



Excluding Examiner Comments



R3102

THE ROOT ENVIRONMENT, PLANT NUTRITION & GROWING SYSTEMS

Level 3

Wednesday 5 February 2025

13:30 – 15:10

Written Examination

Candidate Number:

Candidate Name:

Centre Name:

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **100** 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 may 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.

Please see over/.....

MARKS

- c) Brown earth is one soil type found in the UK. Name **THREE** other soil types found in the UK.

3

Total Mark

Please turn over/.....

Q2 Describe **FIVE** properties of humus which make it beneficial for plant growth.

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MARKS

Q4

Describe how **EACH** of the following forms of nitrogen occurs within the nitrogen cycle:

- i) nitrogen gas (N_2)
- ii) ammonium ion (NH_4^+)
- iii) nitrite ion (NO_2^-)
- iv) nitrate ion (NO_3^-)

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b) Describe fertigation under **EACH** of the following headings:

- i) named crop
- ii) horticultural situation
- iii) method

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Total Mark

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