

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
ENVIRONMENTAL AND LAND-BASED SCIENCE**

B495/02

Livestock Husbandry
(Higher Tier)

Candidates answer on the question paper
A calculator may be used for this paper

OCR Supplied Materials:
None

Other Materials Required:

- Electronic calculator
- Pencil
- Ruler (cm/mm)

**Tuesday 27 January 2009
Afternoon**

Duration: 45 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **36**.
- This document consists of **16** pages. Any blank pages are indicated.

FOR EXAMINER'S USE		
		Mark
TOTAL	36	

Answer **all** the questions.

1 Which **one** of the following should be provided as part of a production ration for a farm animal?

- A hay
- B pelleted concentrate
- C silage
- D straw

Answer **A, B, C or D** [1]

2 This animal is a purebred type of sheep.



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Purebred animals of different breeds are sometimes crossed to produce a hybrid animal.

Which one of the following is **not** going to be improved by this cross?

- A breed-type
- B disease resistance
- C hardiness
- D yield

Answer **A, B, C or D** [1]

3



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A litter of pigs had a food conversion ratio of 2.7 : 1

The average mass of the pigs was 80 kg.

Choose from the list to complete the sentence below.

29.6 kg

82.7 kg

216 kg

2160 kg

Each pig would have consumed.....to reach this mass. [1]

4 Animals need different diets at different ages.

Which one of the following nutrients would be needed in greater proportion for a newborn animal than for a fully-grown one?

A carbohydrate

B fat

C fibre

D protein

Answer **A, B, C** or **D** [1]

5 At which stage in lactation is the fat content of the milk at its highest?

- A in the first few days
- B in the first few weeks
- C towards the end of lactation
- D when milk production is at its highest

Answer **A, B, C or D** [1]

6 Which of the following is **not** likely to result from the use of genetic engineering when breeding livestock?

- A improved food conversion
- B increased growth rates
- C increased resistance to disease
- D increased variety of genotypes

Answer **A, B, C or D** [1]

7 You can catch diseases from handling animals.

You handle some animals and don't wash your hands before eating.

Which disease could you catch?

- A Foot and Mouth
- B Salmonella
- C TB
- D Tetanus

Answer **A, B, C or D** [1]

8 Embryo transfer is the removal of embryos from one animal to another of the same species.

Embryo transfer is sometimes used as a means of importing cattle from distant countries.

Which one of the following is **not** a reason for using embryos to import cattle?

- A It is better for animal welfare than transporting actual animals.
- B It is cheaper than importing adult animals.
- C It is an easy process to carry out on the farm.
- D It is less likely to bring in diseases.

Answer **A, B, C or D** [1]

9 Cattle have 60 chromosomes in their body cells.

How many chromosomes would they have in their sex cells (gametes)?

- A 15
- B 30
- C 60
- D 120

Answer **A, B, C** or **D** [1]

10 Which of the following animals should have a 'passport'?

- A cattle
- B pigs
- C poultry
- D sheep

Answer **A, B, C** or **D** [1]

11 Give two legal requirements when transporting **all** types of livestock.

1

.....

2

..... [2]

12 The photograph shows a weighing crate being prepared for use.



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A farmer wanted to weigh some pigs.

Before the pigs were weighed the scales were set at zero.

An unopened 25 kg bag of corn was placed on the scales.

Explain why the farmer carried out this procedure.

.....
..... [1]

13 Regular weighing of livestock is an important management tool.

The photograph shows students weighing piglets.



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(a) How can changes in weight be used to monitor the health of livestock?

.....
..... [1]

(b) How can monitoring the weight of the animal help maximise the profit when the animal is sold?

.....
..... [1]

14 The photograph shows equipment that can be used when foot trimming.

The animal goes inside and is held securely. The equipment can be rotated so the animal is held upside down.



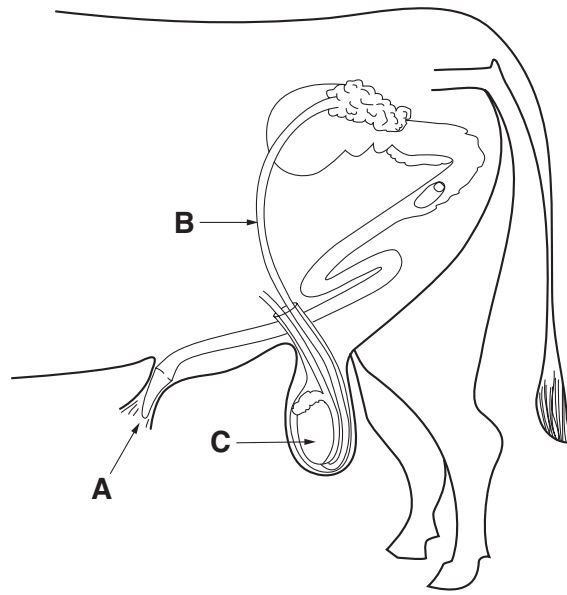
© OCR 2009

Using equipment such as this reduces the risks to the farmer and the animals when foot trimming.

Give **two** reasons why.

- 1
-
- 2
- [2]

15 This diagram shows the reproductive system of an animal.



Name the parts **A**, **B** and **C**.

For each part give a function.

A name

function

B name

function

C name

function [3]

16 The photograph shows an example of good animal housing.



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Good animal housing should provide a supply of food and water and a suitable environment.

