

New Specification



Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--

General Certificate of Secondary Education

Agriculture and Land Use

Unit 1
Soils, Crops and Habitats



[GAU11] Assessment

TIME

1 hour 15 minutes.

Assessment Level of Control:

Tick the relevant box (✓)

Controlled Conditions	
Other	

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 nine** 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 **7** and **9**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	

Total Marks	
--------------------	--

Examiner Only	
Marks	Remark

1 (a) The photographs below show four types of farm machinery.

Draw a **line** to match the photograph to each farm machine.



© Getty Images

Disc harrow



© Getty Images

Plough



© Getty Images

Seed drill



© Getty Images

Chain harrow

Roller

[4]

(b) The stages of preparing the ground for growing a new crop are shown in the photographs above. Place these photographs in the correct order using the letters **A**, **B**, **C** and **D**.

_____ [2]

3 Potatoes provide over £20 million per year to the Northern Ireland economy. Potatoes can be classified into one of three groups, **first earlies**, **second earlies** and **main crop potatoes**.

(a) Jill wants to produce a crop of first earlies which will be planted in early spring and ready for harvesting in early summer. The time it takes the seed potato to grow to a potato plant ready for harvesting can be affected by many factors, such as soil type.

(i) What soil type would be best suited to growing an early potato crop?

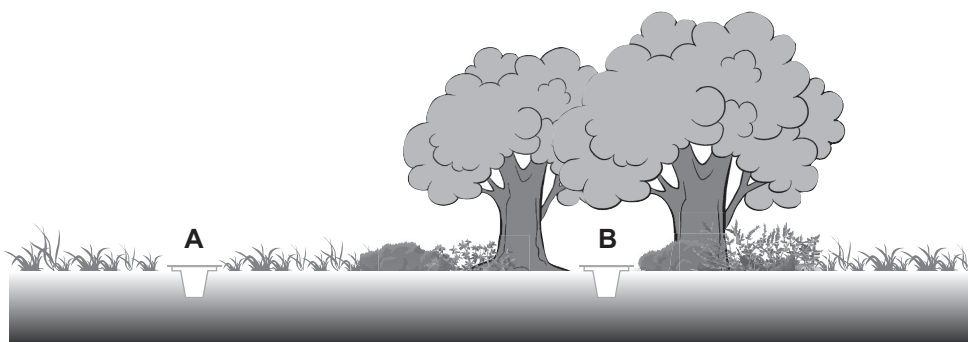
Soil Type _____ [1]

(ii) Describe and explain why you have chosen this soil type.

_____ [2]

Examiner Only	
Marks	Remark

- 4 A group of students carried out an investigation to compare the biodiversity of two different areas in their school grounds. They placed pitfall trap A in one area and pitfall trap B in another area. The diagram shows the locations of both pitfall traps.



© CCEA

- (a) The number of invertebrates in each pitfall trap was counted each day for five days. The results are shown in the table below.

Day	Number of invertebrates found	
	Pitfall trap A	Pitfall trap B
1	13	27
2	7	16
3	21	35
4	14	22
5	20	30
Average	_____	26

- (i) Calculate the average number of invertebrates collected in pitfall trap A over the five days. Write your answer into the table above.

Show your working.

[2]

- (ii) Suggest **one** reason why there were more invertebrates collected in pitfall trap B than pitfall trap A.

_____ [1]

(iii) Describe **two** factors students should have kept the same to ensure a fair test.

1. _____

2. _____

[2]

(b) (i) What else could have been recorded in the **same** investigation to help students measure the biodiversity of the two different areas?

_____ [1]

(ii) Describe **one** way the students could have improved the reliability of their investigation.

_____ [1]

(iii) What is the job title of someone who carries out biodiversity investigations?

_____ [1]

(c) Describe **two** ways in which the biodiversity in your school grounds could be improved.

