.
2.	2.

2

2

c) Describe **ONE** further method of water conservation in the garden.

2

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total Mark

Please turn over/.....

**MARKS**

**Q6** a) For a standard amenity bedding scheme, describe the plant characteristics required for **EACH** of the following categories giving a **NAMED** plant example for **EACH**, by completing the table below:

**10**

	<b>Characteristics</b>	<b>Named plant</b>
<b>Edging plant</b>	1.    2.	
<b>Groundwork/blanket plant</b>	1.    2.	
<b>Dot plant</b>	1.    2.    3.	

\*\*\*\*\*

Total Mark
------------

**THERE ARE NO FURTHER QUESTIONS IN THIS EXAMINATION PAPER**

**DO NOT USE THIS PAGE**

**DO NOT USE THIS PAGE**

**©These questions are the property of the Royal Horticultural Society.  
They must not be reproduced or sold.**

**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB.  
Charity Registration Number: 222879/SC038262**



			<b>MARKS</b>
<b>Q1</b>	<b>a)</b>	<b>Question</b> State <b>TWO</b> characteristics for the selection of containers suitable for outdoor garden use	<b>2</b>
	<b>b)</b>	Describe <b>FOUR</b> distinct tasks in the preparation of containers prior to planting up for outdoor garden use giving a reason for <b>EACH</b> task.	<b>8</b>

- a) This question was answered well: points like durability, drainage, aesthetics, stability and porosity were common answers; qualifiable values were given with these points and received full marks.
- b) Most candidates were aware of the importance of thoroughly cleaning a previously-used pot to reduce contamination; ensuring that the drainage holes are clear or installing/drilling holes if not, to prevent water logging; incorporating a layer of crushed stone or broken polystyrene at the bottom of the pot to reduce weight and volume of compost and avoid compost slump; moving large pots into place before filling with media and plants due to the heavy weight; raising the pot on bricks or pot feet to ensure free drainage.

Where full marks were not gained it was usually due to lack of sufficient description or repetition of the tasks.

			<b>MARKS</b>										
<b>Q2</b>	<b>a)</b>	<p><b>Question</b></p> <p>State the appropriate use of <b>EACH</b> of the following pruning tools by completing the table below:</p> <table border="1" data-bbox="347 398 1169 853"> <thead> <tr> <th><b>Pruning tool</b></th> <th><b>Appropriate use</b></th> </tr> </thead> <tbody> <tr> <td><b>Secateurs</b></td> <td></td> </tr> <tr> <td><b>Pruning saw</b></td> <td></td> </tr> <tr> <td><b>Loppers</b></td> <td></td> </tr> <tr> <td><b>Bow saw</b></td> <td></td> </tr> </tbody> </table>	<b>Pruning tool</b>	<b>Appropriate use</b>	<b>Secateurs</b>		<b>Pruning saw</b>		<b>Loppers</b>		<b>Bow saw</b>		<b>4</b>
	<b>Pruning tool</b>	<b>Appropriate use</b>											
<b>Secateurs</b>													
<b>Pruning saw</b>													
<b>Loppers</b>													
<b>Bow saw</b>													
	<b>b)</b>	Describe the maintenance pruning of a cordon fruit tree	<b>6</b>										

- a) Candidates all had a good general idea of the use of the tools, but answers often lacked detail. Most candidates opted to describe the type of material being cut with each tool rather than stating the dimensions. The strongest candidates specified the diameter of the material and mentioned for example that loppers could be extended to reach into shrubs or gave extra leverage.  
 E.g., secateurs used for light pruning of material from 1-2cm diameter  
 Pruning saw used to remove woody material from 3-5cm diameter  
 Loppers used to prune material 2- 3cm diameter  
 Bowsaw used to remove branches over 5cm diameter
- b) The best candidates here focused on specific pruning tasks to maximise fruit wood, restrict growth and generally maintain the health of the tree by the removal of dead, damaged or diseased wood, suckers and watershoots. Marks were lost where candidates just described maintenance tasks such as checking supports and adjusting ties.  
 Specific pruning for a cordon fruit tree would be to prune the selected leader back to a bud on opposite side to previous year's cut, prune back laterals to 3 buds, prune sub-laterals to 1-2 buds, thin fruiting spurs if crowded, leave basal cluster intact.