Describe what is meant by a **suitable environment** to keep animals healthy.

What else would you need to provide to keep animals healthy?

.....

.....

.....

..... [3]

17 Dairy farmers sometimes put paint or dye on the top of their cow's tails.

The paint or dye is rubbed off when the cow is mounted by another cow (bulling).

This helps the farmer to tell when the cow is coming into season.

Why is it important when using artificial insemination (AI) to know when the cow is in season (on heat)?

.....

..... [1]

18 The picture shows a farmer and a vet with a newly born litter of pigs.



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The farmer or vet sometimes has to help with the birth of animals on the farm.

Suggest **one** reason why an animal might have problems giving birth without help.

.....
..... [1]

19 The farmer needs to check on newborn piglets.



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After a normal birth the farmer needs to carry out a health check on the newborn piglets.

Suggest **three** things the farmer would check before leaving the young animals alone with their mother.

- 1
 - 2
 - 3
- [3]

20 The photograph shows a sow with piglets in a farrowing crate.



© iStockphoto.com / Rick Whitacre

Some intensive pig producers use farrowing crates for their breeding sows.

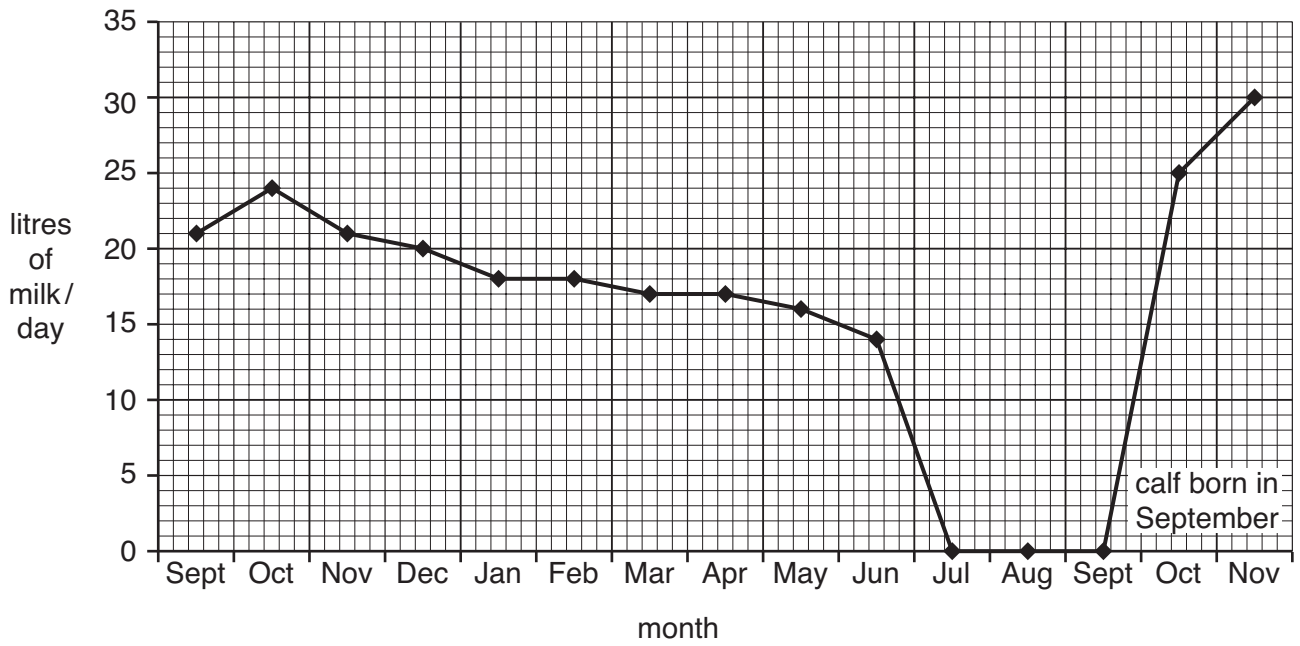
(a) Suggest why crates are considered necessary for the welfare of the piglets.

.....
..... [1]

(b) Suggest why some people object to the use of farrowing crates.

.....
..... [1]

21 The graph shows the lactation curve of a dairy cow.



(a) What is the highest monthly yield of the cow in its first lactation?

.....litres of milk/day [1]

(b) Between which months was milk production declining?

..... [1]

(c) What was the average milk yield for the first three months of the lactation?

.....litres [1]

22 The table shows the quantities of milk fed to two groups of bucket reared calves.

calf age in days	group A fed twice per day litres of milk		group B litres of milk	
	am	pm	am	pm
0–4	colostrum	colostrum	colostrum	colostrum
5	1.0	1.0	1.0	1.0
6	1.25	1.25	1.25	1.0
7	1.5	1.5	1.5	1.0
8	1.75	1.75	1.75	1.0
9	1.75	1.75	2.25	0.75
10–25	2.0	2.0	3	
26–39	1.75	1.75	3	
40	1.5	1.5	2.5	
41	1.0	1.0	1.5	
42	0.5	0.5	0.5	

- (a) At what age do the calves in group **B** go onto a single feed per day?
days [1]
- (b) At what age do the group **B** calves start to be given less milk than the group **A** calves?
 day [1]
- (c) How much less milk is given to group **B** calves than is given to the group **A** calves between days 40–42?
litres [1]

END OF QUESTION PAPER

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