

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

B492/01

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

Wednesday 20 January 2010
Morning

OCR Supplied Materials:
None

Duration: 45 minutes

Other Materials Required:

- 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 Some young plants have been grown from seed in a seed tray.

They are growing too close together.

The photograph shows them being re-planted into another seed tray to give them more space.



What is the name given to this re-planting?

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

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

2 Some students have planted up a summer hanging basket.

They plan to keep it in a greenhouse until the risk of frost is over.



Which **three** of the following need to be provided while keeping the hanging basket in the greenhouse?

- fertiliser
- fungicide
- heat
- oxygen
- pesticide
- water

1

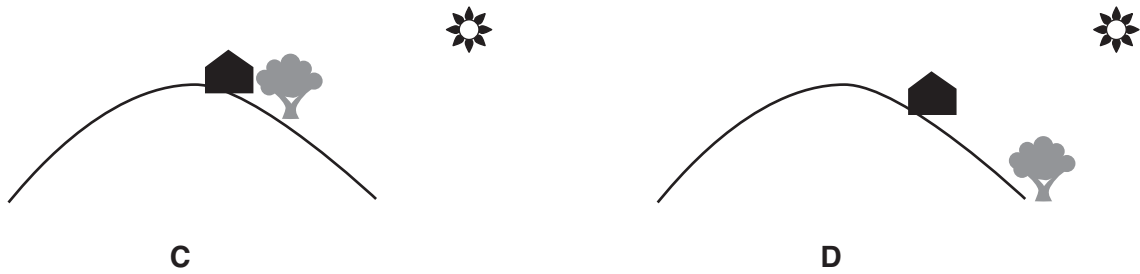
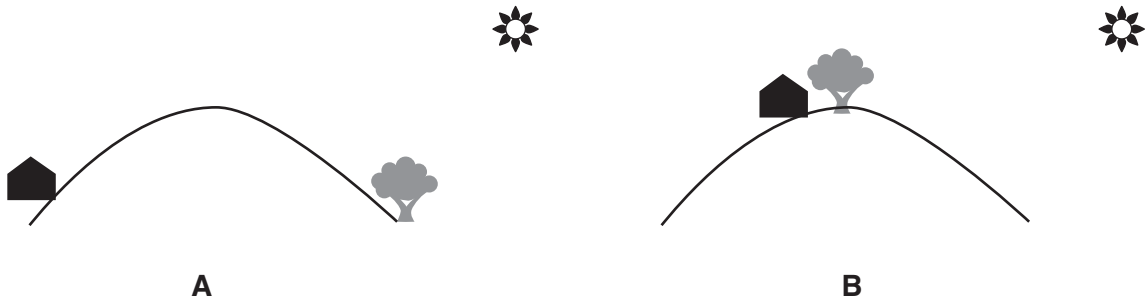
2

3

[3]

3 The diagrams show four possible places to build a greenhouse (🏠).

They show side views of a hill and the position of a tree (🌳) and the Sun (☀️) in the afternoon.



The greenhouse must receive the maximum amount of light.

Which **one** of the diagrams shows the best position?

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

4 A gardener wants to plant some tall shrubs in pots outside the house.

An expert at a garden centre recommends that a soil based compost might be more suitable than a compost based on peat.

Why does the expert recommend using soil based composts?

Soil based composts:

- A are cheaper to buy
- B are denser, adding more mass to the pot
- C contain fewer pests and diseases
- D give the garden centre greater profit.

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

5 The gardener thinks that he could save money by re-using the compost already in the pots.

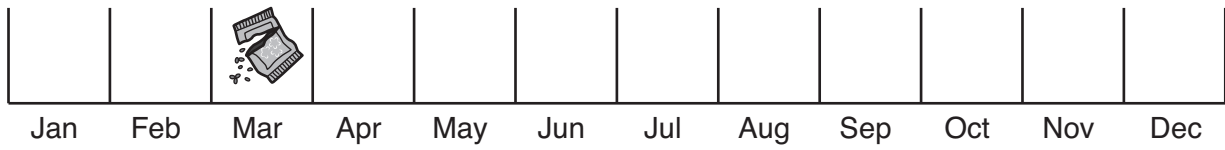
Why might re-using the compost cause problems?

