

Thursday 24 May 2012 – Morning

GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE

B495/04 Livestock Husbandry (Higher Tier)

Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:

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

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, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

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 **12** pages. Any blank pages are indicated.

For Examiner's Use	
TOTAL	

Answer **all** the questions.

1 Many livestock are fed a mixture of bulk and concentrate feeds.



(a) Name one example of a bulk feed and one example of a concentrate feed.

bulk feed

concentrate feed [2]

(b) Look at this list of advantages and disadvantages of bulk and concentrate feeds.

- A** expensive
- B** cheap
- C** fills the animal up
- D** high levels of nutrients
- E** low levels of nutrients
- F** usually produced on the farm
- G** usually bought from corn merchant
- H** nutrient levels known
- I** nutrient levels uncertain

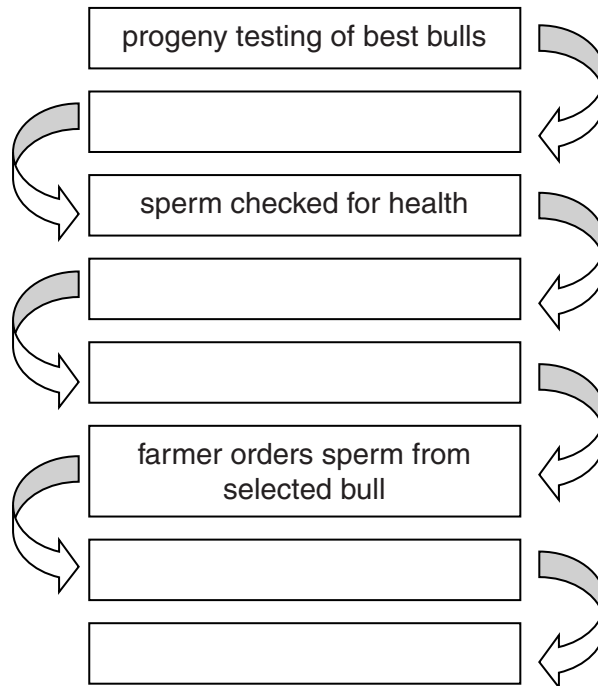
Identify **two** advantages and **two** disadvantages from this list for each type of feed.

Choose from **A, B, C, D, E, F, G, H** and **I**.

bulk feeds		concentrate feeds	
advantages	disadvantages	advantages	disadvantages
1	1	1	1
2	2	2	2

- 2 Many farmers now use AI (artificial insemination) on the farm instead of keeping a bull.

The flow chart shows the sequence of stages of the AI process.



Write the missing stages in the correct boxes in the flow chart. Choose from this list.

sperm defrosted

sperm frozen

sperm inserted in cow

sperm collected from bull

sperm diluted

[4]

3 Health problems in livestock can be caused by organisms such as parasites, fungi, bacteria and viruses.

Draw lines to connect each **disease causing organism** to a **health problem**.

disease causing organism	health problem
parasite	foot and mouth
fungi	mastitis
bacteria	ringworm
viruses	roundworm

[3]

4 (a) Which **one** of the following conditions in animals can cause food poisoning **in humans**?

- A mastitis
- B tuberculosis (TB)
- C tetanus
- D salmonella

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

(b) Suggest **one** way a farmer could reduce the chances of getting food poisoning from contact with his animals.

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

5 Here is a list of animal health problems.

- mastitis**
- tuberculosis (TB)**
- tetanus**
- salmonella**

Which type of treatment could be used for **all** these animal health problems?

..... [1]

6 These two pictures show suitable housing for pigs and for cattle.



housing for pigs



housing for cattle

The housing meets their needs.

Give **two** features of the housing of pigs and cattle which are the same and **two** features which are different.

the same

- 1
- 2

different

- 1
- 2

[4]

7 Hormones control many processes in the reproductive cycle.

Name **two** hormones involved in the reproductive cycle of female mammals.

- 1
- 2 [1]

8 Stocking density affects the performance of poultry housed indoors.

In this experiment, chicks were put into houses with different stocking densities.

The data shows the results after 82 days.

stocking density of chicks (kg/m ²)	mean body mass (g)	mean gain in body mass (g)	mass of food eaten (g)	food conversion ratio	mortality (%)
30	3162	3116	5641	1.81	3.6
35	3096	3050	5536	1.82	7.8
40	3046	3000	5549	1.85	7.5
45	2966	2920	5392	1.85	7.5
50	2842	2796	5200		7.6

(a) Calculate the food conversion ratio for a stocking density of 50 kg/m².

Answer [1]

(b) What was the mean mass of the chicks **at the start** of the experiment for a stocking density of 50 kg/m²?

Answer g [1]

(c) At which density did the birds have the most efficient food conversion ratio? Explain your answer.

.....
 [1]

(d) Describe the patterns in the data.

.....

 [3]

(e) **Explain** the relationship between stocking density and the various factors investigated in this experiment.

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.....

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.....

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.....

.....

..... [4]

9 Pig farmers who use AI (artificial insemination) often introduce a 'teaser' boar.



The boar is allowed to move around the sow stalls but not allowed to mate with the sows.

Suggest how using the 'teaser' boar might increase the chances of successfully inseminating the sows.

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

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