



RHS use only			
A	B	C	Total

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

UNIT 1

Wednesday 12 February 2025

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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**RHS Level 3 Certificate
UNIT 1**

Candidate Name:

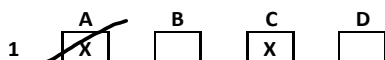
Centre Name:

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"/>
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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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Section A

Answer all questions in this section.

This section is worth 20 marks and each question is worth 1 mark.

Question 1

A health and safety audit is being carried out in a propagation unit.

The auditor has asked for copies of all SOPs.

What does the acronym SOP stand for?

- a) Specified Operating Process
- b) Standard Operating Procedure
- c) Safe Operating Procedure
- d) Standard Operating Process

Question 2

A propagation manual states:

“The goal of this method of propagation is to select a single plant with superior characteristics and to produce propagules through asexual (vegetative) reproduction.”

This technique is called:

- a) clonal selection
- b) crown grafting
- c) scion rooting
- d) orthotropic growth

Question 3

The image below shows alpine seedlings after a period of stratification to promote germination.



Which of these statements correctly defines stratification?

- a) mechanically weakening, opening, or otherwise altering the coat of a seed to encourage germination
- b) chemically weakening, opening, or otherwise altering the coat of a seed to encourage germination
- c) treating seeds to simulate the natural conditions that they must experience before germination can occur
- d) osmotically priming seeds to simulate the natural conditions that the seeds must experience before germination can occur

Question 4

This question relates to the development of propagation protocols.

The Botanic Gardens Conservation International (BGCI) Propagation Manual suggests propagators assess and record seed viability.

Which of these techniques would be appropriate to measure seed viability?

- a) Ternate test
- b) Tepal test
- c) Thallus test

d) Tetrazolium test

Question 5

This question relates to the development of propagation protocols.

The Botanic Gardens Conservation International (BGCI) Propagation Manual suggests that propagation records include the recording of Taxon name in the General information.

What does the term 'Taxon name' refer to?

- a) The plant family of the propagated species
- b) The scientific name of the propagated species
- c) The site and country where propagation material was collected
- d) The name of the person or people that carried out the propagation

Question 6

This question relates to annual propagation plans.



The plan shown above is an example of a:

- a) Bar graph
- b) Pictograph
- c) Gantt chart
- d) Line chart

Question 7

Which of the following benefits is **least** likely to be classified as an ecosystem service performed by urban trees?

- a) Air pollution relief
- b) Community cohesion
- c) History and identity
- d) Carbon sequestration

Question 8

The image below is an artist's impression of the Boodles Raindance Garden, designed by Catherine MacDonald which will be part of the RHS Chelsea Flower Show in May 2025.



Using your knowledge of Garden Design principles, suggest which word is missing from the following description by the designer of the garden:

The garden's colour palette _____ with the platinum-coloured steel of the water features and the zinc roof of the custom-designed pavilion.

The missing word is:

- a) balances
- b) harmonises

- c) contrasts
- d) resonates

Question 9

Which famous Arts and Crafts Garden Designer, who was born in 1843, and lived at Munstead Wood in Surrey shared the following design principle:

"The garden should fit its owner or his or her tastes, just as one's clothes do; it should be neither too large nor too small, but just comfortable."

- a) Humphrey Repton
- b) Vita Sackville-West
- c) Ellen Wilmott
- d) Gertrude Jekyll

Question 10

You have been asked to plan the maintenance of the evergreen hedging shown below:



Which is the most appropriate maintenance activity to include in the maintenance plan?

- a) Trim when required, when extension growth is at 10mm
- b) Trim once each season, then feed the hedge with nitrogen
- c) Trim once a year to remove all growth that is less than one year old
- d) Trim once each season, then feed the hedge with liquid seaweed

Question 11

You are writing a maintenance plan for the garden shown in the image below:



You are specifying the maintenance of the feature indicated by the blue arrow.