The compost might:


- A be difficult to re-wet when dry
- B be high in nitrates
- C contain pests and disease organisms
- D reduce the hardiness of the shrubs.

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

6 This timeline may be used to record the gardening tasks for different plants.



The French marigold (*Tagetes spp.*) is an annual which will be killed by frost.

Its time of sowing is marked on the timeline with .

(a) In which month is it likely to **start** flowering?

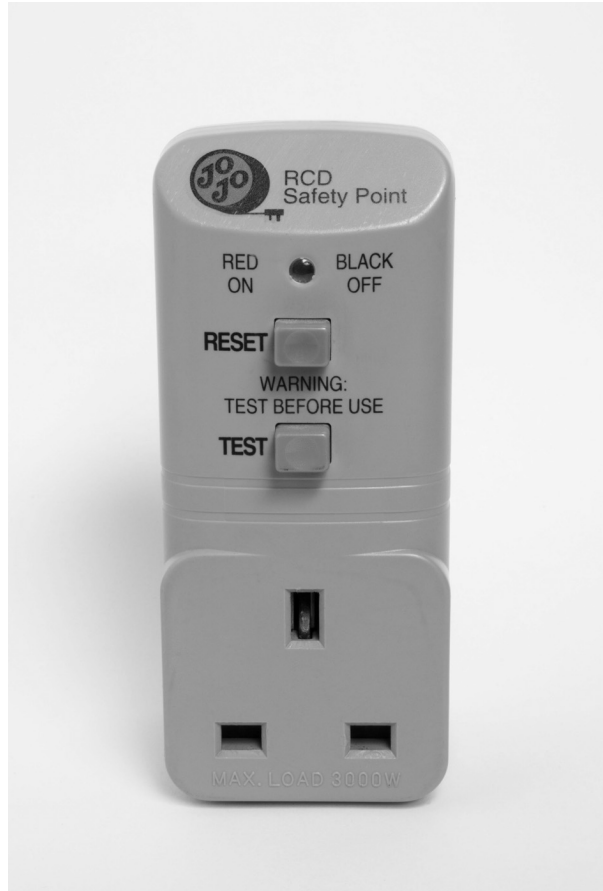
..... [1]

(b) In which month is it likely to **stop** flowering?

..... [1]

7 The photograph is of a circuit breaker, or residual current device (RCD).

It is recommended that this is used when handling electrical equipment in the garden.



Why is the RCD recommended for use?

- A It detects high voltage across the wires.
- B It monitors the amount of current used by the equipment.
- C It prevents equipment from overheating.
- D It prevents the user from receiving a lethal shock.

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

8 The photograph shows a large glasshouse at a plant nursery.



State **three** reasons why glasshouses are used for raising new plants.

- 1
- 2
- 3 [3]

9 The photograph shows a greenhouse built to a new design.

The design is based on a steel and aluminium frame.



Give **two** reasons why steel and aluminium were used rather than wood.

- 1
- 2 [2]

10 A new glasshouse is controlled using ICT.

This reduces labour costs.

Environmental conditions are monitored by sensors such as the one shown below.



(a) Name an environmental condition.

..... [1]

(b) Describe how the information from the sensor will be used to control this condition.

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

11 Summer bedding schemes may use a wide range of different plants.



Suggest **three** plants which may be suitable for summer bedding.

- 1
- 2
- 3 [3]

12 A nursery sells trees through its garden centre.

The ground is too waterlogged for customers to see the trees before they buy them.



Many people visit the garden centre.

Suggest **two** ways the garden centre could make them aware of the trees for sale.

- 1
- 2 [2]

13 There are different kinds of lawns.

Each kind has a different use.

The lawns need different mixtures of seeds when they are first planted.

