

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

F B493/01

Management of the Natural Environment

FOUNDATION TIER

FRIDAY 25 MAY 2007

Afternoon

Time: 45 minutes

Calculators may be used.

Additional materials: Pencil
Ruler (cm/mm)



* G U E / T 3 5 5 2 4 *

Candidate
Name

--

Centre
Number

--	--	--	--	--

Candidate
Number

--	--	--	--

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate Number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- **WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.**
- There are no separate marks for the quality of written communication, but make sure that your answers are written in clear and well-structured English.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The total number of marks is 36.

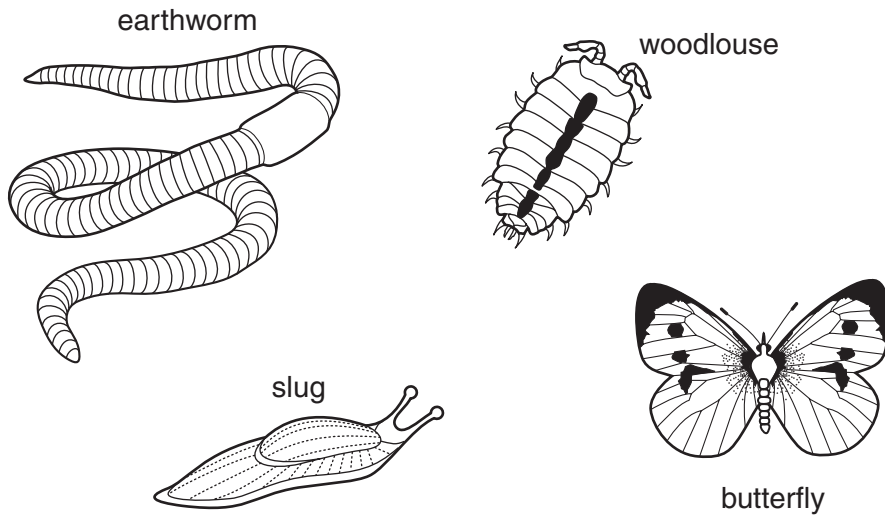
FOR EXAMINER'S USE		
		Mark
TOTAL	36	

This document consists of **12** printed pages.

Answer **all** the questions.

1 The place where animals live is called a habitat.

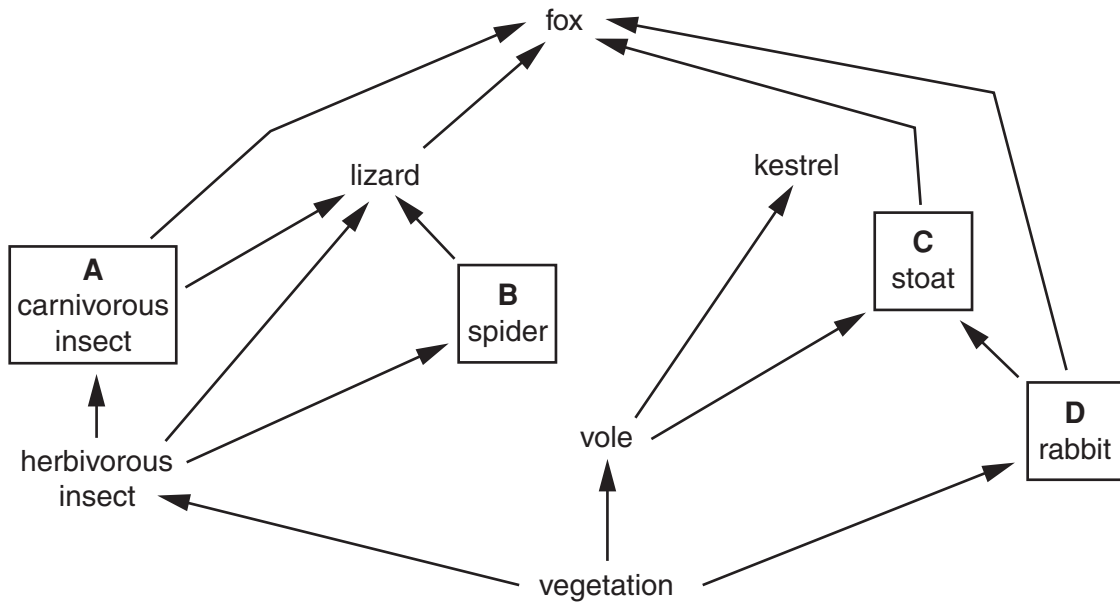
The diagram shows animals, some of which live in the soil.



Which **three** of these animals could have the soil as their habitat?

- 1
- 2
- 3 [1]

2 The diagram shows a food web.



Which labelled organism, **A**, **B**, **C** or **D**, is a herbivore? [1]

3 Agricultural activities can sometimes cause pollution.

Pollution can be classed as:

air pollution

noise pollution

visual pollution

water pollution

Which type of pollution is caused by each of these agricultural activities? Choose your answers from the list.

cockerels crowing in the early morning

tractors producing diesel fumes[2]

4 Which **one** of the following is the main cause of **chemical** weathering of rocks?

- A acid rain
- B fast flowing rivers
- C water freezing in cracked rocks
- D wind blown sand

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

5 The photograph shows weeds growing in a crop.



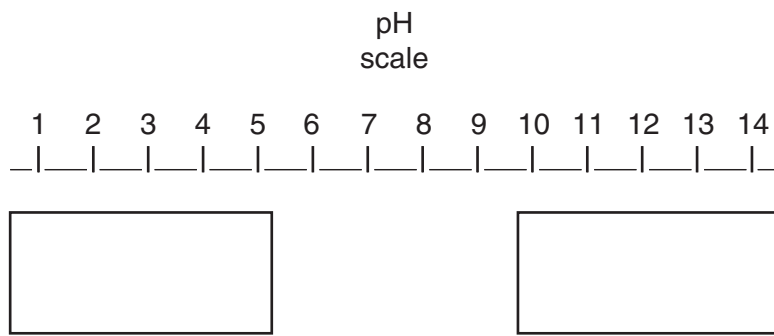
© Eastleach Downs Organic Farm

Which statement is correct for **all** weeds growing in crops?