This feature is:

- a) pleached trees
- b) establishing hedge
- c) espalier training
- d) fan training

Question 12

This question relates to digital plant records.

Plant Heritage uses Persephone to manage plant records. Which one of the following statements is incorrect?

Persephone allows Plant Heritage to:

- a) store information relating to the history of the plant
- b) record stock numbers and prices for plant sales

- c) keep a record of plant nomenclature changes
- d) link the plant to relevant research articles

Question 13

This question relates to digital plant records.

IrisBG has five requirements for plant identification data to be considered as 'research grade'. The first two requirements are the date of the observation, and the name of the person who identified the plant.

Which of the following four statements is **not** a requirement for a research grade entry.

- a) Evidence (photograph)
- b) Identification of the subject
- c) GPS location data
- d) Weather conditions

Question 14

This question relates to the conservation status of plants. Which of the following statements is incorrect?

You can research the conservation status of plants by referring to:

- a) Curtis's Botanical Magazine
- b) BGCI ThreatSearch
- c) IUCN Red List of Threatened Species
- d) BGCI/Franklinia Global Tree Assessment

Question 15

In terms of harvest volume, which crop produces the greatest global yield?

- a) Maize
- b) Rice
- c) Sugar cane
- d) Sweet potato

Question 16

This question relates to sustainable horticultural practices.

The RHS 'Gardening in a Changing Climate' report states:

“Storm water management techniques that include: retention and detention ponds, swales, porous paving and an increase in vegetation can make a more significant impact on reducing the likelihood of flooding.”

What is a swale?

- a) A shallow vegetated channel
- b) An irrigation canal
- c) A subterranean waterway
- d) A tributary to a river

Question 17

This question relates to the evaluation of heritage on a site.

One of the four types of heritage is intangible cultural heritage.

Which of the following statements does not describe intangible cultural heritage?

- a) Dance & drama
- b) Cuisine & festivals
- c) Coins & crafts
- d) Music & song

Question 18

The following information is taken from the UNESCO website:

“Always divided into four sectors, with water playing an important role for both irrigation and ornamentation, these gardens were conceived to symbolize Eden and the four Zoroastrian elements of sky, earth, water and plants.”

What type of garden does this refer to?

- a) Persian Gardens
- b) Italian Gardens
- c) French Gardens
- d) Russian Gardens

Question 19

The National Gallery states:

“...the depiction of such a garden in Christian art from the Middle Ages onwards is often intended to suggest purity. The garden is frequently shown walled, so implying impenetrability”.

What type of garden is being described?

- a) Hortus conclusus
- b) Hortus sanitatis
- c) Hortus vegetabilis
- d) Hortus medicinalis

Question 20

Employees in a garden are specifically protected from discrimination at work by:

- a) The Employments Rights Act 1996
- b) The Equalities Act 2010
- c) Transfer of Undertakings Regulations 2006
- d) Agency workers Regulations 2010

End of section A.
Please continue to Section B.

Section B

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

MARKS

Question 1 (7 marks)

This question relates to interpretation in heritage gardens.

Freeman Tilden developed six principles of heritage interpretation.

a) Complete the list of these principles:

- i) "Interpretation is not about instruction, but provocation."
- ii) "Interpretation must relate what is being displayed or described to something within the personality or experience of the visitor."
- iii) "Information does not equal interpretation, but all interpretation contains information."

iv)

1

v)

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vi)

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b) Critically evaluate the use of interpretation in heritage gardens, with reference to **TWO** of Tilden's six principles.

4

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Total Mark

Candidate name

Candidate number

Centre name

Question 2 (6 marks)

MARKS

This question relates to the New Perennialist Movement.

- a) Name **ONE** prominent designer working in this field, other than Piet Oudolf.

1

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- b) Name **ONE** major garden that defines the New Perennialist Movement.

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- c) Explain how the principles of the New Perennialist Movement have impacted on garden style, using **TWO** distinct examples.

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Candidate name

Candidate number

Centre name

Total Mark

Question 3 (8 marks)

MARKS

You have been asked to evaluate the results of a trial reviewing the hardiness rating of a number of plants.

