

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE
B682/01
ENVIRONMENTAL AND LAND-BASED
SCIENCE

Plant Cultivation and Small Animal Care
(Foundation Tier)

THURSDAY 13 JUNE 2013: Morning

DURATION: 1 hour
plus your additional time allowance

MODIFIED ENLARGED

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on the Question Paper.
A calculator may be used for this paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Pencil

Ruler (cm/mm)

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

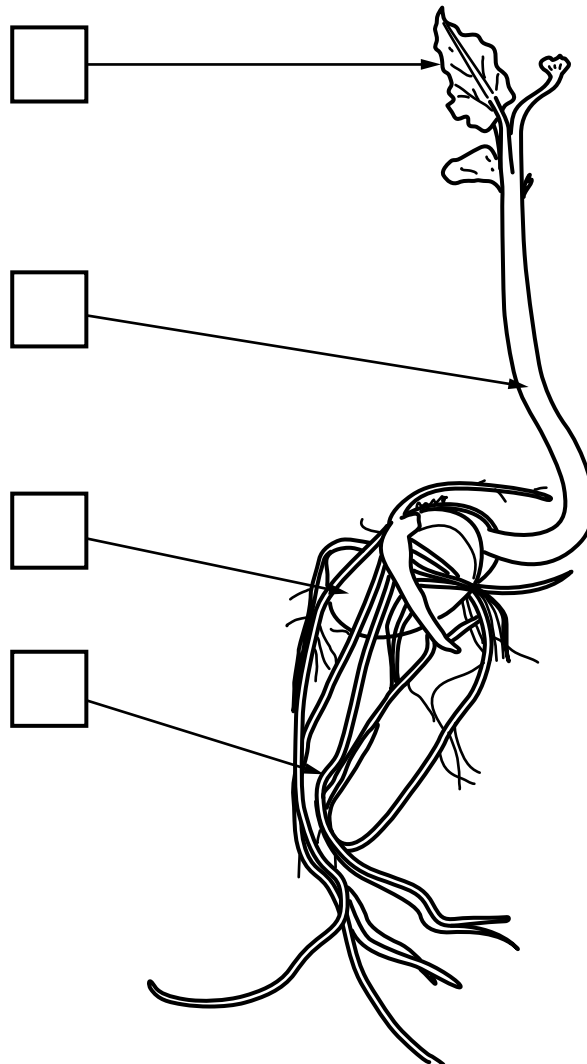
- Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer ALL the questions.
- Read each question carefully. Make sure you know what you have to do before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

INFORMATION FOR CANDIDATES

- Your quality of written communication is assessed in questions marked with a pencil (✎).
- 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 50.
- Any blank pages are indicated.

Answer ALL the questions.

1 The diagram shows a germinating runner bean seed.



Write the letter P in the box that points to the plumule.
[1]

[TOTAL: 1]

2 Some sweet pea seedlings are growing in a glasshouse.

Some of the seedlings are not growing very well.

Draw straight lines to match each PROBLEM with HOW TO SOLVE THE PROBLEM.