- A They attract pests to the crop.
- B They compete with the crop for water.
- C They kill the crop.
- D They provide nutrients for the crop.

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

6 The diagram shows a pH scale.



Choose **two** words from the list.

Write them into the correct boxes next to the pH scale

acidic

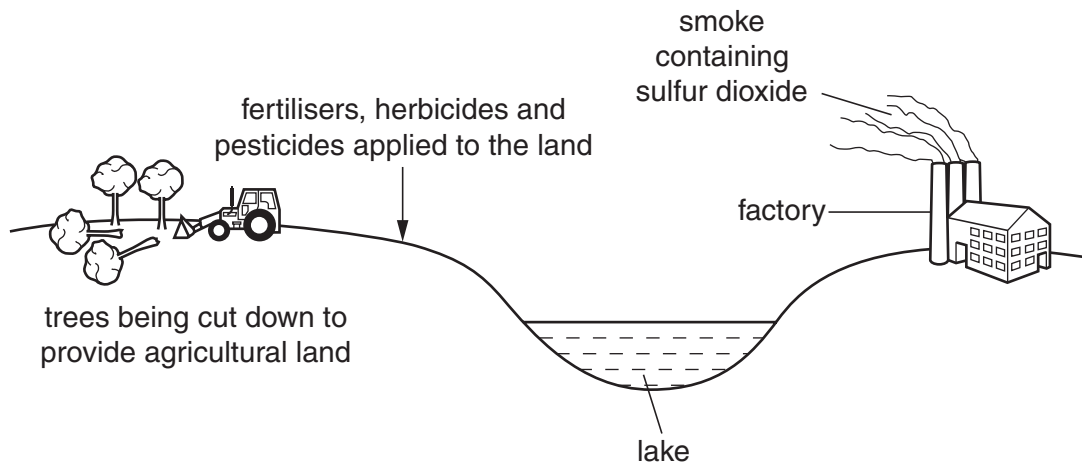
alkaline

neutral

positive

[2]

- 7 The diagram shows an area being developed for agriculture and for industry.



Which **one** of the following is most likely to cause an increase in plant growth?

- A fertilisers
- B herbicides
- C pesticides
- D smoke

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

- 8 A green belt is an area around towns where building is restricted to protect the environment from urban development.

Who can overturn these restrictions?

- A the county council
- B the government
- C the local council
- D the parish council

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

9 The picture shows a tractor that is in use on farms today.

Farm machinery is larger and more powerful than it was 20 years ago.



© OCR

(a) Give **two** reasons why farmers choose to use larger and more powerful machinery.

Reason 1

.....

.....

Reason 2

.....

..... [2]

(b) The use of heavy machinery has an impact on the environment.

Describe **two** possible effects that the use of heavy machinery might have on the soil.

.....

.....

.....

..... [2]

10 The photograph shows a student carrying some equipment.



© OCR

(a) What is most dangerous about the way she is carrying the box?

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

(b) Suggest how she can move the box more safely.

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

(c) The photograph shows the student about to pick up a heavy basket.



© OCR

Describe what is wrong with the way the student is planning to pick up the basket.

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

11 The photograph shows a plant with broad leaves growing amongst plants with narrow leaves.



© OCR

Explain why some herbicides (weedkillers) work better on plants with broad leaves.

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

12 The picture shows a polytunnel.



© OCR

The internal environment of a polytunnel can be controlled automatically.

Name **two** pieces of equipment used to control the internal environment.

Describe how each would help plants grow better.

Equipment name

Plants grow better because:

.....

Equipment name

Plants grow better because:

..... [2]

13 The picture shows two students doing field work on a rocky seashore in summer.



© OCR

Suggest **two** possible hazards when doing field work on a rocky shore in summer.

Hazard 1

Hazard 2 [2]

14 'Rootmore' is an organic product that helps plant growth.

It contains a fungus which lives in the roots and acts as extra root hairs.

The table shows the results of an experiment on leeks using 'Rootmore'.

	untreated leeks	leeks treated with 'Rootmore'	percentage difference (%)
average length (cm)	13.1	14.7	+12
average circumference (cm)	6.5	8.1	
average mass (g)	137.0	163.0	+19

(a) Look at the table.

What is the percentage difference in the **average mass** at harvest?.....[1]

(b) What effect does 'Rootmore' have on the leek crop?

.....
 [1]

(c) Suggest **two** factors that should be controlled to help make the experiment a fair test.

1

2 [2]

(d) Why is 'Rootmore' classed as organic?

.....

..... [1]

(e) Calculate the missing percentage difference of the **circumference** at harvest.

Choose the correct answer from the list below.

A 2.5%

B 14.6%

C 24.6%

D 124.6%

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

15 Monoculture is a way of growing crops.



© iStockphoto / Furchin

Describe what is meant by **monoculture**.

.....

.....

..... [2]

16 State the advantages and disadvantages of keeping animals in livestock houses.

Advantages

.....

.....

Disadvantages

.....

..... [3]

17 Scientists have produced strains of GM (genetically modified) crop plants.

(a) How do **genetically modified** crops differ from traditional crops?

.....

.....

..... [2]

(b) Describe **one** environmental concern that people have about growing GM crops.

.....

.....

..... [1]

END OF QUESTION PAPER

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