

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
ENVIRONMENTAL AND LAND-BASED SCIENCE**

B492/01

Amenity Horticulture
(Foundation Tier)

**Monday 19 January 2009
Morning**

Duration: 45 minutes

Candidates answer on the question paper
A calculator may be used for this paper

OCR Supplied Materials:
None

Other Materials Required:

- Calculator
- Pencil
- Ruler



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, however additional paper may be used if necessary.

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.

FOR EXAMINER'S USE		
		Mark
TOTAL	36	

Answer **all** the questions.

1 Some plants are grown in glasshouses.



© iStockphoto.com/Aimin Tang

Which one of the following is the **best** reason for growing plants in a glasshouse?

- A Glasshouses are cheap to run.
- B Glasshouses look good.
- C Plants have protection from frosts.
- D Plants will need less watering.

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

2 Look at these four photographs.



© Adrian Thomas/Science Photo Library

French Marigold



© Dr. Nick Kurzenko/Science Photo Library

Gladiolus



© Andy Williams/Science Photo Library

Lily



© Matt Meadows/Science Photo Library

Poinsettia

Which **one** of the four plants shown is usually sold as a pot plant at Christmas?

..... [1]

3 A glasshouse needs to be placed in the correct position.

Which **one** of the following would be the best position to put a glasshouse?

- A A north facing slope, away from trees.
- B A north facing slope, under the shade of trees.
- C A south facing slope, away from trees.
- D A south facing slope, under the shade of trees.

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

4 The boxes show possible hazards when using an electric lawnmower.

blades could damage feet	blades could cut the cable
electric shock	the grass is slippery
stones could fly off rotating blade	wildlife could be in long grass

Which **two** of the hazards are likely to be greater in wet conditions?

--	--

[2]

5 Growers can use either chemical methods or biological methods to control pests and diseases.

Many supermarkets now require suppliers to use biological methods.

Which of the following is true for **all** biological control methods?

They are:

- A harmless to the environment
- B killed by extremely low temperatures
- C naturally occurring organisms controlling the problem
- D quicker at controlling the problem than chemicals

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

6 Students are growing climbing sweet peas in patio pots.

The plants will be grown in a glasshouse for four weeks.

The pots will then be placed in their final positions outside.



© OCR

Select **three** things from the list below the students must give plants in the next four weeks when in the glasshouse.

fertiliser

mist

oxygen

rooting hormone

soil

warmth

water

weedkiller

1

2

3

[3]

7 The 'Britain in Bloom' contest runs every summer to find the country's best kept towns, villages and cities.

Some people plant hanging baskets to make their entries more colourful.

(a) In which month will a summer hanging basket look at its best?

March

May

July

October

Answer [1]

(b) Name **one** plant that is commonly grown in a summer hanging basket.

..... [1]

8 Some students have been planting a display of bedding plants.



© OCR

Name **two** things the students must do to leave the area **safe** for other people.

1

2 [2]

9 Lawnmowers are often described by the way they cut the grass.



© OCR

What type of lawnmower is this?

..... [1]

10 Students are moving a large plant in a heavy pot.

They are using a trolley to help move it.



© OCR

Suggest **two** ways the students could move this plant more safely.

- 1
 - 2
- [2]

11 Plant breeders are trying to improve the types of tulips available.

The tulips are put on display to compare the types.



© OCR

State **three** features of tulips that could be improved by plant breeders.

- 1
- 2
- 3 [3]

12 The back of a seed packet is shown below.

Poppy (Paeony) Purple Passion

Papaver somniferum

Big, dramatic blooms with a sumptuous 'crumpled' appearance on tall stems with blue-gray foliage. Easy to grow, perfect for borders or spectacular in groups.

FOR OUTDOOR SOWING

When	March to May or August to September
Where	In a prepared seed bed in flowering position
How	Sow thinly in rows 30cm (12in) apart Cover with 0.5cm (quarter inch) of fine soil Firm gently and keep moist Seedlings appear 14-28 days
Care	When large enough thin to 20cm (8in) apart Keep moist and weed free Protect late sowings with cloches in winter
Flowers	June to October. Remove dead heads to prolong flowering Late sowings flower the following year
Tip	<i>The large seed pods are very decorative</i>

CAUTION: *Harmful if eaten*

Average
750 seeds

HARDY ANNUAL

▲ 90cm (3ft) ◀ 30cm (12in) ▶ ○ ●

Foil packed for freshness

J	F	M	A	M	J	J	A	S	O	N	D

QUALITY GUARANTEE
We are proud of our high quality. If you are not completely happy with the performance of these seeds we will replace them

£1.59

5 010931 007028 >

Sow by **2009 A**

(a) The seed packet describes these poppies as being hardy **annuals**.