1. _____

2. _____

_____ [2]

Examiner Only

Marks

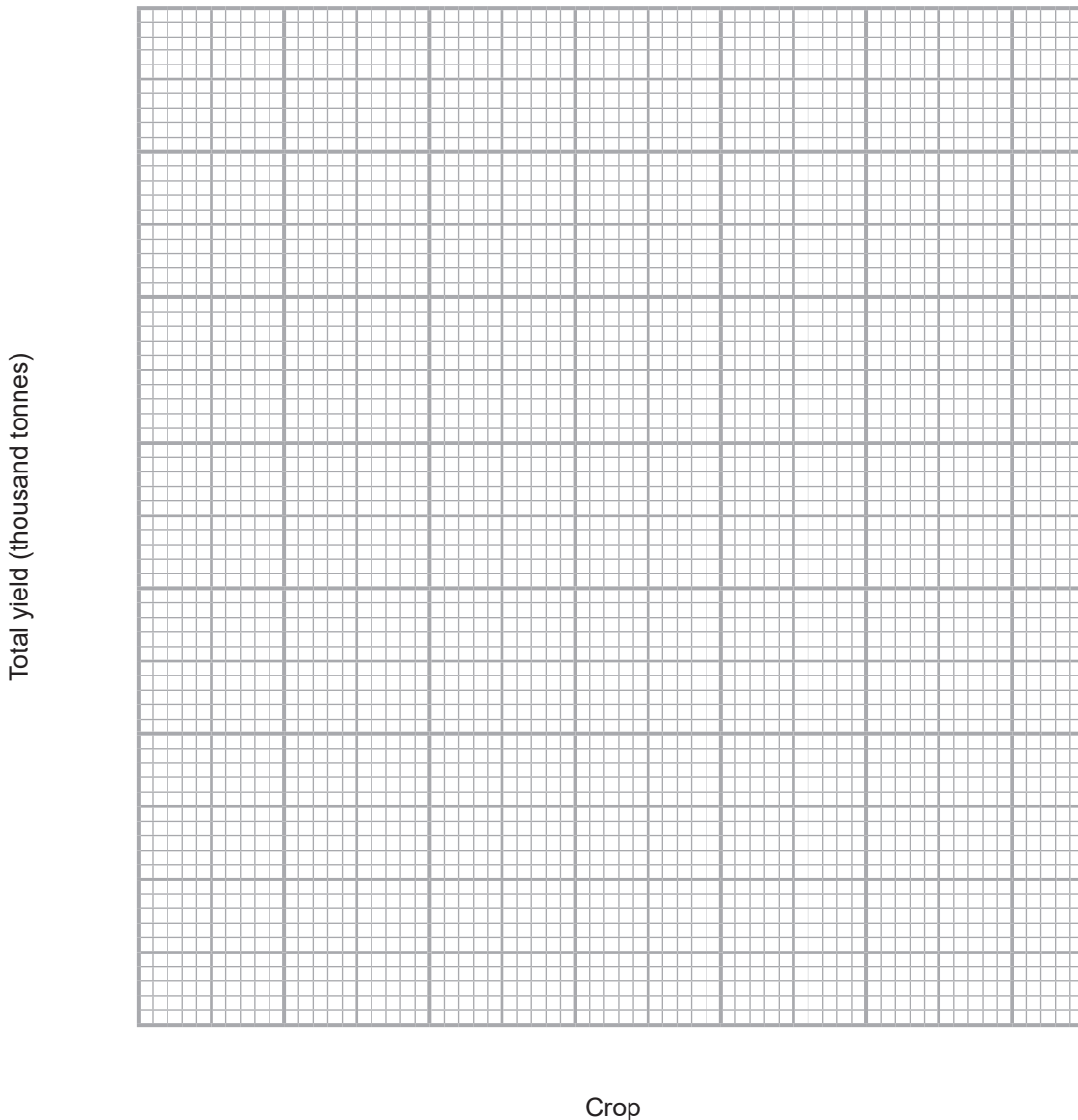
Remark

- 5 Grass is the most common crop in Northern Ireland but many other crops can also be grown successfully.

The total yield of four common crops grown in Northern Ireland is shown in the table below.

Crop	Total yield (thousand tonnes)
Potatoes	130
Oats	12
Wheat	60
Barley	125

- (a) Using the grid provided below, plot a bar chart of **Total yield** versus **Crop**. Choose a suitable scale and include labels on the bars.



[4]