			MARKS
<b>Q3</b>		<b>Question</b>	
	<b>a)</b>	State <b>FIVE</b> desirable features of trees used for urban street planting	<b>5</b>
	<b>b)</b>	State <b>FIVE</b> considerations for establishing urban street trees	<b>5</b>

- a) The most popular correct answers for a) were tolerance to pollution, size and habit that enable minimal pruning, can provide food and shelter for wildlife, non-invasive, deep-rooted, with a light canopy.

Answers which did not gain marks were ones which did not consider potentially negative sides of the 'desirable' features. "Shallow root system" (leads to instability), fast growing (= increased maintenance), evergreen (provides too much shade during the darker months), native (limited choice of suitable species.)

- b) For b), acceptable answers had to relate to **establishment**. Many of the points given related to the selection of appropriate species and desirable features such as pest and disease resistance, low maintenance requirement – these were credited to part a) where possible.

Successful answers included actions to establish a tree successfully, such as considering how the trees would be irrigated with an irrigation system or pipe to direct water to the roots; installing tree guards/root guards to protect against vandalism, pests and strimmer damage; using planting grids around the base of the tree to reduce compaction in the root zone, as well as factors which might affect successful establishment: being tolerant of being in a wind tunnel or having roots that do not interfere with sub-surface services (and overhead ones too), having sufficient space to grow.

		MARKS
<b>Q4</b>	<p><b>Question</b></p> <p>A sensory border is to be planted in a community garden.</p> <p>i. Identify <b>TWO</b> management issues for this border</p> <p>ii. Recommend <b>FOUR</b> plants which could be selected for this border, giving reasons for <b>EACH</b> selection.</p>	<p><b>2</b></p> <p><b>8</b></p>

i) Strong candidates identified the need to ensure there is year-round interest in the border to stimulate senses, that plants on the edge of the border are robust enough to withstand occasionally being stood on and that methods of pest, disease and weed control were used that were not to the detriment of people subsequently touching the plants.

Generic answers that could relate to any garden anywhere, such as control of littering and dog pollution, using skilled gardeners and watering were not awarded marks because the question wanted responses in the context of a community garden. Design issues such as avoidance of planting prickly shrubs also did not attract marks.

ii) Most candidates could recommend three or more suitable plants and identify their sensory values through touch, taste, sound, smell or sight.

Examples included:

*Stachys byzantina* with soft, hairy leaves to touch

*Lavandula angustifolia* gives off a strong aroma when handled and flower spikes can be harvested and dried.

*Briza maxima* which produces a rustling sound in the wind

*Helianthus annuus* which has large, bright yellow flowers which are easily seen and bold leaves.

Weak answers included *Malus* 'Sunset' – "you can eat it" and *Mentha spicata* – "edible", although both answers did gain some marks.

			<b>MARKS</b>						
<b>Q5</b>	<b>a)</b>	<b>Question</b> Describe <b>TWO</b> distinct methods of harvesting and storing of rainwater for garden use	<b>4</b>						
	<b>b)</b>	State <b>TWO</b> benefits and <b>TWO</b> limitations of using grey water in the garden	<b>4</b>						
		<table border="1"> <thead> <tr> <th><b>Benefits</b></th> <th><b>Limitations</b></th> </tr> </thead> <tbody> <tr> <td><b>1.</b></td> <td><b>1.</b></td> </tr> <tr> <td><b>2.</b></td> <td><b>2.</b></td> </tr> </tbody> </table>	<b>Benefits</b>	<b>Limitations</b>	<b>1.</b>	<b>1.</b>	<b>2.</b>	<b>2.</b>	
	<b>Benefits</b>	<b>Limitations</b>							
<b>1.</b>	<b>1.</b>								
<b>2.</b>	<b>2.</b>								
<b>c)</b>	Describe <b>ONE</b> further method of water conservation in the garden	<b>2</b>							

