

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE
B683/01

**ENVIRONMENTAL AND
LAND-BASED SCIENCE**

**Commercial Horticulture, Agriculture
and Livestock Husbandry**

(Foundation Tier)

WEDNESDAY 21 JUNE 2017: 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.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Pencil

Ruler (cm/mm)

Calculator

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. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.

INFORMATION FOR CANDIDATES

The 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.

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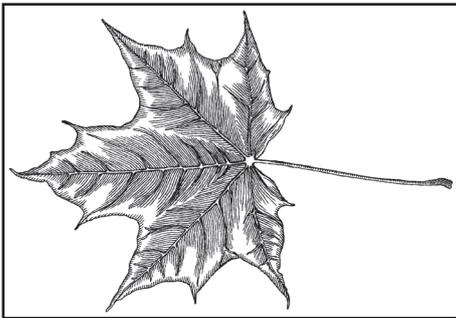
Answer ALL the questions.

- 1 (a) The diagrams show trees used in parks, gardens and street plantings.

Draw a straight line to connect the tree leaf to its correct name. [3]



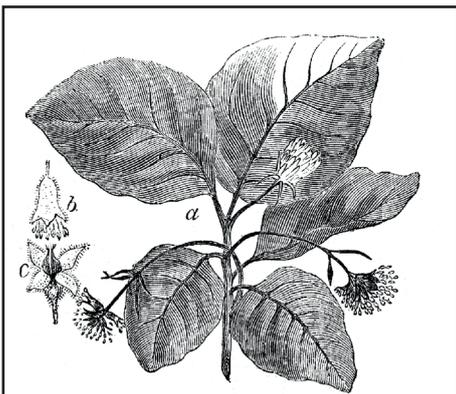
Acer



Birch



Cherry



Beech

- 2 (a) There are many reasons why a plant may be unhealthy.

Here is a list of some of them:

Lack of - LIGHT NUTRIENTS WATER

Use the list to match each symptom with its likely cause. [2]

Symptom	Cause
Plant is wilting	
Plant growth is yellow and stunted	
Plant growth is yellow and long	

- (b) Balance the following equation for photosynthesis. [1]



[TOTAL: 3]

3 The photographs show three types of lawnmower.

A



B



C



(a) Write the correct letter for each mower in the spaces provided.

(i) Which TWO of the mowers are rotary mowers?

_____ and _____ [1]

(ii) Which ONE of the mowers is a hover mower?

_____ [1]

(iii) Which of the mowers is most suitable for cutting fine grass such as a bowling green?

_____ [1]

(b) Suggest ONE advantage and ONE disadvantage of a petrol lawnmower over an electric lawnmower.

Advantage

Disadvantage

[2]

[TOTAL: 5]

(b) The table shows the costs of treating whitefly in a glasshouse using biological and non-biological methods.

		Biological methods	Non-biological methods
Treatment material costs	Per pot	95p	7p
	Per m ² of pots	£5.70	42p
Labour costs	Per pot	12p	15p
	Per m ² of pots	72p	90p
Total costs	Per pot	£1.07	22p
	Per m ² of pots	£6.42	

(i) Using the information in the table calculate the total cost of treating a square metre of whitefly using NON-BIOLOGICAL METHODS.

_____ [1]

(ii) How many pots per m² were in the glasshouse?

_____ pots [1]

- (iii) Use the information in the table to compare the relative costs of both methods of treating whitefly.**

[2]

- (iv) What other information would you need before deciding which was the best method to control the whitefly?**

[2]

[TOTAL: 12]

- 5 (a) Deficiencies in certain vitamins and minerals in an animal's diet can lead to ill health.

Fill in the gaps in the table to match the vitamin or mineral with the problem caused by its deficiency in the diet.

The first has been done for you. [4]

Vitamin or Mineral	Deficiency Problem
Vitamin A	Poor eye sight
Vitamin	Scurvy
Vitamin D	
Mineral	Anaemia
Mineral Calcium	

- (b) What is meant by a 'balanced diet'?

[2]

[TOTAL: 6]

6 Use the correct terms below to fill in the blanks in this description of mating.

OVARY

OVIDUCT

TESTES

SPERM DUCT

UTERUS

**Sperm produced in the _____ travels
down the _____ and is released inside
the female.**

**In the female, eggs produced in the
_____ travel down the
_____ towards the _____
where they meet the sperm. [3]**

[TOTAL: 3]

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(b) The graph opposite shows the results of an investigation to find how the daily gain in mass of a beef animal changes as its body mass increases.