PROBLEM

**HOW TO SOLVE THE
PROBLEM**

wilted leaves

switch on heater

**yellow
leaves**

**put slug pellets
around the seedlings**

**holes in
leaves**

add fertiliser

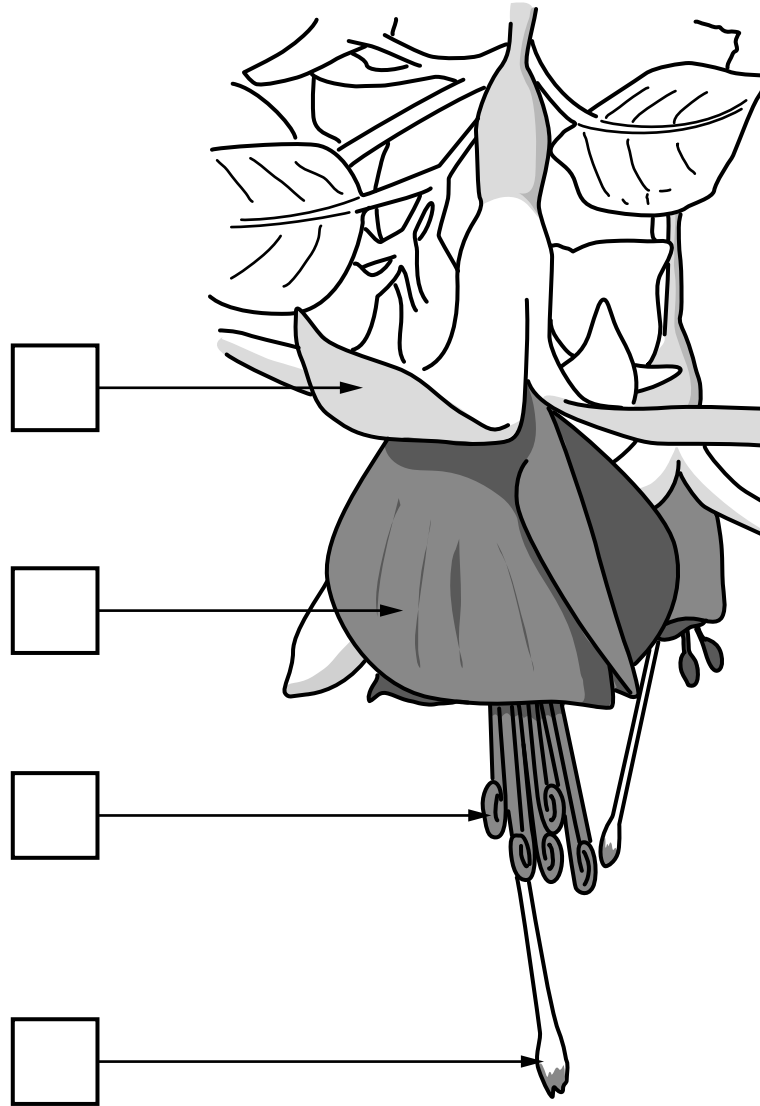
**slow growth
of leaves**

**switch on water
sprinklers**

[3]

[TOTAL: 3]

3 The diagram shows a flower.



Write the letter S in the box that points to the stigma.

[1]

[TOTAL: 1]

4 Penny grows geraniums in her glasshouse.

She has sealed the glasshouse to keep it warm.

The geraniums produce few seeds.

Suggest a reason for this.

[2]

[TOTAL: 2]

- 5 The photograph shows a carrot that has been stored for a long time.**

It has not been stored properly and so is not fit to eat.



Describe why this carrot is not fit to eat AND explain how it should have been stored.



The quality of written communication will be assessed in your answer.

[6]

[TOTAL: 6]

6 Whitefly is a pest that attacks tomato plants.

Martin grew tomato plants in three glasshouses.

He wanted to find the best way to control the whitefly in his glasshouses.

He added some parasitic wasps to the tomatoes in glasshouse 1.

He planted yellow marigold plants with the tomatoes in glasshouse 2.

He grew only tomatoes in glasshouse 3.

He counted the total number of whitefly in each glasshouse in each week of the growing season.

(a) Describe and explain the shape of the graph for glasshouse 1 (containing tomatoes and the parasitic wasps).