What does the term **annual** mean?

.....

.....

[1]

(b) The seed packet states ‘when large enough, thin to 20 cm (8 in) apart’.

Suggest **two** reasons why this is important.

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

(c) On average, how many seeds is the packet likely to contain?

- 30
- 159
- 750
- 2009

..... [1]

(d) In what months are the poppies likely to flower?

..... [1]

13 A London borough wishes to plant more trees to line its streets.

The data below shows the types of trees available and their features.

tree type	height	spread	pollution tolerance	tolerance of soil compaction	disease resistance	evergreen or deciduous
London Plane	large	large	★★★★★	★★★★	★★★★	deciduous
Fastigate Hornbeam	large	medium	★★★★	★★★★★	★★★★	deciduous
Chanticleer Pear	medium	medium	★★★★★	★★★	★★★★	deciduous
Photinia	small	small	★★★★	★★★	★★★	evergreen
Robinia	medium	medium	★★★★	★	★	deciduous
Rowan	small-medium	small-medium	★★★★	★★★	★★★★	deciduous
Ginkgo	medium	small	★★★★	★★★	★★★★	deciduous

Key: ★ = poor ★★ = below average ★★★ = average ★★★★ = good ★★★★★ = excellent

(a) In the past the London Plane has been a popular choice for planting along streets.

Using the data, suggest **two** reasons why.

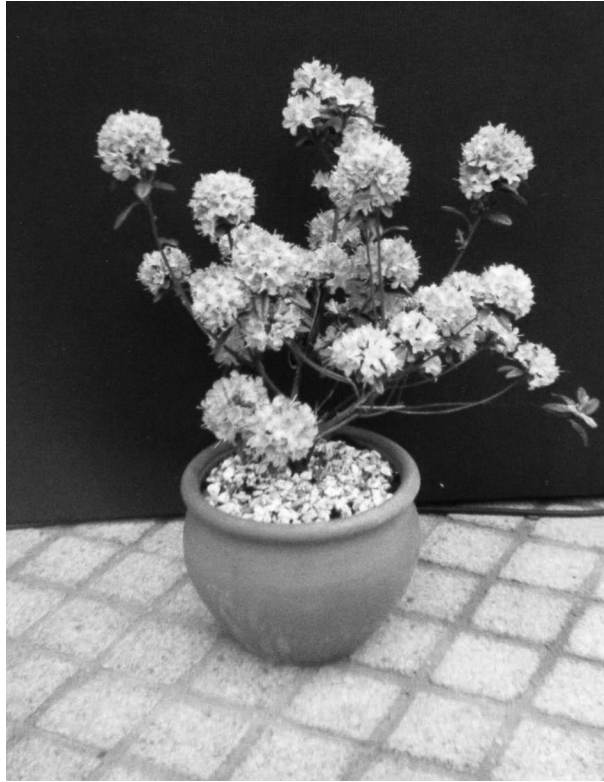
- 1.....
-
- 2.....
- [2]

(b) For a certain street, the borough requires a tree of medium height and good disease resistance.

Suggest **two** trees from the list that would meet this need.

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

14 A garden centre wishes to sell patio pot plants, like the one in the photograph, while the shrub is in flower.

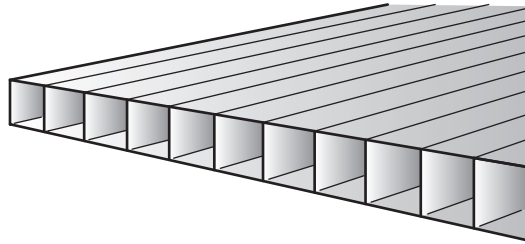


© OCR

Without reducing the price, suggest **three** things the garden centre could do to improve its chances of selling these patio pot plants.

- 1
 - 2
 - 3
- [3]

- 15 Twin-walled polycarbonate is often used to glaze the roofs of large commercial greenhouses. Many people consider it to be a better choice than horticultural glass.



Describe **two** different reasons why this material could be considered as a better choice than horticultural glass.

- 1
 - 2
- [2]

- 16 Internet websites tell growers:

Do not grow the same plants year after year in your glasshouse soil.

Give **three** reasons why they may make this recommendation.

- 1
 - 2
 - 3
- [3]

END OF QUESTION PAPER

15
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