



Sharing the best in Gardening

WITHOUT EXAMINERS COMMENTS



R3101

PLANT TAXONOMY, STRUCTURE & FUNCTION

Level 3

Wednesday 13 February 2013

09:30 – 11:00

Written Examination

Candidate Number:.....

Candidate Name:.....

Centre Number/Name:.....

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **90** minutes.
- ii) **ALL** questions should be attempted.
- iii) **EACH** question carries **10 marks**.
- iv) Write your answers legibly in the lined spaces provided. It is **NOT** necessary that all lined space is used in answering the questions.
- v) Use **METRIC** measurements only.
- vi) Where plant names are required, they should include genus, species and where appropriate, cultivar.
- vii) 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.
- viii) 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) Explain, using **TWO** distinct **NAMED** plant examples in **EACH** case, how specific epithets can indicate:

- i) habitat;
- ii) plant form.

4

4

Please see over/.....

b) State the importance of a botanical plant name for horticulturists.

2

Total Mark

Please turn over/.....

Q2 a) Describe a xylem vessel element.

5

Please see over/.....

Please turn over/.....

	MARKS
<p>Q3 a) Distinguish between a raceme and a spike.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>2</p>
<p>b) i) State ONE difference and ONE similarity between the structure of an umbel and a corymb.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>2</p>
<p>ii) Give ONE NAMED plant example for EACH inflorescence stated in b) i).</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>2</p>

Please see over/.....

Please turn over/.....

Describe **FIVE** adaptations for insect pollination naming an appropriate pollinator in **EACH** case.

9

Q5 a) State the effects of temperature on the process of:

- i) photosynthesis;
- ii) respiration.

3
2

Please see over/.....

Total Mark

4

Q7 a) Describe the movement of solutes through the phloem from a leaf to a root.

6

Please see over/.....

Please turn over/.....

Total Mark

Q9 a) Describe **ONE** nastic response to touch of a **NAMED** plant indicating its significance to the plant.

5

Please see over/.....

Please turn over/.....

- 19

Q10 a) Describe the roles of **EACH** of the following in the plant:

- i) cytokinins;
- ii) abscisic acid;
- iii) ethene (ethylene).

3
3
2

Please see over/.....

2

21

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