A guide to reviewing trial and research results states:

“Factors not being tested, and other procedures should be standard across the trial, were results replicated, was attention paid to edge effect, and did the trial include a control?”

Explain the following terms:

a) Standard

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b) Replicate

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c) Edge effect

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d) Control

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Total Mark

Candidate name

Candidate number

Centre name

Question 4 (4 marks)

This question relates to plant information sources.

a) Explain the term 'nomenclature standard'.

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b) Define the term 'type specimen'.

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Excluding Examiner Comments

MARKS

Question 5 (8 marks)

This question relates to biosecurity.

- a) Using your knowledge of horticulture explain the term 'biosecurity protocol'.

2

- b) A garden has a verified occurrence of *Phytophthora ramorum*, a horticulturally important disease that can spread over several miles in mists, air currents, watercourses and rain splash. It can also be spread on footwear, dogs' paws, tools, equipment and vehicle wheels.

You have been asked to collect some plant material from the Head Gardener, which will be treated with a disinfectant, and moved into quarantine on your return. The plant material collected is not susceptible to *Phytophthora ramorum*.

Your employers biosecurity protocol states, 'when visiting a site infected with a known plant pathogen a personal biosecurity kit should be carried'.

Suggest **SIX** items that should be included in a personal biosecurity kit.

6

Total Mark

MARKS

Question 6 (5 marks)

This question relates to plant propagation and the use of Gibberellin.

Gibberellin is also known as Gibberellic Acid or GA3

a) What is Gibberellin?

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b) Why is Gibberellin used in propagation?

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c) Explain how Gibberellin is used in a propagation facility.

2

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Total Mark

Question 7 (6 marks)

MARKS

A new garden is to be planted with three specimen trees.

The Garden Designer has specified that the trees are grown in air-pots.

How do air-pots work?

6

Total Mark

Candidate name

Candidate number

Centre name

Question 8 (6 marks)

In the Health and Safety Summary Statistics for Great Britain 2024, the Health and Safety Executive report that the estimated rate of self-reported workplace non-fatal injuries has fallen by half from 4000 cases per 100,000 workers in the year 2001 to 2000 cases in 2024.

Using your knowledge of Health and Safety, identify and discuss the key factors that could have led to this reduction in injuries.

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End of section B.

Please continue to Section C.

MARKS

6

Total Mark

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 C1

You have been appointed to develop and manage a unit to propagate herbaceous plants.

Explain and discuss the layout of the equipment and facilities required to develop a new propagation unit, with reference to Best Practice.

15 marks

Total Mark

Candidate name

Candidate number

Centre name

Question C2

'Natural and man-made landscapes are reacting to climate change. But at historic parks and gardens, which often have statutory protection, changes to appearance are unacceptable. How are these culturally valuable historic landscapes to be maintained against the backdrop of an evolving climate?'

(Peter Sheard, Hort Week 2024)

With reference to the quotation above, identify the key risks facing historic parks and gardens from a changing climate.

Analyse the strategies that curators and garden managers are using to address these risks.

15 marks

Total Mark

Question C3

At Sissinghurst, Vita Sackville-West was inspired by her visit to Greece in the 1930's to create her 'Delos garden' but it failed due to the plantings incompatibility with the local soil type and the English weather.

With reference to the quotation above, evaluate how a combination of plant knowledge and Best Practice can be combined to inform plant selection strategies.

15 marks

Total Mark

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Candidate name

Candidate number

Centre name

Excluding Examiner Comments

Question C4

“To feed the insatiable demand for new and exotic plants, it was not uncommon for ships to dock with cargoes of up to half a million wild collected orchids.”

With reference to the above quotation, identify and discuss the key drivers that have changed our thinking with regards to wild plant collecting over the past 200 years.

Your answer should make reference to specific initiatives, legislation, a changing world view, named plant collectors and named plants.

15 marks

Total Mark

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