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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B492/01

**ENVIRONMENTAL AND
LAND-BASED SCIENCE**

Amenity Horticulture (Foundation Tier)

WEDNESDAY 22 JUNE 2011: Morning

DURATION: 45 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Electronic calculator

Pencil

Ruler (cm/mm)

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **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).**
- **Answer ALL the questions.**

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.**

BLANK PAGE

Answer ALL the questions.

- 1 A large garden centre has a display of plants at the entrance.**

Why has the display been built at the entrance?

Put a tick (✓) in the box next to the correct answer.

More customers can see the plants there.

Plants are easier to water there.

The assistant does not have far to walk.

There are fewer pests and diseases at the entrance.

[1]

2 Plants may be described by their life cycles.

Which one of the following best describes a BIENNIAL?

A plant which:

A flowers twice during its life

B has two life cycles in a year

C produces two crops of seeds

D takes two years to complete its life cycle

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

3



What is the most likely way that this new hyacinth has been produced?

Put a tick (✓) against the correct answer

The bulb was dipped in food dye.

The plant has been selectively bred.

The nutrients have been changed.

The plant has caught a disease.

[1]

4 A gardener has been researching a book about how to grow plants from seed.

Put the following stages in the correct order in the boxes below.

One has been done for you.

POTTING ON

PRICKING OUT

SOWING

THINNING

STAGE 1

STAGE 2

STAGE 3

STAGE 4

[2]

5 Polytunnels are often used in the growing of young trees and shrubs.

Some growers prefer to use polytunnels rather than greenhouses.

What is the BEST reason for choosing to use polytunnels?

- A even distribution of heat**
- B greater storm resistance**
- C improved quality of growth**
- D more cost effective**
- E reduced disease infection**

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

6 Pests and diseases in plant nurseries can be controlled by

- **chemical methods**
- **biological methods**

Which TWO of the following are advantages of using chemicals rather than biological control?

Put ticks (✓) in the boxes next to the correct answers.

control is more rapid

disease organisms are less likely to become resistant

chemical residues remain within the crop

special training is not needed to use chemicals

one spray product will control a wide range of problems

[2]

7 Hanging baskets are popular in summer and winter.

Which TWO of the following plants would be good choices for a hanging basket?

Put rings around the TWO correct answers.

LILY

LONDON PLANE

PANSY

PINE

TRAILING GERANIUM

[2]

8 Students are planning to grow some pot plants in a greenhouse to get a display of flowers.

Suggest TWO plants that would be suitable as pot plants.

1 _____

2 _____ **[2]**

9 Students have decided to replant an area with perennial herbaceous plants rather than using bedding plants.

State two ADVANTAGES of making this decision.

1 _____

2 _____

_____ **[2]**

10 Students have decided to replant an area with perennial herbaceous plants rather than using bedding plants.

They have produced a list of jobs to help the plants become established.

Add TWO more jobs to the list below.

job list	
1	Check regularly for pests and diseases.
2	Stake tall growth with bamboo canes.
3	_____

4	_____

[2]

11 Different types of electric lawn mower are available.



What type of lawn mower is this?

Suggest ONE situation where you would use this type of mower rather than any other type.

[2]

12 John is using an electric lawn mower.

The mower stops working because the fuse blows.

John does not have the correct spare fuse so he replaces it with a fuse of a higher rating.

This is a dangerous thing to do as there is a greater risk of electric shock.

Explain why.

[1]

13 A magazine has received the following question from a reader.

I am thinking of buying a greenhouse for my garden. Can you give me advice on the best place to put it?

What THREE pieces of advice would you give the reader?

[3]

- 14 A manager is looking at the sales in their garden centre over the last year.

She has laid the information out in the table below.

DEPARTMENT	ANNUAL SALES (%)
Christmas decorations	6
coffee shop	15
garden furniture and barbecues	8
garden sundries	18
gifts	11
houseplants	3
others	6
outdoor plants	19
paving and fencing	3
pets and fish	8
seeds and bulbs	3

- (a) Which one of these departments is likely to have the largest sales in December?

_____ [1]

- (b) Which one of these departments has the largest annual sales?

_____ [1]

(c) What percentage of annual sales is created by the sales of plants, seeds and bulbs?

Answer _____ % [1]

- 15 A nursery has a growing plan to produce a houseplant named Rudbeckia 'Toto'.

RUDBECKIA 'TOTO' GROWING PLAN

CROP TIMING

Sowing to transplanting into final container:

7 weeks

Sowing to flowering: 15 weeks

GROWING ON

**Temperature: 18 °C lowering to 16 °C when
flower stalks begin to elongate**

Minimum night temperature: 10 °C

- (a) Complete the calendar opposite, using the key next to it, to show **TRANSPLANTING** and **FLOWERING** times.

WEEK NUMBER	
1	
2	S
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	

KEY

S = sowing time

T = transplanting time

F = flowering time

[1]

RUDBECKIA 'TOTO' GROWING PLAN

CROP TIMING

**Sowing to transplanting into final container:
7 weeks**

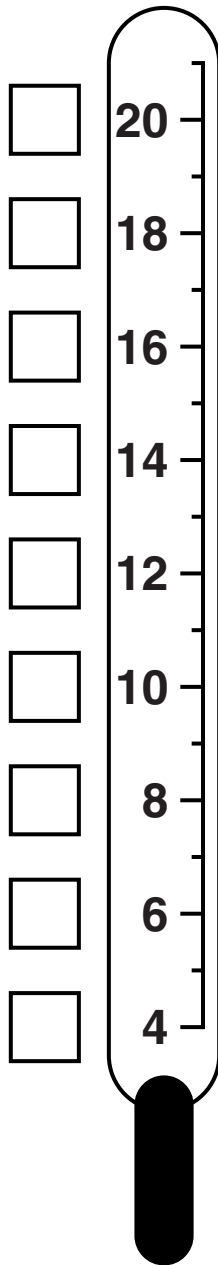
Sowing to flowering: 15 weeks

GROWING ON

**Temperature: 18 °C lowering to 16 °C when
flower stalks begin to elongate**

Minimum night temperature: 10 °C

- (b) On the diagram of the thermometer on the opposite page, write **D** in the box next to the temperature needed when the plant is first growing. [1]
- (c) On the diagram of the thermometer on the opposite page, write **N** in the box next to the minimum night temperature needed. [1]



16 It is a bad idea to use the same soil to grow the same type of plant, year after year.

Write about why this is a bad idea.

[2]

17 Commercial growers are required to carry out special training and get certificates before they are allowed to use pesticides.

Suggest possible results of NOT applying pesticides correctly.

[3]

18 A new lawn may be made from either turf or from seed.

Describe in detail, the way a new lawn may be grown from seed.

[3]

END OF QUESTION PAPER

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