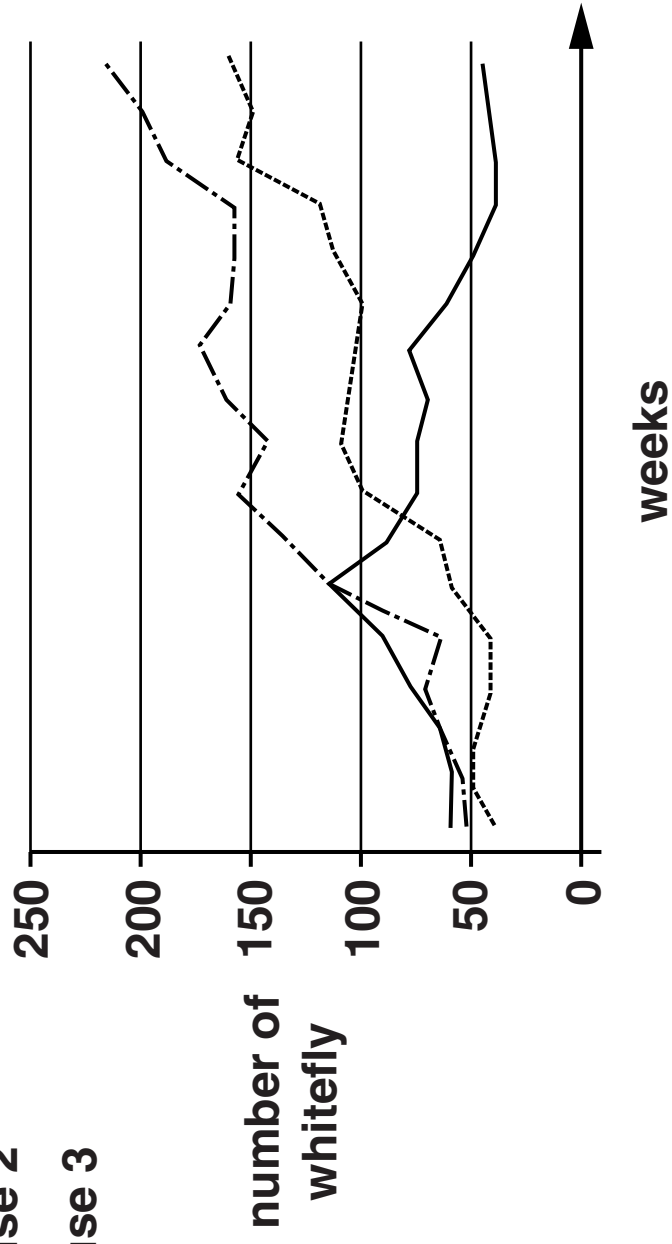
[3]

KEY

— glasshouse 1

..... glasshouse 2

- . - . - glasshouse 3



(b) From his investigation, Martin concludes that:

‘Marigolds produce a chemical which repels whitefly.’

Discuss whether Martin’s results support his conclusion.

[2]

[TOTAL: 5]

7 A new Pet Travel Scheme (PET) was introduced in 2000.

Owners of cats and dogs can now bring them easily into England.

Before the 'PET', all cats and dogs had to spend 6 months in a special kennel or cattery where they were kept separate from other animals.