Look at the information in the table.

types of lawn	seeds				
	creeping red fescue %	Chewings fescue %	bentgrass %	dwarf ryegrass %	smooth stalked meadow grass %
show lawn	75	20	5	0	0
family lawn	10	0	0	90	0
shady lawn	75	10	5	0	10
easy care lawn	35	0	5	60	0

(a) Which of the lawn seed mixtures contains the largest amount (%) of Chewings fescue?

..... [1]

(b) Which type of grass seed is found in all these lawns?

- A creeping red fescue
- B Chewings fescue
- C bentgrass
- D dwarf ryegrass
- E smooth stalked meadow grass

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

(c) Smooth stalked meadow grass is more tolerant of one environmental condition.

Name this condition.

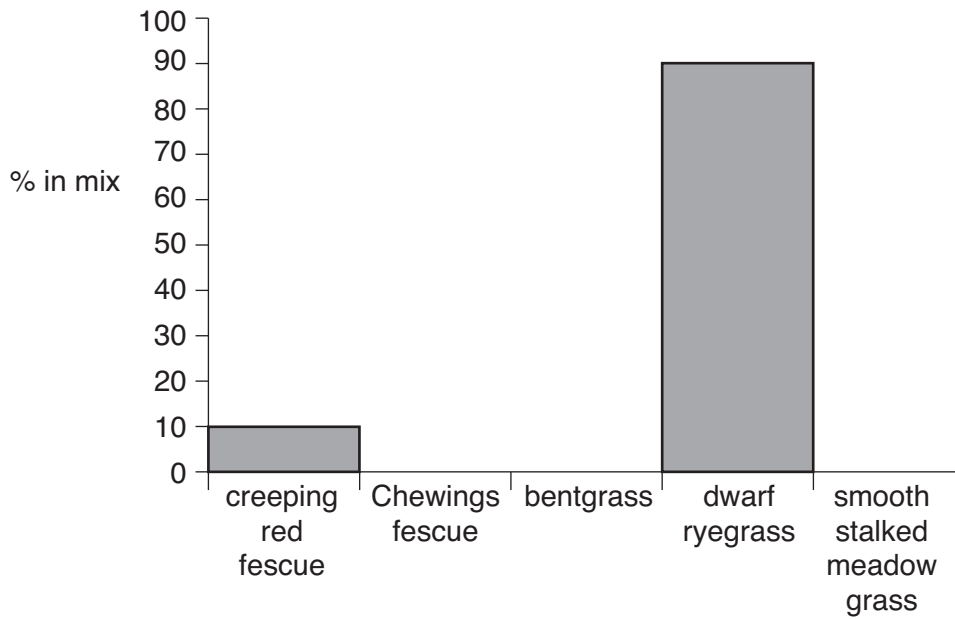
..... [1]

(d) Which grass type is most resistant to trampling?

- A creeping red fescue
- B Chewings fescue
- C bentgrass
- D dwarf ryegrass
- E smooth stalked meadow grass

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

(e) Which kind of lawn is shown by the bar chart?



- A show lawn
- B family lawn
- C shady lawn
- D easy care lawn

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

(f) A company produces a mixture called 'Simple Grass' which contains:

- 40% creeping red fescue
- 5% bentgrass
- 55% dwarf ryegrass.

They claim a lawn planted with this seed mixture will be easy to look after.

Do you agree with the claim? State your reason. Use the information in the table.

.....

.....

..... [1]

14 The photograph shows a student planting a young tree during the winter of 2009.



Describe, with details, **three** ways he would look after the tree during the summer of 2010 to make sure that it grows well.

- 1
- 2
- 3 [3]

15 The photograph shows students propagating a range of plants asexually.



Describe, in detail, **one** method of propagating plants asexually.

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

16 Plant breeders are trying to improve the **types** of roses available for sale.

State **three** improvements to roses that could be made by plant breeders.

1
2
3 [3]

END OF QUESTION PAPER

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