

General Certificate of Secondary Education 2014

Ce	ntre Number
71	
Can	didate Number

Agriculture and Land Use

Unit 2

Animals on the Land

[GAL21]

FRIDAY 13 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 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 Exa	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	

Total	
Marks	

1 Farmers need to check on their animals every day to make sure that they are healthy and well cared for.

Examin	er Only
Marks	Remark

(a) (Circle) two characteristics of a healthy animal from the list below:

scour glossy coat dull coat interested in food lame

[2]

Farmers can get injured when working with animals if they are not careful.



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(b)	A farmer wants to check a pen of cattle.
	State three things that the farmer should do to prevent injury.

1			

2.	

2

(c) Farms can be dangerous places to work. Farmers can reduce danger by carrying out risk assessments.

Examin	er Only
Marks	Remark



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_ [2]

Read the information about spraying crops in the box below and answer the questions that follow.

During the growing season, farmers often spray crops to control weeds and diseases. Some of these chemicals are harmful. They can burn skin. Fumes can cause breathing problems.

REMEMBER: A **hazard** causes a risk, and a **risk** is how a hazard causes harm.

(i) State **one** hazard.

()		[1]
(ii)	Give two risks.	
	1	

(iii) How can **one** of these risks be reduced?

	ach animal to its typical gestation period.
Animal	Gestation period
pig	9 months
	5 months
sheep	
	3 months, 3 weeks, 3 days
cow	1 month, 1 week, 1 day
	[3]
methods are used on f Two fertilisation metho Insemination (AI) and	ds used with farm animals are Artificial
Artificial Insen	nination

	(ii)	Embryo transfer is expensive. Why would a farmer choose this fertilisation method?	Examine Marks	er Only Remark
		[1]		
	(iii)	Why is natural fertilisation the method most commonly used for hill sheep flocks?		
		[1]		
		mplete the sentences below about liver fluke.		
	Cho	pose the missing words from:		
bacte	ria	parasites reduced growth drenches		
C	rean	ns lameness sheep caged hens		
	Live	er fluke can be harmful to		
	One	e cause of liver fluke is eating grass containing		
	A sy	mptom of this disease is		
		are used to treat liver fluke. [4]		

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Deside if the estatements in the se			
Decide if the statements in the ta			
Statement	Advantage	Disadvantage	
Direct payments provide a stable ncome to farmers			
A lot of paperwork is required to eceive financial support			
Farmers who care for the environment receive more money			
			[3]
2			[2]
1			
Z			[4]

The table below shows the income and costs for two farm business areas on a mixed farm.

- (i) Complete the shaded boxes in the table below by calculating the following:
 - the total income per sheep
 - the total cost per cow
 - the profit per sheep
 - the profit per cow

	Business Area			
	Lowland sheep	Suckler cows		
	Income per sheep (£)	Income per cow (£)		
Lamb/calf sales	136	440		
Wool sales	3	0		
Total income (£)		440		

	Cost per sheep (£)	Cost per cow (£)
Straw bedding	4	48
Concentrate meal	18	154
Forage	9	58
Medicine	7	38
Casual labour	5	25
Other costs	11	15
Total cost (£)	54	

Profit (£) =		
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Give two ways that the suckler cows business area could be made more profitable.	
Explain your answers.	
1	
	[2]
2	
	[2]

(ii)

4 The photograph below shows a farmer spreading slurry.

⊏xamın	er Only
Marks	Remark

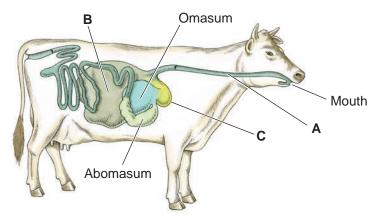
Slurry can be used as a fertiliser on the farm.



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(a)	Explain why mixing slurry can be dangerous.
	[2]
(b)	Slurry can be a source of pollution.
	Give two other sources of farm pollution.
	1
	2[2]
(c)	Nitrates from fertilisers will sometimes pass from the soil into waterways. High levels of nitrates will cause changes to water quality. This is called eutrophication .
	What happens in waterways as eutrophication occurs?
	[3]

5 (a) The diagram below shows the digestive tract of a cow.



© John Woodcock/ Thinkstock

((i)	Name	the	parts	labelled	Α.	В	and	C.
۸	,	1 101110	1110	parto	iabolioa	<i>"</i> ",		ana	•

Α	

[3]

Examiner Only

(ii) Poultry and pigs have different digestive tracts.

Sort the following named parts of the poultry and pig digestive tracts into the correct boxes.

The first one has been done for you.

oesophagus	gizzard	crop
small intestine	stomach	proventriculus

Poultry only	Poultry and Pigs	Pigs only
	oesophagus	

[5]

Farm animals have different feed requirements.

Examiner Only

Marks Remark

- **(b)** The energy and fibre content of feeds vary with the type of animal being fed.
 - (i) Name one type of animal feed that is **high** in energy and **low** in fibre.

_____ [1]

(ii) Name one type of animal feed that is **low** in energy and **high** in fibre.

_____[1]

(c) The type of feed used in organic (extensive) farming is different to the feed used in intensive farming.

Organic farming



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Intensive farmi



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Describe two other ways that organic farming is **different** to intensive farming.

1. _____

2. _____

_____[2]

Foo	mers produce different food products, including milk. od processing and preservation techniques are vital to ensure safe food h a good shelf life.	Examii Marks	ner Only Remark
•	Describe the stages of milk processing. Discuss how different methods of preserving milk are used to make a range of dairy products.		
	this question you will be assessed on your written communication lls including the use of specialist terms.		

			[9]

Examin Marks	er Only Remark

7 The table below shows **two** rations for feeding cows during winter.

Examiner Only			
Remark			

One is a maintenance ration for a dry cow. The other is a production ration for a lactating cow.



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(i) Use the figures in the table below to calculate the total **Dry Matter Intake (DMI)** of each ration in kg/animal/day.
Write your answers in the shaded boxes in this table.

	Ration A	Ration B
Feed type	DMI (kg/animal/day)	DMI (kg/animal/day)
grass silage	15	10
concentrate meal	5	2
straw	1	4
Total DMI		

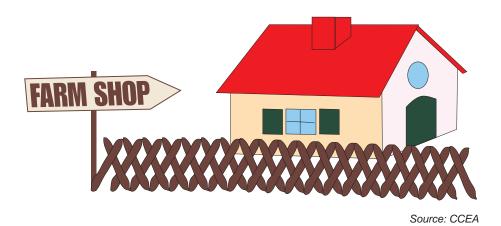
[2]

[2]

(ii)	i) Identify which ration is the production ration . Explain why this ration is better for the lactating cow in winter.			
	Ration is the production ration.	[1		
	Explanation			

8 Farm diversification usually involves a change from traditional farming into non-traditional activities on the farm.





Discuss **three** ways that farmers in Northern Ireland have diversified their farming activities.

In your answer, evaluate the benefits of these activities to **both** farmers and consumers.

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

		Examin Marks	er Only Remark
	[0]		
	_ [9]		
THIS IS THE END OF THE QUESTION PAPER			

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