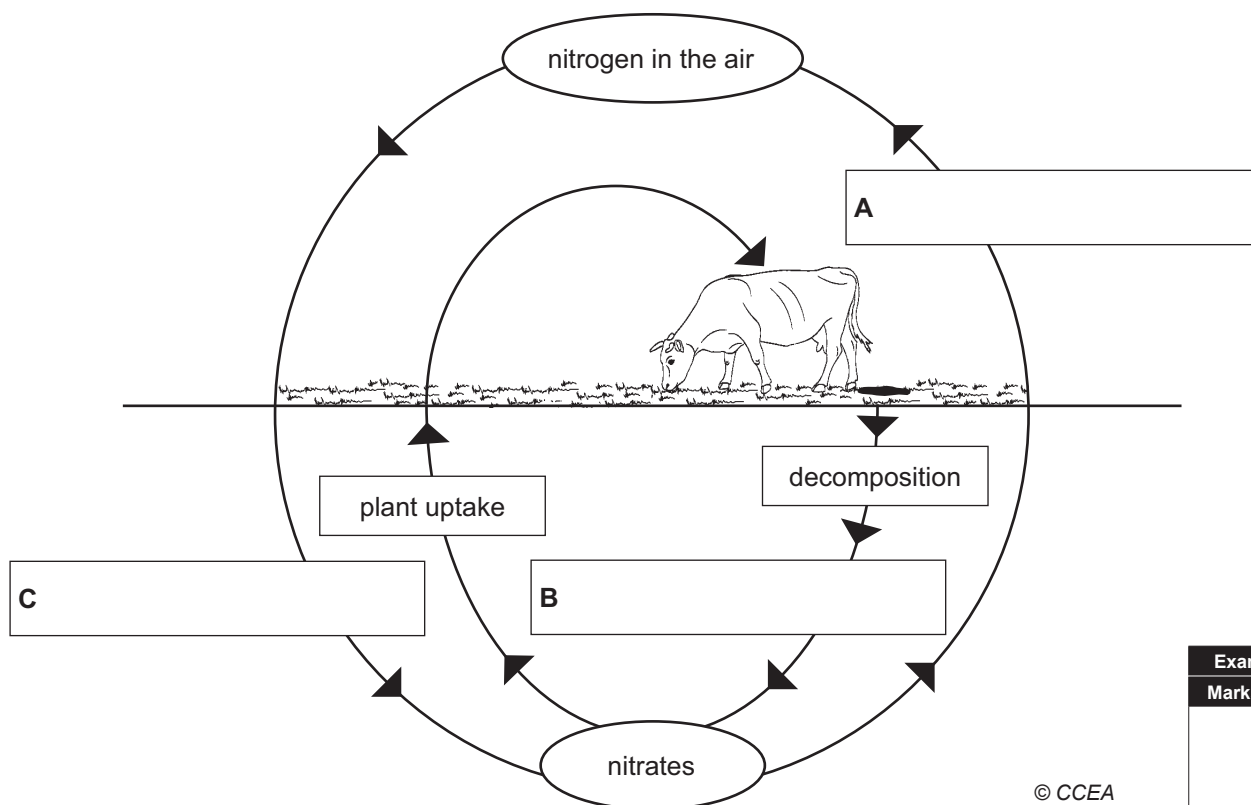
Examiner Only	
Marks	Remark

6 Nitrogen is needed by all living things. Plants use nitrogen in the form of nitrates.

(a) A simplified diagram of the nitrogen cycle is shown below.

(i) Label the processes **A**, **B** and **C** in the diagram using the words from the list below.

- | | | |
|--------------------------|------------------------|--------------------|
| Assimilation | Nitrification | Respiration |
| Nitrogen fixation | Denitrification | |



© CCEA

[3]

(ii) What type of organism carries out the processes **A**, **B** and **C**?

_____ [1]

Examiner Only	
Marks	Remark

8 (a) (i) Using your knowledge, complete the sentence below.

DAERA is an acronym for the **Department of Agriculture,**

_____ and _____ **Affairs.** [2]

(ii) Describe **two** ways that DAERA helps farmers.

1. _____

2. _____

_____ [2]

(b) Name one other agency which helps the environment.

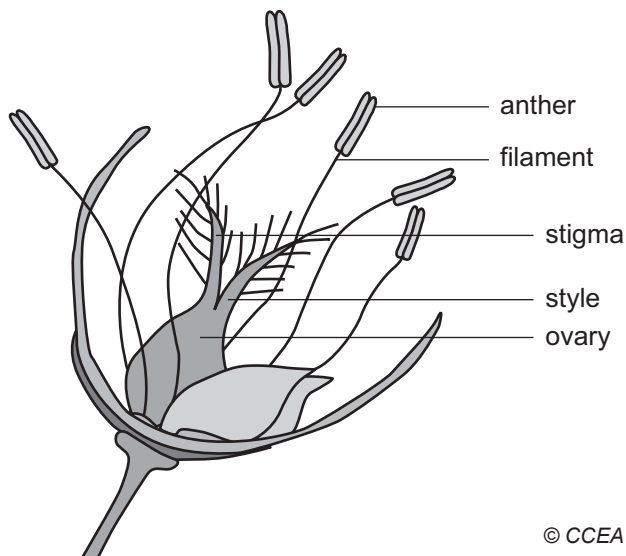
_____ [1]

Examiner Only	
Marks	Remark

BLANK PAGE

(Questions continue overleaf)

9 A diagram of a wheat flower is shown below.



Use the diagram to help describe the differences between a wheat flower and an insect-pollinated flower. Describe the process of pollination in a wheat flower and give the conditions needed for seed germination.

In your answer you should include:

- at least **three** differences between a wheat flower and an insect-pollinated flower
- a description of the pollination process in a wheat flower
- **two** conditions needed for the new seed to germinate

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

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER

Permission to reproduce all copyright material has been applied for.
In some cases, efforts to contact copyright holders may have been unsuccessful and CCEA
will be happy to rectify any omissions of acknowledgement in future if notified.