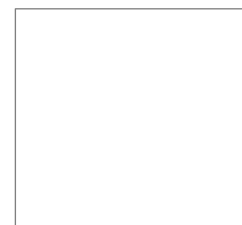




Excluding examiner comments



R2102

PLANT NUTRITION & THE ROOT ENVIRONMENT

Level 2

Monday 5 February 2024

11:20 – 12:10

Written Examination

Candidate Number:

Candidate Name:

Centre Name:

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **50** 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 how to make a hot bed for growing early vegetables.

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b) State **ONE** environmental benefit of using a hot bed for growing early vegetables.

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c) Describe how to make comfrey or nettle tea for use as a plant food.

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d) State **ONE** environmental benefit of making comfrey or nettle tea.

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Total Mark

Please see over/.....

MARKS

Q2 a) State what is meant by the term soil structure.

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b) Describe how to improve a soil with poor structure.

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Total Mark

Please turn over/.....

MARKS

Q3 a) State the pH range found in garden soils.

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b) State what is meant by the term pH.

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c) List **TWO** materials which are acidic, alkaline or neutral from the list by completing the table below:

- Peat Sulphur Chalk Spent mushroom compost
- Composted bracken Pine needles Marble chips
- Horticultural grit Coir Dolomite Ferrous sulphate
- Vermiculite

Acidic	Neutral	Alkaline

3

3

Total Mark

Please see over/.....

MARKS

Q4 State **ONE** distant benefit and **ONE** distinct limitation for **EACH** of the following materials used as a garden mulch by completing the table below:

Mulching material	Benefit	Limitation
Leaf mould		
Chipped bark		
Composted garden waste		
Gravel		
Polythene		

2**2****2****2****2**

Total Mark

Please turn over/.....

MARKS

Q5 a) Describe how the formation of a surface cap can occur in the soil.

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b) State **TWO** effects that a soil cap can have on plant growth.

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c) List **THREE** distinct ways of reducing soil cap formation.

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Total Mark

Please see over/.....

Q6 a) State **TWO factors that need to be considered when growing plants in containers.**

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b) Describe **FOUR distinct types of compost suitable for use in growing plants in containers.**

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Total Mark

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