



Rewarding Learning

General Certificate of Secondary Education  
2018

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--

# Agriculture and Land Use

Unit 2  
Animals on the Land



GAR21

[GAR21]

THURSDAY 7 JUNE, AFTERNOON

## 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 nine** questions.

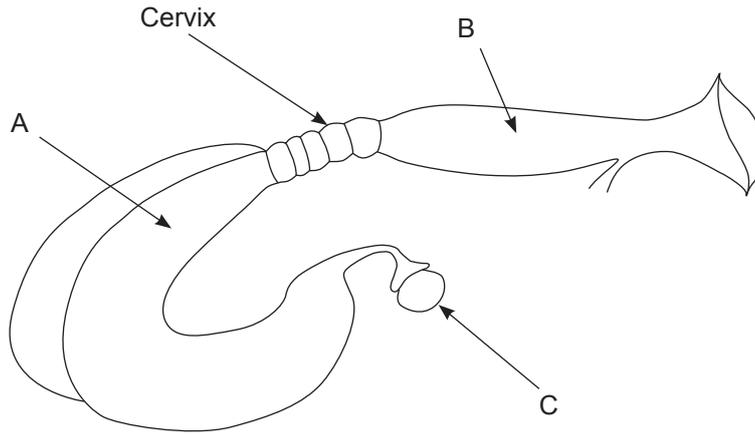
## INFORMATION FOR CANDIDATES

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	
<b>Total Marks</b>	

1 (a) The diagram below shows the reproductive system of a sheep.



© CCEA

(i) Identify the parts labelled A, B and C.

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

[3]

(ii) Place an 'I' where insemination would occur.

[1]

(iii) Place an 'F' where fertilisation is most likely to occur.

[1]

(b) Natural fertilisation is the most common method used in agriculture.

Give **two** reasons why a farmer might choose to use natural fertilisation.

1. \_\_\_\_\_

2. \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark



2 The UK poultry industry produces more than 10,000 million eggs per year.



©therry/iStock/Thinkstock

(a) (i) Egg laying is affected by many factors such as breed.

Give **three** other factors that could affect egg laying.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_ [3]

(ii) How many eggs would you expect a commercial layer to lay in **one** year?

\_\_\_\_\_ [1]

(b) In a hatchery eggs have to be incubated for 21 days at a constant heat to encourage hatching.

State **two** other conditions needed for incubation.

1. \_\_\_\_\_
2. \_\_\_\_\_ [2]

Examiner Only

Marks Remark

3 Disease control is an important part of any farming enterprise.

(a) (i) Complete the table below of common diseases and symptoms for each type of animal.

Animal	Disease	Symptom
Cattle		clots in milk
Pigs		difficulty in breathing
Poultry		

[4]

(ii) Name **two** diseases found in cattle that are routinely tested for by DAERA.

1. \_\_\_\_\_

2. \_\_\_\_\_ [2]

(b) Good biosecurity is important in helping to prevent the spread of disease in the poultry industry.

State **three** ways to ensure good biosecurity in a poultry unit.

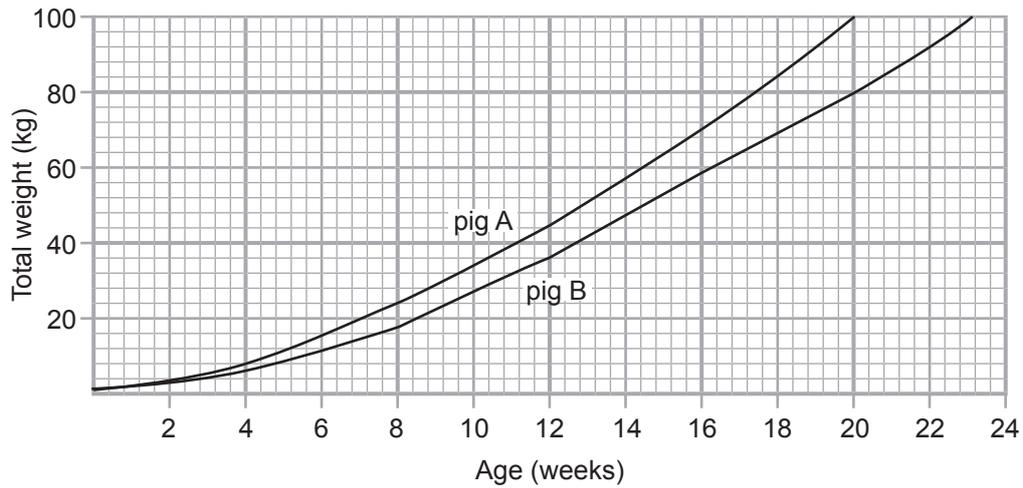
1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_ [3]

Examiner Only	
Marks	Remark

4 The graph below shows the weight of two pigs over a 24 week period.



(i) Describe the trends shown in the graph by pig A and pig B.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [2]

(ii) Calculate the difference in total weight of pig A and pig B at 20 weeks.

Show your working.

\_\_\_\_\_ kg [2]

(iii) Suggest **two** reasons why there is a difference at 20 weeks between the total weight gained by pig A and pig B.

1. \_\_\_\_\_

2. \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark

5 European Union Directives ensure the correct disposal of farm waste.

Slurry is one type of farm waste.

(a) (i) Name **two** other types of farm waste.

1. \_\_\_\_\_

2. \_\_\_\_\_ [2]

(ii) Name **two** methods of slurry application.

1. \_\_\_\_\_

2. \_\_\_\_\_ [2]

(iii) The application of slurry close to waterways can cause eutrophication and loss of aquatic life.

Explain how eutrophication occurs and its consequences after the slurry is applied on the land.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [3]

(b) Reed beds can be used to clean dirty water from farmyards.

(i) Give **one** advantage of using reed beds to clean dirty water.

\_\_\_\_\_ [1]

(ii) Give **one** disadvantage of using reed beds to clean dirty water.

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark



**BLANK PAGE**  
**(Questions continue overleaf)**



---

---

---

---

[9]

Examiner Only	
Marks	Remark

- 8 (a) (i) Animals are fed a range of feed types depending on their nutritional needs.

Place a tick (✓) in the box that best describes each feed type.

Feed type	Forage	Roughage	Concentrate
Straw			
Oats			
Silage			

[3]

- (ii) Feeds have different energy values.

Place the following feeds in order of their energy value, starting with the highest value.

	Straw	Meal	Haylage
Highest	1	_____	
	2	_____	
Lowest	3	_____	

[2]

- (b) A ewe requires 5 kg of dry matter (DM) per day.  
How much silage would the ewe need to eat each day if the silage has a DM of 25%?

Show your working.

\_\_\_\_\_ kg [2]

(c) Concentrate fed cattle are becoming more common in the beef industry.

Give **two** disadvantages of feeding higher levels of concentrate.

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark



---

---

---

---

[9]

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.