

New
Specification



Rewarding Learning

General Certificate of Secondary Education

Centre Number

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Candidate Number

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Agriculture and Land Use

Unit 2
Animals on the Land

MV18

[GAU21] Assessment

Assessment Level of Control Tick the relevant box (✓)

Time

Controlled Conditions	
Other	

1 hour 15 minutes, plus your additional time allowance.

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

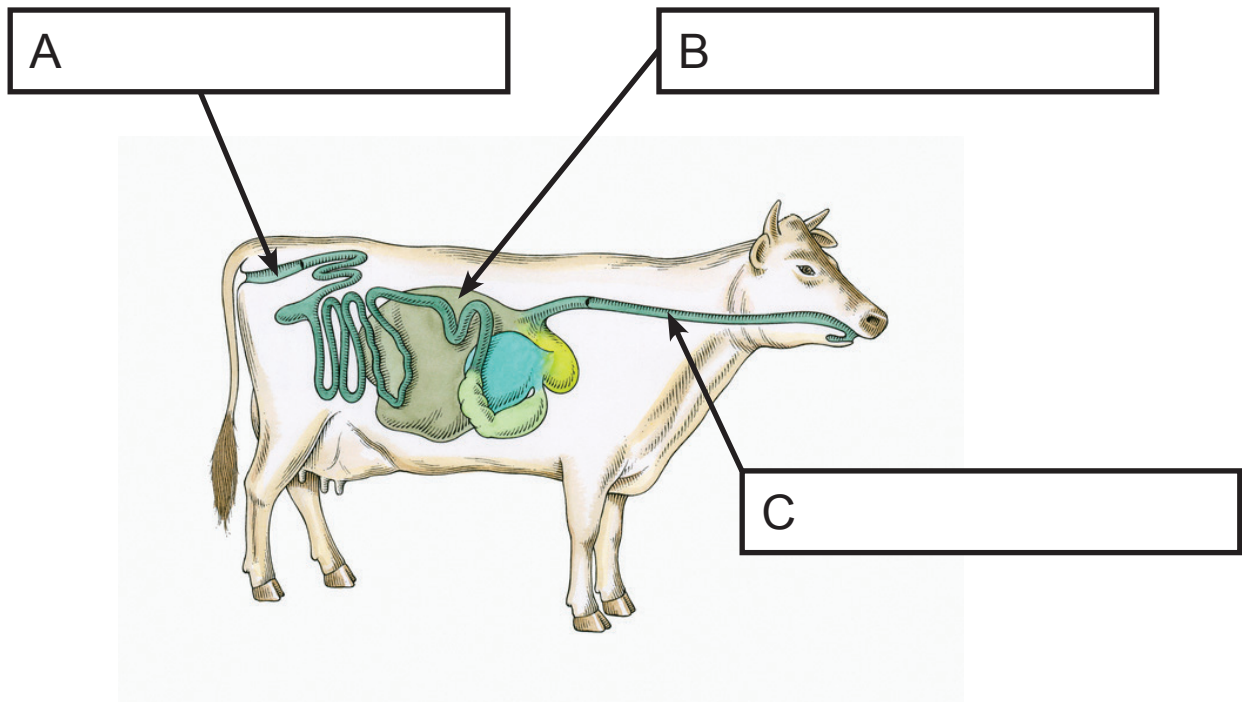
The total mark for this paper is 75.

Figures in brackets printed at the end of each question indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Questions **7** and **9**.

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1 The diagram below shows the digestive system of a cow.



(a) Name the different parts of the cow digestive system labelled A, B and C. [3 marks]
Choose words from the list below:

- caecum
- liver
- oesophagus
- reticulum
- rumen
- abomasum
- rectum

(b) Describe the function of part B. [2 marks]

2 (a) Embryo transfer is used within animal breeding programmes.

Decide if the statements about embryo transfer in the table below are true or false. [2 marks]

Place a **tick** in the correct boxes.

Statement	True	False
Embryo transfer is more expensive than natural service		
Embryos can be frozen for later use		
Embryo transfer is only possible with cattle		

(b) Artificial colostrum is sometimes used by farmers instead of natural colostrum.

