

GENERAL CERTIFICATE OF SECONDARY EDUCATION
ENVIRONMENTAL AND LAND-BASED SCIENCE
Amenity Horticulture (Foundation Tier)

B492/01

Candidates answer on the Question Paper

OCR Supplied Materials:

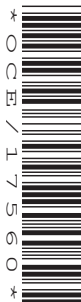
None

Other Materials Required:

- Electronic calculator
- Pencil
- Ruler (cm/mm)

Tuesday 22 June 2010
Morning

Duration: 45 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **36**.
- This document consists of **16** pages. Any blank pages are indicated.

Answer **all** the questions.

1 Some students are building cloches.

The cloches will be used outdoors to cover some newly sown seeds.



What is the **best** reason for using a cloche?

- A allows easier pricking out of seedlings
- B prevents water from reaching the seeds
- C provides warmer conditions for germination
- D stops strong winds blowing seeds away

Answer **A, B, C or D** [1]

2 This is part of a leaflet attached to a houseplant.



What is the best reason for **potting on** a plant?

- A controls pest and disease problems
- B encourages development of side shoots
- C prevents growth of moss on the pot
- D provides the plant with extra nutrients

Answer **A, B, C or D** [1]

3 Different plants have different life cycles.

What is a plant that normally lives for two years called?

- A annual
- B biennial
- C half hardy
- D perennial

Answer **A, B, C or D** [1]

4 This is the underneath of a lawn mower.



What type of lawn mower is this?

- A cutter
- B cylinder (sidewheel)
- C hover
- D wheeled rotary

Answer **A, B, C** or **D** [1]

5 A nursery has a new range of plants for sale.

The plants look healthy and they are just about to flower.

Which **two** of these activities are likely to produce the most sales?

- A Make sure the plants are put in sunlight.
- B Put clear prices on the plants.
- C Re-pot the plants into larger pots.
- D Train staff members to talk about them to visitors.
- E Water the plants so they are constantly wet.

Select **two** from **A, B, C, D** or **E** and [2]

6 A customer complains about a houseplant they have bought.

The garden centre supervisor checks the plant and thinks that it may have been over-watered.

Which **two** of the following are signs that the plant may have been over-watered?

- A fertiliser cannot be seen in the compost
- B plant label picture has faded
- C plant growth is long and spindly (etiolated)
- D there are no white roots in the compost
- E wilting of the leaves of the plant

Select **two** from **A, B, C, D** or **E** and [2]

7 Some students are going to work in a nursery as part of their work experience.

There are possible hazards working in a nursery.



Identify **two** potential hazards in the picture by putting an **X** on each one.

Make sure the **Xs** can be clearly seen.

[2]

8 The same type of plants have been grown in a flower bed for over 15 years.

In recent years the plants have not grown as well as before.

The weather is **not** thought to be the reason.

Suggest a reason why the plants are not growing so well in this soil.

.....
..... [1]

9 A greenhouse must be sited in the correct place if it is going to be most efficient.



Name **three** things which may affect the choice of site.

- 1
 - 2
 - 3
- [3]

10 Students are planning to plant up some tubs for summer flowering plants.



Name **two** summer flowering plants which would be suitable for growing in these tubs.

1

2 [2]

- 11 A gardener wishes to plant a tree at the bottom of their garden. The position is marked with an arrow.

The tree must not shade the whole of the garden.



Suggest a tree for this garden and give a reason for your choice.

.....

.....

..... [2]

12 A grower wishes to produce sunflowers for the cut flower market.

The grower wants to test a small crop before planting a large area.

A catalogue offers the following cultivars (varieties).

sunflower name	height in cm	seeds per packet	cost per packet
Arava Sunray (F ₁ hybrid)	60	20	£1.85
Irish Eyes	45	35	£1.35
Ruby Sunset	100	20	£2.40
Total Eclipse	50	20	£1.55
Western Sunset	75	30	£1.95

(a) Which of the packets contains the most seeds?

Answer [1]

(b) What is the cost, per seed, of Sunflower 'Ruby Sunset'?

- A 2.4p
- B 5p
- C 12p
- D 20p
- E 24p

Answer **A, B, C, D** or **E** [1]

(c) Which of these sunflowers is most likely to need staking?

Answer [1]

(d) 'Arava Sunray' is described as being an F₁ hybrid.

Suggest **two** advantages an F₁ hybrid could give the grower.

1

.....

2

..... [2]

13 The grower tries the type of sunflower called 'Western Sunset'.

These are the records he kept on the first crop.

	number
seeds sown	500
seedlings emerged	450
plants after first hoeing	288
plants in bud	268
flowers produced	402

(a) What percentage of the total seeds sown failed to germinate?

Answer% [1]

(b) There were no pest or disease problems in this crop.

Calculate the change in numbers between the seedlings emerging and the plants after first hoeing **and** explain this change.

.....

.....

.....

..... [2]

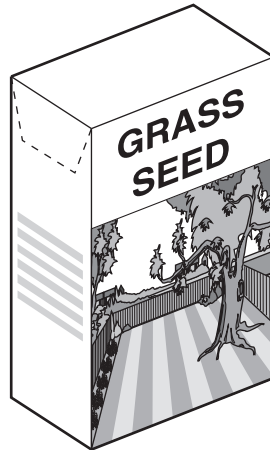
14 Sarah is getting ready to cut the lawn with an electric mower.



Suggest **two** pieces of advice you would give so that she carries out the job safely.

- 1
-
- 2
- [2]

15 One way to make a new lawn is to use grass seed.



Describe how a new lawn may be made using grass seed.

.....

.....

.....

.....

.....

..... [3]

16 Dahlias are popular summer flowering plants.

Dahlias with brightly coloured flowers may be propagated from the plant's root tuber.

(a) Describe **when** and **how** a dahlia may be propagated from its root tuber.

.....
.....
.....
..... [2]

Powdery mildew is a common disease of dahlias.

(b) Explain **three** reasons why it is important to control powdery mildew as soon as it is spotted.

1
.....
2
.....
3
..... [3]

END OF QUESTION PAPER

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