

**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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**MODIFIED LANGUAGE**

**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.

They will use the cloches to cover some seeds they have sown outside.



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

- A A cloche makes it easier to prick out seedlings
- B A cloche stops water getting to the seeds
- C A cloche makes the conditions warmer for germination
- D A cloche stops strong winds from blowing the seedlings 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 Potting on controls pest and disease problems
- B Potting on encourages development of side shoots
- C Potting on stops moss growing on the pot
- D Potting on gives the plant 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 is selling a new range of plants.

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

Which **two** things can the nursery do to sell more plants?

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

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

- 6 A shop sells a plant to a customer. Later, the customer complains about this houseplant.

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

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

- A he cannot see fertiliser 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 the plant's leaves are wilting

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.



Mark **two** potential hazards in the picture by putting an **X** on each hazard.

Mark each **X** clearly.

[2]

8 A gardener has grown the same type of plants in a flower bed for over 15 years.

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

The gardener does not think the weather is the reason.

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

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

9 A gardener must choose a good site for an efficient greenhouse.

Name **three** things that a gardener must think about when choosing a site.



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

10 Students are planting 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 wants to plant a tree at the bottom of the 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 wants to produce sunflowers for the cut flower market.

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

A catalogue offers the following cultivars (varieties).

sunflower name	height in cm	seeds per packet	cost per packet
Arava Sunray (F <sub>1</sub> 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 packet contains 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 F<sub>1</sub> hybrid.

Suggest **two** advantages of an F<sub>1</sub> hybrid for 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 did not germinate?

Answer .....% [1]

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

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

.....

.....

.....

..... [2]

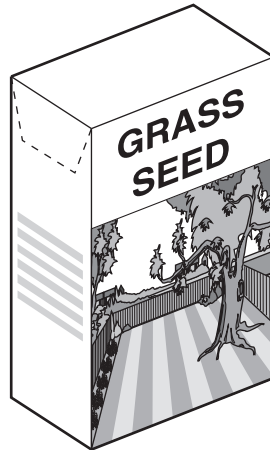
14 Sarah is getting ready to cut the lawn with an electric mower.



Suggest **two** things she can do to mow the lawn safely.

- 1 .....
- .....
- 2 .....
- ..... [2]

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



Describe how to make a new lawn using grass seed.

.....

.....

.....

.....

.....

..... [3]

16 Dahlias are popular summer flowering plants.

(a) Describe **when** and **how** a gardener may propagate a dahlia from the plant's root tuber.

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

Powdery mildew is a common disease of dahlias.

(b) Explain **three** reasons why a gardener must control powdery mildew as soon as she sees it.

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

**END OF QUESTION PAPER**

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