



Rewarding Learning

General Certificate of Secondary Education
2019

Centre Number

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Candidate Number

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Agriculture and Land Use

Unit 2
Animals on the Land



GAR21

[GAR21]

FRIDAY 21 JUNE, 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 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(b).

For Examiner's use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	

Total Marks	
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2 The gestation period is the length of time a pregnancy lasts.

(a) The gestation period in cows is approximately nine months or 283 days.

State the gestation period for sheep and pigs.

Sheep _____

Pigs _____ [2]

(b) Farmers can get injured when working with animals.

The photograph below shows a pen of rams.



© PhotoJunction / iStock / Getty Images

State **two** precautions that the farmer should take to protect himself, when working with rams.

1. _____

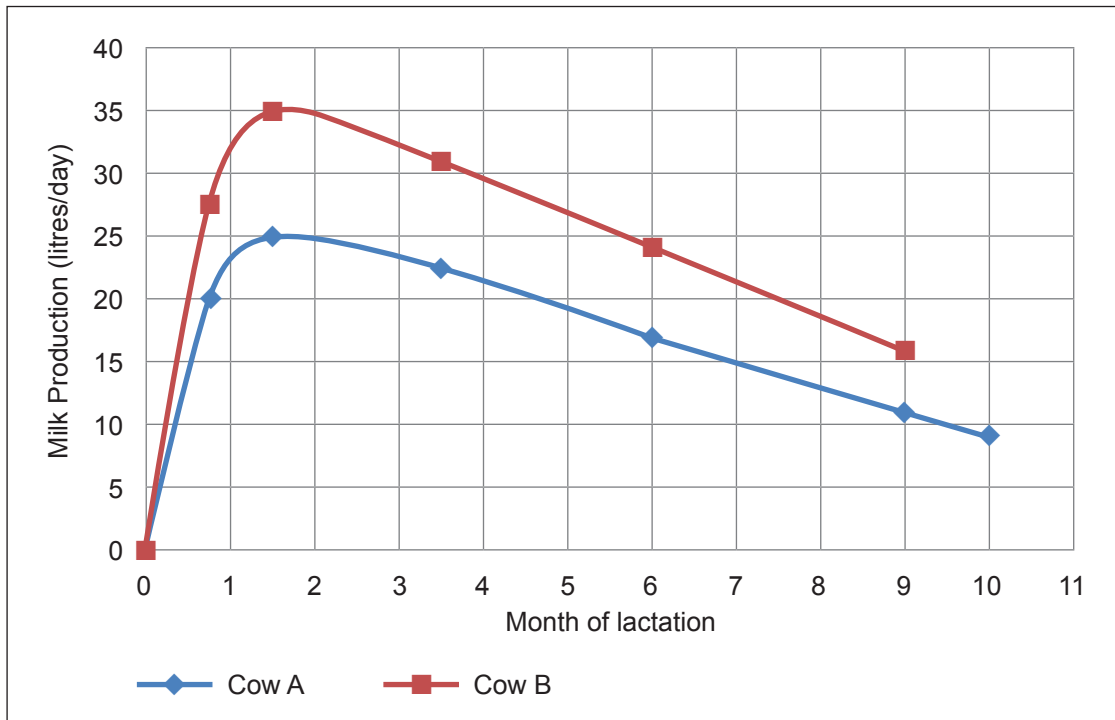
2. _____ [2]

Examiner Only

Marks Remark

3 (a) The graph below shows the lactation curves for cow **A** and cow **B**.

Examiner Only	
Marks	Remark



(i) What is the length of the lactation period for cow **A**?
 _____ months [1]

(ii) Which cow, **A** or **B**, produces the most milk over the entire lactation?
 _____ [1]

(iii) At peak production, how much more milk does cow **B** produce than cow **A**?
Show your working.
 _____ litres/day [1]

(c) Spreading slurry and making silage are tasks which a farmer may employ a contractor to carry out. Give **two** reasons why a farmer would use contractors for these tasks.

1. _____

2. _____

[2]

Examiner Only

Marks Remark

5 (a) Anaerobic digestion is one way that energy can be produced on farms.

(i) Suggest **two** advantages of producing energy from anaerobic digestion.

1. _____

2. _____ [2]

(ii) Intensive farms produce large quantities of slurry.

Describe **two** ways farmers can reduce pollution when spreading slurry in the field.

1. _____

2. _____ [2]

(iii) What does the term BOD stand for?

_____ [1]

(b) Indicator species are used to assess the level of water pollution.

(i) Name **one** indicator species commonly found in polluted water.

_____ [1]

(ii) Name **one** indicator species commonly found in unpolluted water.

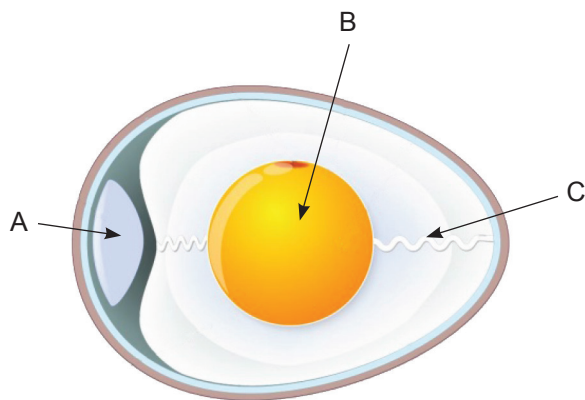
_____ [1]

Examiner Only

Marks

Remark

6 The diagram below shows a section through a fertilised chicken egg.



© ttsz / iStockphoto / Getty Images

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

A _____

B _____

C _____

[3]

(b) A chicken has an avian digestive system, while a cow has a ruminant digestive system.

(i) What type of digestive system does a pig have?

_____ [1]

(ii) The abomasum is one part of the cow's four part stomach system.

Name **two** other parts of the cow's stomach.

1. _____

2. _____ [2]

Examiner Only

Marks Remark

8 Technology is an important part of modern farming. Below is a list of four technologies.

pedometer

robotic milker

automatic calf feeder

embryo transfer

For **two** of the technologies named above, explain how they work and give **one** advantage of each.

Technology _____

How it works _____

_____ [2]

Advantage _____

_____ [1]

Technology _____

How it works _____

_____ [2]

Advantage _____

_____ [1]

Examiner Only

Marks

Remark

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(Questions continue overleaf)

THIS IS THE END OF THE QUESTION PAPER

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