

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B495/02

**ENVIRONMENTAL
AND LAND-BASED SCIENCE**

**Livestock Husbandry
(Higher Tier)**

THURSDAY 4 JUNE 2009: Morning

DURATION: 45 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Electronic calculator

Pencil

Ruler (cm/mm)

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use 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.**
- **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.**

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Answer ALL the questions.

- 1 A poultry house has been designed so that it is sitting on a sled. The sled allows the house to be easily moved around the field.**

Moving the house allows the grass to recover.

Suggest TWO other advantages of being able to move the poultry house.

advantage 1 _____

advantage 2 _____

_____ **[2]**

2 Foot trimming is a regular task for the farmer.

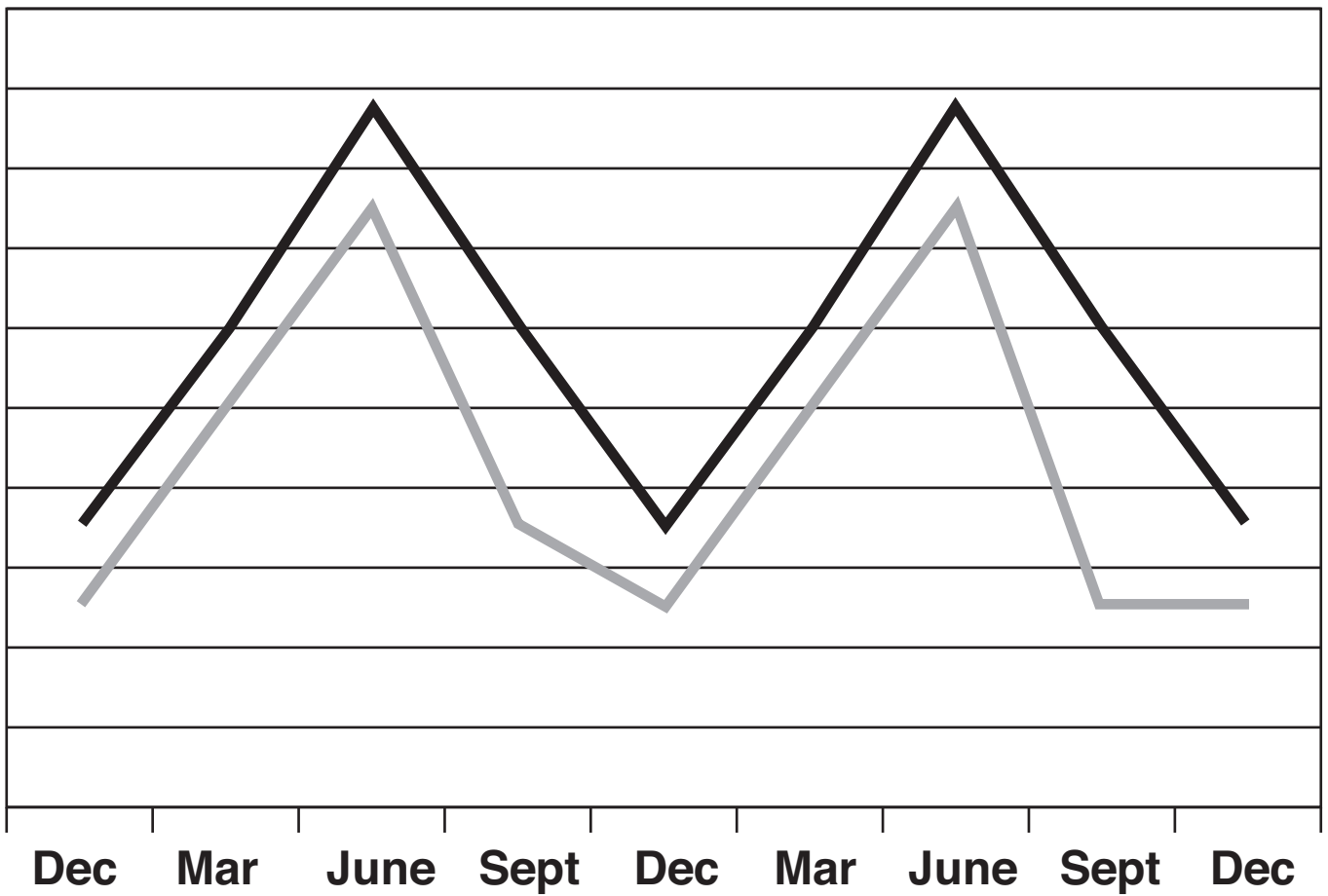
Suggest TWO problems that might occur if the farmer does not regularly trim the animals' feet.