(i) State **two** benefits of feeding natural colostrum to the newly born animal. [2 marks]

1. _____

2. _____

(ii) Suggest **two** reasons why farmers would use **artificial** colostrum. [2 marks]

1. _____

2. _____

On a typical dairy farm, calves are weaned off milk at around two months old.

(iii) Give **one** reason why calves are weaned off milk.
[1 mark]

3 Consumers can influence food production by their choices when purchasing food products.

(a) State **two** factors which affect consumer food choices. [2 marks]

1. _____

2. _____

(b) (i) Describe **two** ways cattle are made ready to leave the farm before going to the abattoir. [2 marks]

1. _____

2. _____

(ii) Describe how cattle are processed from when they enter the abattoir until the meat is on the supermarket shelf. [4 marks]

(c) (i) Which of the following are food preservation methods? [2 marks]
Place a **tick** in the correct boxes.

Process	Preservation Process
colouring	
freezing	
tinning	
incinerating	
drying	

(ii) Vacuum packing is another food preservation method.
Describe how it preserves food. [2 marks]

4 Animal breeds currently used in farming have resulted from selective breeding for desirable traits.

(a) Give **one** example of a commercial cattle breed and **one** example of a traditional cattle breed. [2 marks]

Commercial

Traditional

(b) Landrace is a popular choice for commercial pig breeders because of their conformation and longevity.

(i) Describe the following traits: [2 marks]

Conformation _____

Longevity _____

(ii) Suggest **two** other traits that would be selected for pig breeding stock. [2 marks]

1. _____

2. _____

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(Questions continue overleaf)

- 5 Less than 5% of pigs in the United Kingdom are reared on a free range outdoor system as shown in the picture below.



- (a) Describe **two** advantages and **two** disadvantages of free range outdoor pig production. [4 marks]

Advantages_____

Disadvantages_____

(b) Animal welfare describes the health and well-being of animals.

(i) Complete the following statements about the welfare of sheep using the words below. [4 marks]

spiders
anthelmintics
bacteria
straw
dipping
parasite
minerals

Fly strike on sheep can be prevented by _____ .

To control stomach worms, sheep are given _____ .

Sheep are given access to _____ to prevent deficiencies.

Liver fluke is a _____.

(ii) Describe **one** symptom of a sheep with liver fluke. [1 mark]

