

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

B492/01

Amenity Horticulture
(Foundation Tier)

**Wednesday 24 June 2009
Morning**

Duration: 45 minutes

Candidates answer on the question paper

OCR Supplied Materials:
None

Other Materials Required:

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



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.

Answer **all** the questions.

1 This student is planting some shrubs.

He is now giving the plants their final treatment.



What treatment is he giving to the plants?

- A fungicide
- B greenfly killer
- C water
- D weed killer

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

2 Some plants are **hardy annuals**.

What is the most likely way for these plants to be grown?

- A sown and grown in a greenhouse
- B sown in a greenhouse and planted outside in late spring
- C sown and grown outdoors
- D sown outdoors and planted into a greenhouse in late spring

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

3 This student is taking seedlings from a seed tray and planting them into individual pots.



What is the name for this job?

- A potting on
- B pricking out
- C sowing
- D thinning

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

4 This student is producing a new lawn from **seed**.

He is carrying out this job in the autumn.



Why is autumn a good time to sow grass seed?

- A Grass is growing more slowly and will not need cutting.
- B Leaves are falling and can provide a warm blanket for the seed.
- C Soil is normally warm and moist in autumn.
- D Students have more time to do this in the autumn.

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

5 Some seeds are being sown outdoors in early spring.

They will be covered by a polythene cloche.



Select the **two** best reasons why the cloche is used.

The cloche:

- A keeps weeds out of the bed
- B prevents birds and rabbits from eating the seedlings
- C prevents nutrients from leaching out of the soil
- D prevents rain from reaching the soil
- E prevents too much light from reaching the seeds
- F warms the soil so that seeds grow quicker

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

- 6 A student is planting up some hanging baskets for the summer. He is using a special compost instead of soil.



Give **two** reasons why special compost is used.

- A It is cheaper than soil.
- B It does not have any pests or diseases.
- C It has the correct balance of nutrients.
- D It will not require any further feeding.
- E It is less harmful to the environment.
- F It will not require any further water.

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

7 A student is planting up some hanging baskets for the summer.

The plants available are:

Beech

Begonia

Geranium (*Pelargonium*)

Privet

Rhododendron

Rosemary

Which **two** of these plants would be suitable for planting into the hanging baskets?

.....
.....

[2]

8 A garden centre has some young plants for sale.

They are displayed as shown in the photograph below.



Suggest **two** ways the garden centre could improve the display to sell more plants.

1

2

..... [2]

9 **Biological control** can be used to control pests and diseases in a glasshouse.

Give **one** advantage and **one** disadvantage of using these methods.

advantage

.....

disadvantage

..... [2]

10 Cut flower bouquets are very popular.

Name two locally grown flowers that could be found in a bouquet in summer.

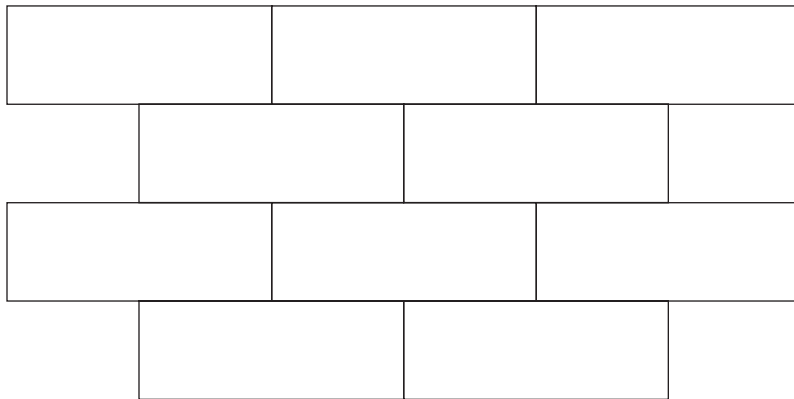
1

2 [2]

11 A gardener wants to make a new lawn using turf.

He prepares the soil thoroughly before laying the turf.

Experts recommend that the rolls of turf are put down in a 'brickwork' pattern.



(a) Give **one** reason why the turf is planted in this pattern.

.....

..... [1]

(b) Give **two** pieces of advice that would help the turf to establish once it has been laid.

1

.....

2

..... [2]

12 This is a photograph of a lupin.



The lupin is a **perennial plant**.

What does the word **perennial** mean?

.....

..... [1]

13 The table shows the causes of the 10 most common gardening accidents in the UK in 2004.

tool or equipment	number of accidents in the U.K.
electric hedgetrimmers	3 100
flower pots	5 100
garden canes & sticks	1 800
garden forks	2 000
hoses & sprinklers	1 900
lawnmowers	6 500
plant tubs	2 800
secateurs and pruners	4 400
shears	2 100
spades	3 300

(a) How many accidents were caused by lawnmowers in the UK in 2004?

Answer [1]

(b) Suggest **two** ways of reducing the number of accidents with lawnmowers.

1

.....

2

..... [2]

(c) The **total** number of accidents caused by these 10 items was 33 000.

What percentage of the total number of accidents was caused by spades?

Answer% [1]

(d) How many more accidents were caused by:

electrical hedge-trimmers and lawnmowers

compared with

flower pots and plant tubs?

Answer [1]

14 A plant breeder is assessing the quality of some new types of sweet pea.

Each item is given a star rating

- * = poor
- ** = below average
- *** = average
- **** = above average
- ***** = outstanding

The table shows the rating given for different varieties for scent, disease resistance and rate of growth.

variety (cultivar)	scent	disease resistance	rate of growth
Albion	**	****	**
Buttermilk	***	****	**
Cambridge	*	*	*****
Ditton	****	*	***
Elegance	**	**	***
Floribunda	***	***	***

(a) Which variety in the trial has the most scent?

..... [1]

(b) Which variety shows the greatest rate of growth?

..... [1]

(c) Which variety showing above average disease resistance, has more scent?

..... [1]

15 Modern production of shrubs often takes place in glasshouse structures.

It is important that the shrubs produced are of high quality.



(a) Describe the advantages and disadvantages, other than cost, of producing shrubs in a glasshouse rather than in the open.

Give at least **one** advantage and **one** disadvantage.

.....
.....
.....
.....
.....
..... [3]

(b) The grower often uses computerised systems to manage this environment.

Name **three** types of equipment that are controlled by computers. How do these help the grower manage the glasshouse environment?

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

16 Gardeners often grow plants in greenhouses in pots or containers rather than in the greenhouse soil.

Explain what might happen if the same type of plant is grown in the same untreated greenhouse soil for many years.

.....

.....

.....

..... [2]

END OF QUESTION PAPER

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