



Excluding Examiners Comments

RHS use only			
A	B	C	Total

RHS Level 3 Certificate in Plant Growth, Garden Planning and Applied Propagation

UNIT 1

Wednesday 26 June 2024

09:30 - 11:30

Candidate Name:

Candidate Number:

Centre Name:

Instructions

This paper contains three sections which may be answered in any order. Candidates should answer:

- **Section A** – all questions (20 marks)
- **Section B** – all questions (50 marks)
- **Section C** – only **TWO** from **FOUR** questions (30 marks).

Place a cross (X) in the box identifying the two Section C questions you have answered.

C 1	C 2	C 3	C 4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please note:

- The duration of this paper is **120** minutes.
- Write all answers legibly in the spaces provided and use black or blue ink only.
- Use **METRIC** measurements only.
- Where plant names are required, they should include genus, species and where appropriate, cultivar.
- Where a question requires a specific number of answers, only the first answers given will be marked regardless of the number of answers offered.
- Please note, when the word '**distinct**' is used within a question, it means that the items have different characteristics or features.

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Candidate number

Centre name

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**RHS Level 3 Certificate
UNIT 1**

Candidate Name:

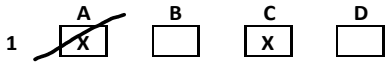
Centre Name:

Candidate Number:

**SECTION A
RESPONSE GRID**

Instructions

Place a cross (X) in the box you believe is the correct answer. If you make a mistake, score through the box and place a cross in the correct box as follows:



Question	Answer			
	A	B	C	D
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Candidate name

Candidate number

Centre name

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Candidate name

Candidate number

Centre name

Section A

Answer all questions in this section.
This section is worth 20 marks and each question is worth 1 mark.

Question 1

In 1987, the **United Nations Brundtland Commission** issued the following definition:

“meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

What concept were they defining?

- a) Biodiversity
- b) Best Practice
- c) Sustainability
- d) Health and Safety.

Question 2

Why are the seeds of some plant species treated with smoke or charred wood products to enhance germination?

- a) Smoke causes membranes in the seed coat to become permeable and signal the embryo to germinate
- b) Smoke reduces the light levels that the seed experiences, signalling the embryo to germinate
- c) Smoke provides essential plant nutrients which become available when dissolved into soil water
- d) Smoke products dissolved in water reduce pH which etches the seed coat promoting germination.

Question 3

Which of the following would not be part of a propagation protocol:

- a) Transport of cuttings
- b) Watering technique
- c) Rooting percentage
- d) Nutritional requirement.

please turn over.....

Question 4

Candidate name

Candidate number

Centre name

Which of the following measures would be most appropriate in helping a heritage garden transition to more sustainable horticultural practices?

- a) Setting water reduction targets for different garden areas
- b) Installing a borehole to avoid setting water reduction targets
- c) Using their own glasshouse to grow tender bedding plants
- d) Offering local, organically grown produce in their café.

Question 5

You have recently taken over as the supervisor of a plant propagation unit and have spotted the following issues. What should be your priority?

- a) Some fire extinguishers are out of date
- b) Staff training and personnel records need updating
- c) The fusebox for the soil warming cables is hot to the touch
- d) Some of the paths in the unit have become uneven.

Question 6

You have been appointed as a supervisor to a group of garden volunteers.

How can you best ensure risk assessments are being followed?

- a) Refer to the minutes of the safety committee
- b) Closely observe volunteers when walking past
- c) Monitor the accident and near miss records
- d) Consult the local Health and Safety Executive office.

Question 7

The main purpose of a risk assessment is to:

- a) Ensure full compliance with legislation
- b) Reduce the incidence of accidents
- c) Ensure the necessary administration is in order
- d) Reduce the cost of insurance coverage.

Please see over.....

Question 8

Candidate name

Candidate number

Centre name

Which of the following garden features was introduced by the Persian garden style?

- a) The use of rills and central water features
- b) The borrowed landscape and the Ha Ha
- c) The use of knot gardens and parterres
- d) The creation of rock gardens and stumperies.

Question 9

'This document enables the significance and special character of an historic place to be understood and should demonstrate that consideration has been given to its protection'.

Which document is being referred to in the above statement?

- a) Spirit of place
- b) Spirit of the age
- c) A heritage certificate
- d) Statement of significance.