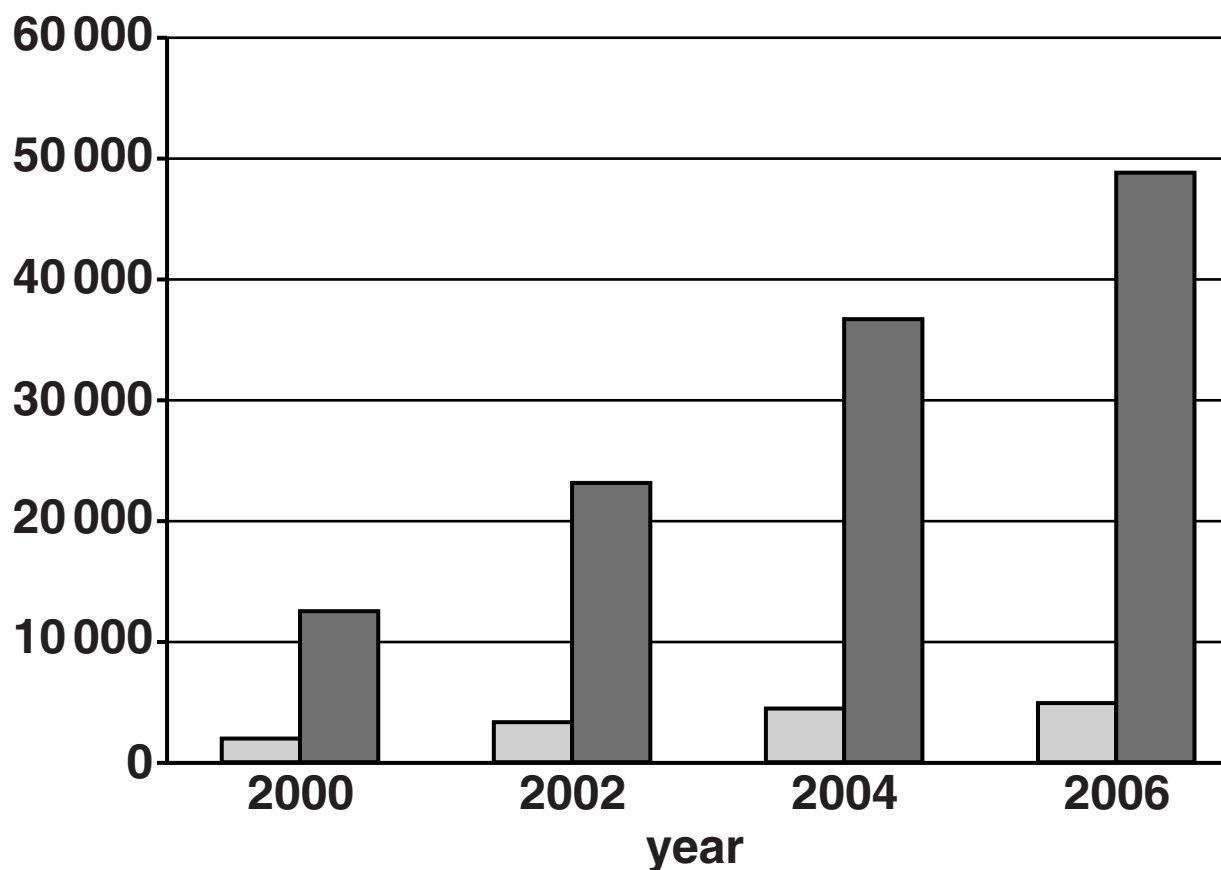
This is called quarantine.

The graph shows the number of cats and dogs entering England since the start of the PET scheme in February 2000.

KEY



number of animals



(a) Describe TWO trends shown in the data.

[2]

(b) 48 500 dogs had a PET test to enter England in 2006.

7% of these dogs failed the test.

How many dogs failed the test?

Number of dogs = _____ [1]

(c) The main reason dogs fail the PET test is because they have not had treatment for ticks and tapeworms.

Ticks and tapeworms are both types of parasite.

What is a parasite?

[1]

(d) Rabies is a deadly viral infection.

At present there is no rabies in England.

A dog entering England must have a certificate to prove it is free from rabies.

If it does not have this certificate it must go into quarantine for 6 months.

Explain why.

[2]

[TOTAL: 6]

- 8 The table below shows some information about four different fertilisers.**

Describe the differences between the organic and inorganic fertilisers in the table AND explain how these differences affect their uses.



The quality of written communication will be assessed in your answer.

[6]

[TOTAL: 6]

Fertiliser	Type	% N	% P	% K	Trace elements	Nutrient release
chicken manure	organic	6.0	5.0	3.0	present	slow
farmyard manure	organic	4.0	0.3	0.5	present	slow
growbig	inorganic	7.0	7.0	7.0	absent	quick
magic grow	inorganic	15.0	30.0	15.0	absent	quick

9 A pet dog is being transported by car.

Describe the correct way of transporting a pet dog.

[2]

[TOTAL: 2]

- 10 The table shows the percentage (%) of nutrients that are available to plants at different values of soil pH.**

pH	% N	% P	% K
5	55	35	50
6	100	50	100
7	100	100	100

Caroline tests the soil on her allotment and finds that it is pH6.

What effect will a soil of pH6 have on the growth and development of the crops on her allotment?

Explain your answer.

[2]

[TOTAL: 2]

11 Michael keeps two terrapins in a tank of water.

He often puts the terrapins in his garden pond for a few hours.

Suggest TWO reasons why this is a good idea.