problem 1 _____

problem 2 _____

_____ **[2]**

3 The graph shows the relationship between day length and egg production.



KEY

— day length

— egg production

Which is the correct explanation for this relationship?

- A hens lay more eggs when it is warmer**
- B more food is available in spring and summer**
- C longer days stimulate egg production**
- D the farmer had different numbers of hens at the different times of year**

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

4 A poultry shed has been provided with an alternative energy supply capable of generating electricity.

Suggest how the farmer may use this system to increase egg production in his free-range flock.

[2]

- 5 Trimming the feet of livestock could result in the farmer or animals being hurt.

Complete the risk assessment below by identifying **THREE** possible hazards and suggesting how you would control them.

<u>ACTIVITY:</u>	<u>FOOT TRIMMING</u>	
<u>DATE:</u>	<u>JUNE 2009</u>	
	<u>HAZARD</u>	<u>CONTROL MEASURE</u>

[3]

- 6 Choose the correct word from the list below to complete the following sentences.

CHROMOSOMES

GENE

GENOTYPE

MUTATIONS

PHENOTYPE

The genetic information of an animal or plant is carried by pairs of _____

located in the nucleus of the cell.

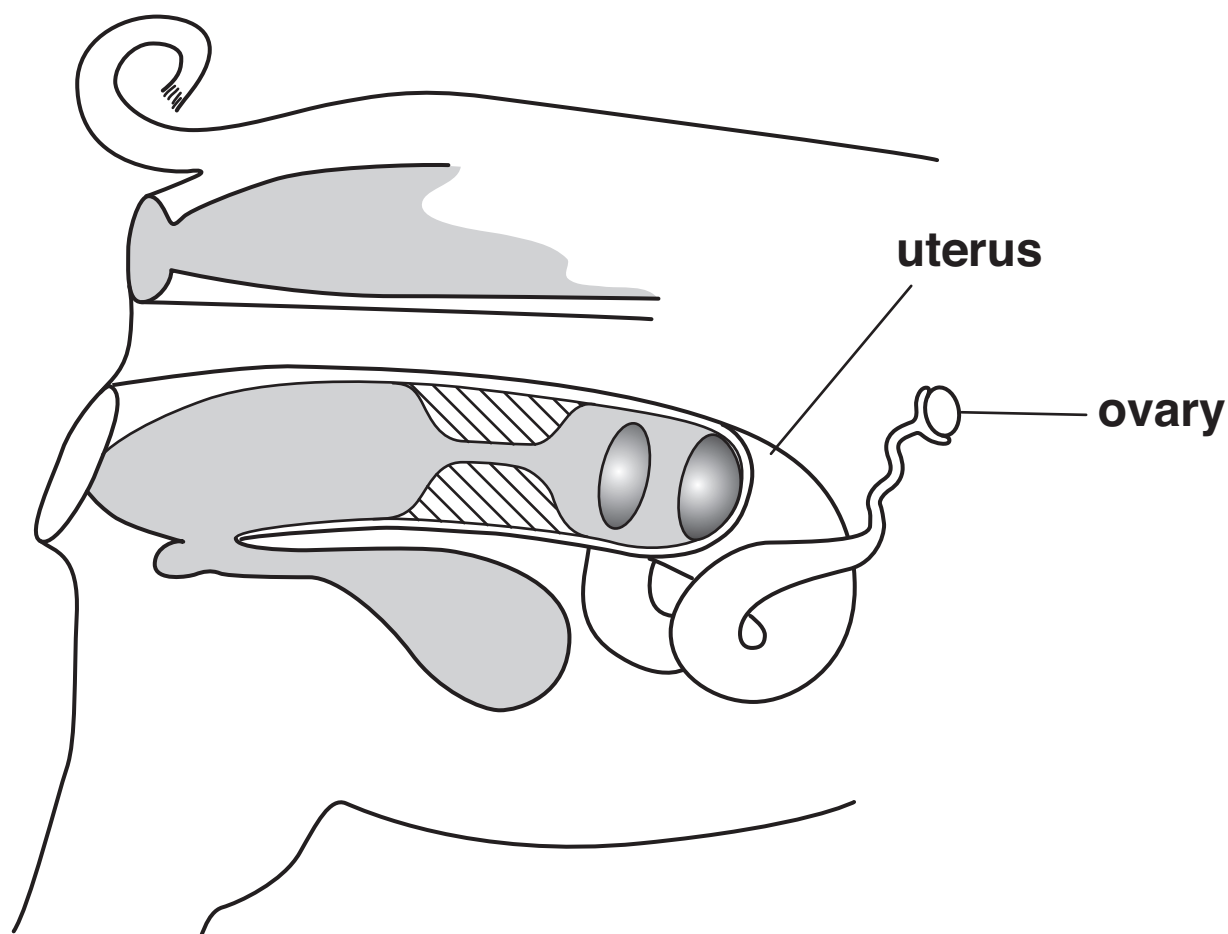
Each characteristic is coded for by a particular _____ for that characteristic.