(i) Use the graph to describe how the animal's daily gain in mass changes as its body mass increases.

Use figures from the graph in your explanation.

[2]

(ii) What is the maximum average daily gain in mass?

_____ kg/day **[1]**

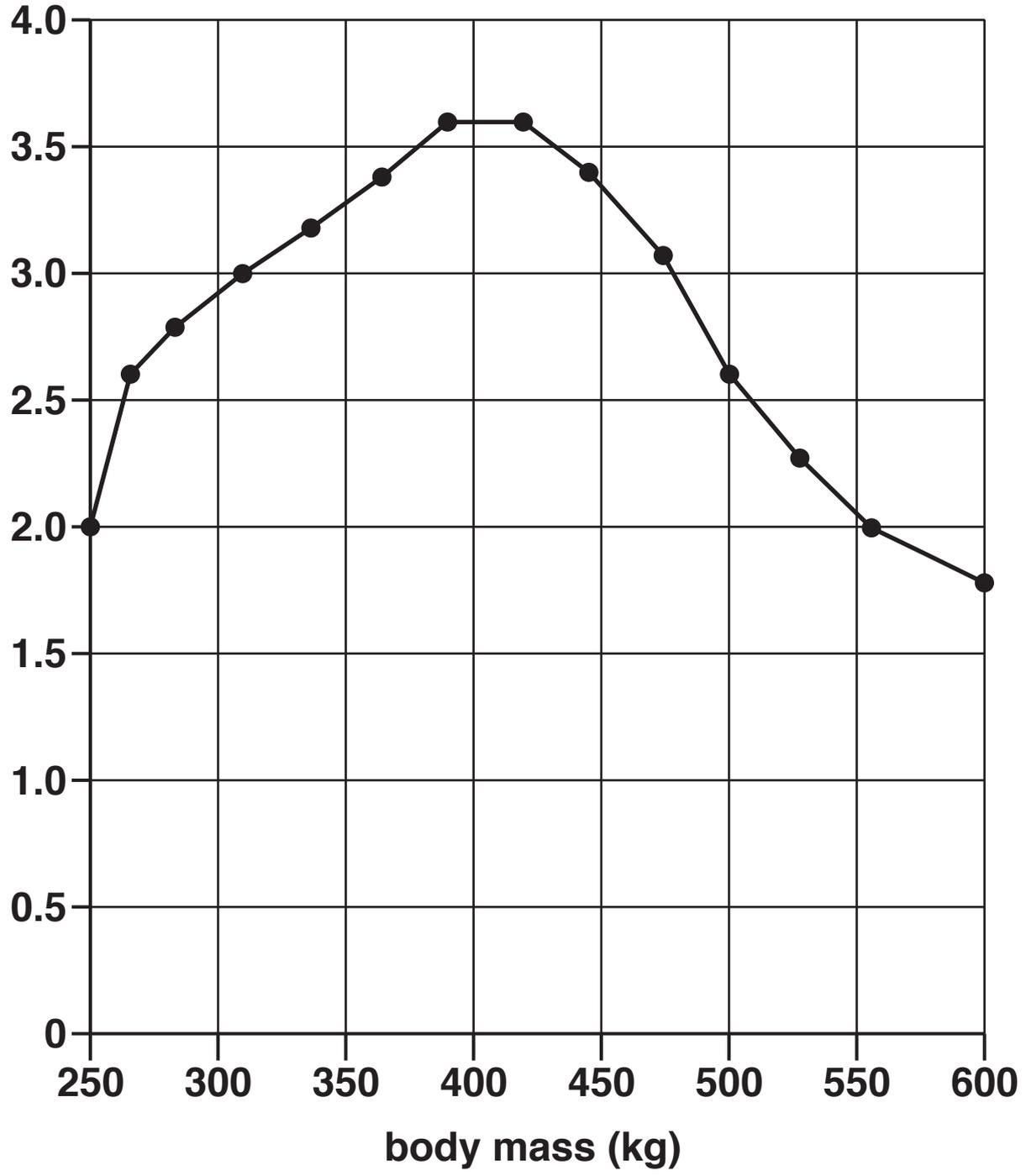
(iii) How much did the animal increase in mass over the time period of the investigation?

_____ kg **[1]**

[TOTAL: 10]

END OF QUESTION PAPER

average daily gain
in mass (kg/day)



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