- a) This question was generally well answered. For a), candidates needed to describe two distinctly different methods to get the maximum marks; collecting rainwater from a roof in both cases but storing it differently could not gain full marks. Most candidates described roof water and patio/driveway run-off as the source of the water, piped by various means and then stored the water in rain butts and underground storage tanks. A few candidates mentioned ponds – not storage, so no marks, and swales/rain gardens – some marks were credited although this is not so much storage as attenuation, but such collected water can be diverted for storage.
- b) Many candidates gave good answers in this section; benefits of using grey water are environmental – useful in times of drought and hosepipe bans and reduces pressure on sewage systems, budgetary -reduction in use of metered mains water, and sustainability -reduction of usage of a valuable resource; limitations include toxicity from contaminants such as soap and detergent, not to be used on edible crops such as salad crops, methods of collection and must be used within 24 hours, also needs filtration before use to remove grease and fibres. Poor answers usually stemmed from the candidate not knowing what is meant by grey water which is water from shower, bath, kitchen and washing machine water (from rinse cycles).
- Any method which directly related to a reduction of water use in the garden was credited. A good description would state using a mulch derived from a specified organic material, its thickness and the time of application.
- c) Alternatively, describing plants which have a low demand for water or deep roots such as rock plants or prairie species also gained marks. Some candidates correctly identified watering at particular times of day, using a can or seep-hose irrigation methods.

			<b>MARKS</b>												
<b>Q6</b>		<p><b>Question</b></p> <p>For a standard amenity bedding scheme, describe the plant characteristics required for <b>EACH</b> of the following categories giving a <b>NAMED</b> plant example for <b>EACH</b>, by completing the table below:</p> <table border="1"> <thead> <tr> <th></th> <th><b>Characteristics</b></th> <th><b>Named plant example</b></th> </tr> </thead> <tbody> <tr> <td><b>Edging plant</b></td> <td>1. 2.</td> <td></td> </tr> <tr> <td><b>Groundwork/ blanket plant</b></td> <td>1. 2.</td> <td></td> </tr> <tr> <td><b>Dot plant</b></td> <td>1. 2. 3.</td> <td></td> </tr> </tbody> </table>		<b>Characteristics</b>	<b>Named plant example</b>	<b>Edging plant</b>	1. 2.		<b>Groundwork/ blanket plant</b>	1. 2.		<b>Dot plant</b>	1. 2. 3.		
	<b>Characteristics</b>	<b>Named plant example</b>													
<b>Edging plant</b>	1. 2.														
<b>Groundwork/ blanket plant</b>	1. 2.														
<b>Dot plant</b>	1. 2. 3.														
			<b>3</b>												
			<b>3</b>												
			<b>4</b>												

Where candidates interpreted this question correctly, they invariably went on to gain full marks, but several types of error arose in answers.

The question wanted general characteristics of plants used in specific bedding elements, so for edging plants this might be dwarf plants, with contrasting foliage or flower colour to show off the groundwork (e.g. *Lobelia erinus*). Groundwork would need to be medium height plants, resilient to weather, low maintenance (e.g. not require deadheading), with a long flowering season (e.g. *Salvia splendens*); dot plants would add height, contrast, a focal point (e.g. *Canna indica*).

However, some candidates seemed to overlook 'amenity bedding' in the question stem and named inappropriate plants.

Many candidates first chose what they thought would be a suitable plant, then went on to describe that specific plant.

Candidates named more than one plant, seemingly giving a plant for each characteristic rather than a single exam.