Question 10

The United Nations Food and Agriculture Organization (FAO) has stated the top 4 most consumed crops in the world as being:

- a) Sugarcane, maize, rice, and wheat
- b) Sweet potato, rice, wheat, and barley
- c) Cassava, maize, soya beans, and wheat
- d) Palm oil, soya beans, wheat, and sugarcane.

Question 11

Which of the following is an advantage of wild collected plant material:

- a) It enhances biodiversity
- b) It has a wider genetic diversity
- c) It is genetically identical
- d) It enhances natural soil fungi.

Please turn over.....

Question 12

Which of the following organisations is responsible for setting the conservation status of plants

Candidate name

Candidate number

Centre name

internationally?

- a) Botanic Gardens Conservation International
- b) International Association of Horticultural Producers
- c) The International Union for Conservation of Nature
- d) European and Mediterranean Plant Protection Organisation.

Question 13

All digital tools and apps used to manage plant records offer a number of unique advantages.

They are:

- a) Secure, consistent, backed up
- b) Cloud-based, secure, inclusive
- c) Consistent, backed up, diagnostic
- d) Diagnostic, inclusive, cloud-based.

Question 14

A garden manager is buying in a range of plants for planting. The supplier states on their website that these plants are certified.

What does 'certified' mean?

- a) The plant material is certified as being true to type
- b) The provenance of the plant material has been verified
- c) The plant material is free from specific pests and diseases
- d) The plant material is verified to be of a specific size.

Please see over.....

Question 15

"The air holes also ensure perfect drainage and aeration of the growing medium, creating ideal conditions for healthy bacteria to release more nutrients to the plant."

Candidate name

Candidate number

Centre name

What tree production system is the manufacturer describing in the above quotation?

- a) Airpot
- b) Undercut
- c) Rootball
- d) Containerised.

Question 16

A garden manager is planning their staffing resource for the year.

	J	F	M	A	M	J	J	A	S	O	N	D
Orchard												
Meadow												
Turf												

This planning tool is called:

- a) An Infographic
- b) A Gantt chart
- c) A Cartesian graph
- d) A Histogram.

Question 17

A maintenance schedule for a mixed hedge states that it should be clipped twice a year, to ensure that extension growth does not exceed 20cm.

Which other consideration should be the main priority when planning these works:

- a) Heritage status of the garden
- b) Reporting on health status
- c) The timing of the operations
- d) The density of the hedge.

please turn over.....

Question 18

Which aspects of the garden shown below most clearly apply the design principle of unity?

Candidate name

Candidate number

Centre name



The image above shows the Garden of Unity, designed by Manoj Malde

- a) The garden is based on the rule of thirds
- b) The planting principle is based on layering
- c) The tree height is 1.4 x the structure height
- d) The colour palette is based on a consistent tone.

Question 19

A common disease found in propagation units is Pythium sp. When creating an annual propagation plan, the most sustainable method of controlling Pythium sp. is to:

- a) revert to using a peat-based growing media
- b) select growing media with a low Air Filled Porosity
- c) reduce the nitrogen content in the growing media
- d) reduce the night temperature in the root zone.

Question 20

What is a Gibberellin soak used for in plant propagation?

- a) To break seed dormancy
- b) To increase clonal selection
- c) To decrease relative humidity
- d) To initiate mitotic division.

End of section A.

Please continue to Section B.

Section B

**Answer all questions in this section.
This section is worth 50 marks.**

MARKS

Candidate name

Candidate number

Centre name

Question 1 (6 marks)

This question relates to the management of Health and Safety within Plant Propagation settings.

a) Name **ONE** distinct piece of Health and Safety legislation that relates to **EACH** of the following:

i) Structures/buildings:

.....
.....

1

ii) Rooting environment:

.....
.....

1

iii) Materials storage:

.....
.....

1

b) State **ONE** distinct requirement **EACH** piece of legislation identified above places on the supervisor when managing a propagation unit.

i)

1

ii)

1

iii)

1

Total Mark

Question 2 (4 marks)

MARKS

Discuss **TWO** ways in which the principles of Equality and Diversity can be enhanced through the use of Best Practice when producing interpretation resources to engage visitors in heritage gardens.

