



General Certificate of Secondary Education
2018

Centre Number

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Candidate Number

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Agriculture and Land Use

Unit 1
Soils, Crops and Habitats



GAL11

[GAL11]

TUESDAY 29 MAY, MORNING

TIME

1 hour 15 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all eight** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 75.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Questions **6** and **8**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
Total Marks	

A black and white photograph of a Black-bellied Plover standing in a grassy field. The bird has a distinctive crest of feathers on its head, a dark cap, and a dark breast band. It is facing left.

A close-up photograph of a small bird, likely a yellowthroat or similar species, perched on a thin, dark branch. The bird has a bright yellow head and throat, with a black stripe through its eye. Its back and wings are brown with distinct dark streaks. The bird is facing right, and the background is a soft, out-of-focus mix of green and brown, suggesting a natural habitat.

Red kite

Examiner Only	
Marks	Remark

[1]

(c) Name a suitable habitat for a barn owl.

 [1]

Examiner Only	
Marks	Remark

- 2 (a) The pie chart below shows the relative proportions of the main components of soil.

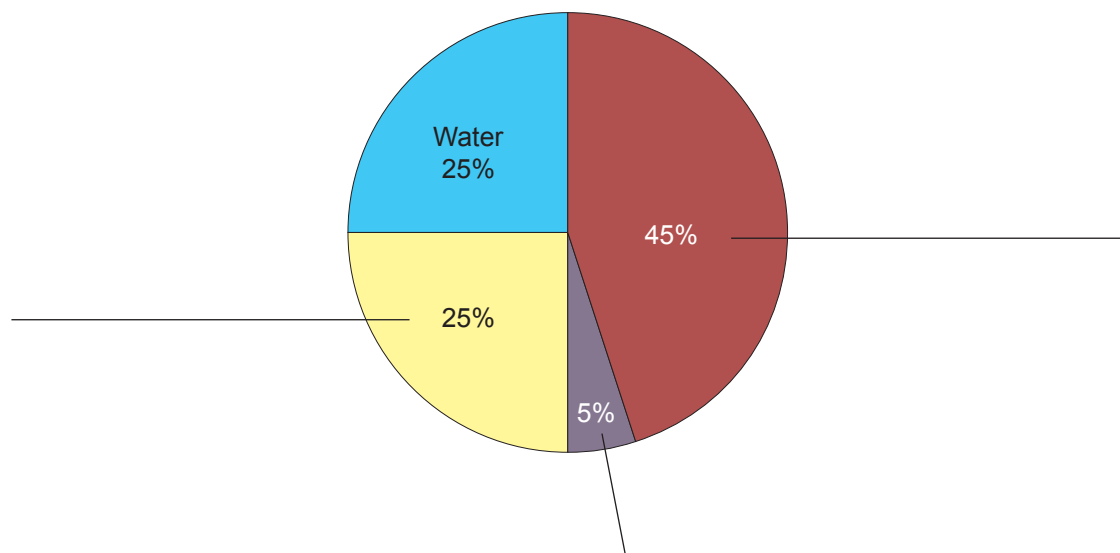
Choose words from the list to label the pie chart.

Organic matter

Rock particles

Nitrates

Air



Source: Chief Examiner

[3]

- (b) A sample of dry soil was passed through soil sieves. The results are shown below.

Particle type	Mass/g	Percentage (%) mass
Sand	11.4	_____
Silt	5.2	_____
Clay	3.4	17
Total mass _____		

- (i) Calculate the total mass of the soil.

_____ g [1]

(i) State the other **two** conditions required for germination to occur.

2. _____

[2]

(ii) The stages of germination are listed below.

- A Plumule emerges
- B Development of root hairs
- C Radicle emerges
- D Seed absorbs water
- E First true leaves emerge

Place these stages in order. The **third** one has been done for you.

B

[2]

(iii) Seeds must be planted at the correct depth in the soil.

Suggest **two** reasons why seeds **not** sown at the correct depth may die.

[2]

[2]

Examiner Only	
Marks	Remark



(a) List **two** other common weeds.

1. _____

2. _____ [2]

(b) Explain what is meant by a biennial plant.

[1]

Examiner Only	
Marks	Remark

- 5 The boxes below describe the symptoms of plants with different mineral deficiencies.

- (a) Draw a line to link the symptoms of the plant with the mineral it is deficient in.

Purple leaves and
a poor root system

Stunted plant
growth and yellow
leaves

Yellow leaves
with dead spots
and poor fruit
development

Nitrogen (N)

Phosphate (P)

Carbon (C)

Potassium (K)

[3]

- (b) Choosing the correct fertiliser and sowing it at the correct amount is very important.

- (i) What is the job title of a person who advises farmers on fertiliser use?

_____ [1]

- (ii) Describe **two** disadvantages of not sowing the correct amount of fertiliser.

1. _____

2. _____

_____ [2]

Examiner Only

Marks

Remark

(a) (i) Name an energy crop.

 [1]

(ii) Discuss the factors which can affect the choice of energy crop grown.

In your answer you should include:

- **two** features of a suitable location for your named crop
- **three** advantages and **three** disadvantages of growing this crop

In this question you will be assessed on your written communication skills including the use of specialist terms.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark



(a) Outline a method to estimate the amount of grass in a field.

[3]

(b) Suggest **two** reasons why a farmer would want to estimate the amount of grass in a field.

1. _____
2. _____

Examiner Only	
Marks	Remark

Discuss the methods farmers could use to improve biodiversity on their farms.

- **three** ways to improve biodiversity
- **three** advantages and **two** disadvantages of increasing biodiversity

In this question you will be assessed on your written communication skills including the use of specialist terms.

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[Turn over

[9]

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