[2]

[TOTAL: 2]

12 Amy rears turkeys to sell at market.

She weighs her turkeys regularly.

(a) State ONE other reason for weighing a small animal on a regular basis.

[1]

(b) How can Amy check that her weighing scales are accurate before she weighs her turkeys?

[1]

(c) Amy keeps some of the turkeys inside in a barn.

She keeps other turkeys outside in a field.

She feeds all the turkeys on the same turkey pellets.

She notices that the turkeys in the barn are not putting on weight as fast as the ones outside in the field.

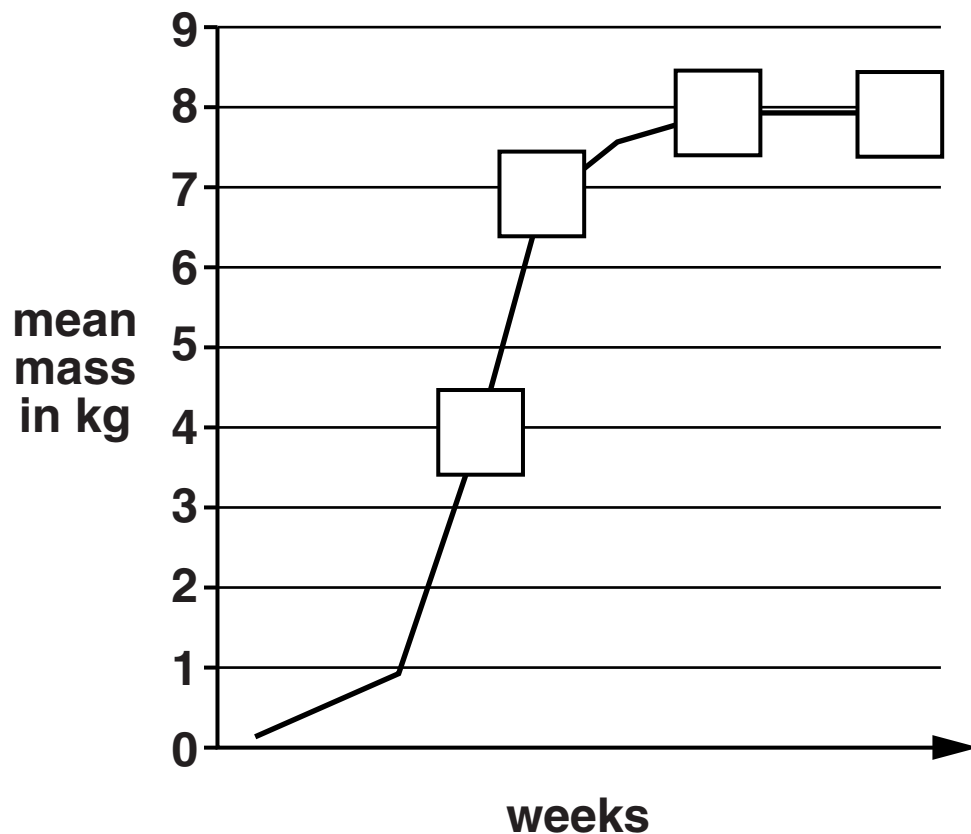
A friend suggests that something is missing from their diet.

What could Amy give the turkeys in the barn to improve their diet?

Give a reason for your answer.

[2]

- (d) The graph shows the mean mass of turkeys over an ideal growing season.



- (i) When does this data suggest that Amy should sell her turkeys?

Place an X in a box on the graph.

Explain your answer.

[2]

(ii) Some of Amy's turkeys are sold early.

Suggest TWO reasons why Amy might have done this.

[2]

[TOTAL: 8]

13 Henry has a pet rabbit.

The rabbit is pregnant.

Henry has never looked after a pregnant rabbit before.

Write some advice for Henry about how he should care for the rabbit during her pregnancy AND how he should care for the rabbit and her young after the birth.



The quality of written communication will be assessed in your answer.

[6]

[TOTAL: 6]

END OF QUESTION PAPER

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