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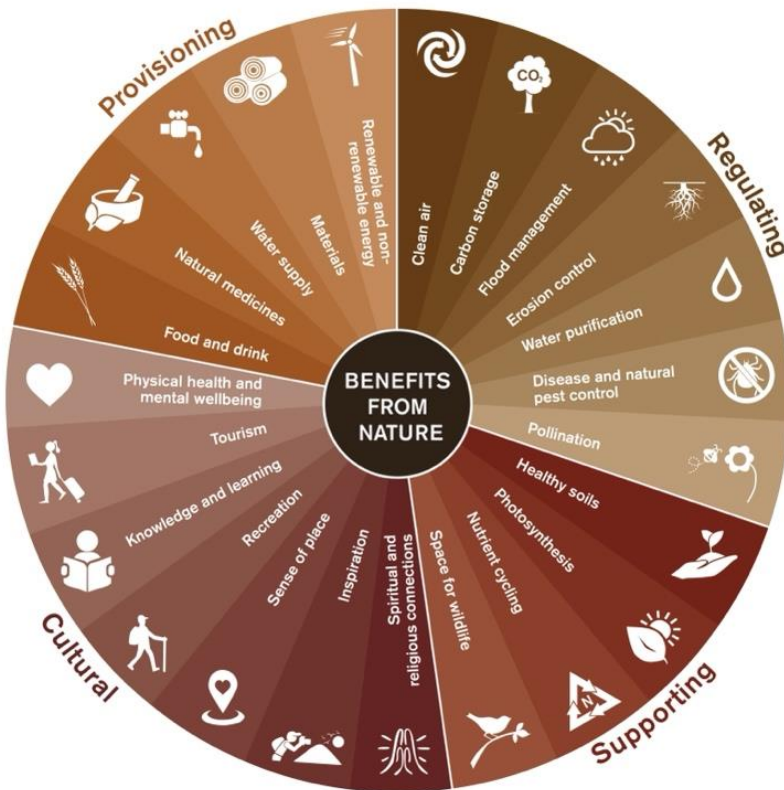
Candidate number

Centre name

Question 3 (8 marks)

MARKS

The infographic below shows a range of ecosystem services.



(Image credit: Nature.scot image used under open government licence)

Select **ONE** ecosystem service named within **EACH** of the four segments in the infographic.

For **EACH** segment of the infographic, specify **ONE DISTINCT** appropriate plant species and justify your plant selection.

a) Ecosystem service selected:.....

Plant name:

Justification:

.....

.....

2

MARKS

Candidate name

Candidate number

Centre name

Question 3 contd

b) Ecosystem service selected:.....

2

Plant name:

Justification:

.....

.....

c) Ecosystem service selected:.....

2

Plant name:

Justification:

.....

.....

d) Ecosystem service selected:.....

2

Plant name:

Justification:

.....

.....

Total Mark

Candidate name

Candidate number

Centre name

Question 5 (6 marks)

This question relates to the history of horticultural spaces.

By the 1830's there were concerns about the 'Condition of England'. Reports from this period viewed the unsatisfactory conditions in English cities and determined to force society to improve physically, educationally, economically, and morally.

Explain **THREE** distinct ways that reports of this nature were catalysts for change in public horticulture.

i)

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2

ii)

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2

iii)

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2

Total Mark

Question 6 (6 marks)

MARKS

a) State **THREE** distinct attributes that reliable sources of information should demonstrate.

i)
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1

ii)
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1

iii)
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1

b) Name **ONE** reliable source of information for each of the following:

i) Creating a garden management plan

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1

ii) Researching plant tolerances to climate change

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.....

1

iii) Propagating an unfamiliar range of plants.

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1

Total Mark

Candidate name

Candidate number

Centre name

Question 7 (6 marks)

How does the concept of 'Spirit of the Age' impact on the historic development of a **NAMED** garden style?

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MARKS

6

Total Mark

Candidate name

Candidate number

Centre name

Section C

There are **FOUR** questions in this Section. You must only answer **TWO** questions.

Please write your answers on the following pages.

Each question is worth 15 marks. This section is worth 30 marks.

NOTE:

You **MUST** indicate which question you are answering by placing a cross in the appropriate box on the **FRONT** of this exam paper.

please turn over.....

Candidate name

Candidate number

Centre name

Question C2

'Maintaining the historical integrity of a heritage horticultural site is paramount.'

'In a climate emergency, it is ecological vandalism to ignore sustainability when managing heritage gardens.'

How should a gardens manager balance these two perspectives?

15 marks

Total Mark

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A series of horizontal dotted lines for writing.

Candidate name

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Centre name

A series of horizontal dotted lines for writing.

Candidate name

Candidate number

Centre name

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Candidate name

Candidate number

Centre name