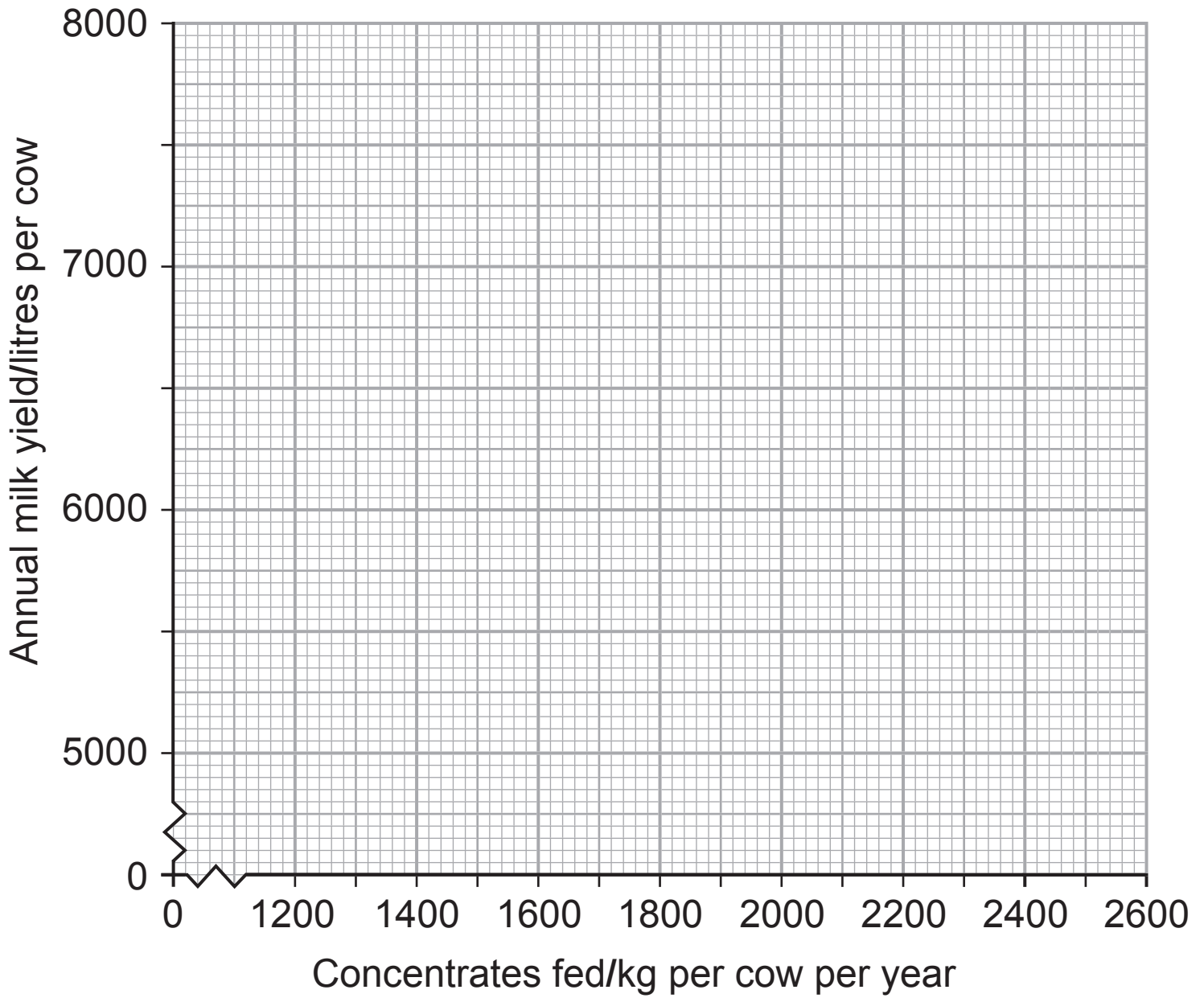
6 The level of concentrates that farmers feed to dairy herds in Northern Ireland has changed over the years.

(a) The average figures for annual milk yield and concentrates fed to dairy cows in Northern Ireland are shown in the table below.

Concentrates fed/kg per cow per year	1450	1700	2000	2500
Annual milk yield/litres per cow	6000	6750	7250	7500

(i) Using the data from the table above, plot a line graph of **Annual milk yield** against **Concentrates fed** in the graph opposite. [2 marks]

(ii) Draw a smooth curve through the points. [1 mark]



(b) (i) Describe the trend shown using data from the graph
[2 marks]

(ii) Using the graph estimate the amount of concentrate required to produce an annual milk yield of 7400 litres per cow. [1 mark]

_____ kg.

8 (a) (i) Define the terms cost and profit. [2 marks]

Cost: _____

Profit: _____

(ii) Name **one** scheme which supports farms in Northern Ireland. [1 mark]

(iii) Explain how financial support benefits farm businesses in Northern Ireland. [2 marks]

(b) (i) Complete the table below by calculating the following: [3 marks]

- total income per sow
- total costs per sow
- profit per sow

Show your working.

	Income per sow (£)
Cull sales	76
Piglet sales	220
Total income per sow	£ _____
	Costs per sow (£)
Meal	140
Supplements	19
Medicines	22
Labour	38
Other costs	11
Total costs per sow	£ _____
Profit per sow	£ _____

This farm has 200 sows.

- (ii) Calculate the total labour costs for this farm.
[1 mark]

- (iii) Suggest **one** way that the pig farm can reduce labour costs. [1 mark]

- 9 (a)** Write the name of the animal which is affected by the disease in the correct box in the table below.
[2 marks]

Choose from the following:

chicken

cow

pig

sheep

Disease	Animal
tuberculosis	
salmonella	
pneumonia	

This is the end of the question paper

SOURCES

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

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