All the genetic information of an animal is called its _____ and the

characteristics that this produces is the _____ . [4]

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- 7 The diagram shows the reproductive system of a sow (female pig).



What is the job (function) of the following parts of the reproductive system?

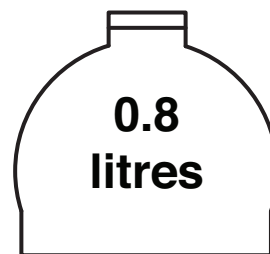
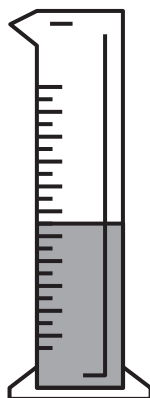
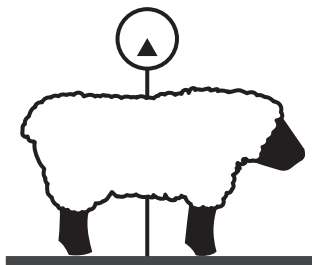
ovary _____

uterus _____

_____ [2]

8 This is a label from a bottle of sheep wormer.

It shows the dosage instructions.



<u>ANIMAL WEIGHT</u>	<u>DOSES OF PASINEX 5%</u>	<u>NUMBER OF DOSES PER BOTTLE</u>
up to 10 kg	2	400
11-15 kg	3	266
16-20 kg	4	200
21-30 kg	6	133
31-40 kg	8	100
41-50 kg	10	80
51-61 kg	12	66

(a) How many doses of wormer would a sheep weighing 35 kg require?

_____ [1]

(b) A farmer is using a dosage rate for 45 kg sheep.

(i) How many sheep can be treated from a standard 0.8 litre bottle?

_____ [1]

(ii) The farmer uses this dosage for a flock of 240 sheep. How many bottles will be needed?

_____ [1]

9 A dairy farmer uses a computer to keep his farm records.

Suggest THREE different types of record farmers might keep on their computers to manage the breeding of their cattle.

1 _____

2 _____

3 _____ **[3]**

10 Illness in animals can have a number of causes.

Name FOUR types of organism that cause disease in farm animals.

1 _____

2 _____

3 _____

4 _____ **[2]**

11 Farmers may catch diseases from their animals.

For each disease below select the most likely way a farmer might catch it. Choose from:

- A eating contaminated food**
- B bacteria getting into a cut**
- C by a animal coughing on you**
- D by being bitten**

TETANUS Answer A, B, C or D _____ [1]

TB Answer A, B, C or D _____ [1]

SALMONELLA Answer A, B, C or D _____ [1]

12 The sperm used in AI (artificial insemination) is frozen soon after collection.

What is the reason for freezing the sperm?

- A Sperm which have been frozen and then thawed are more active.**
- B Sperm would die if kept at room temperature.**
- C It makes it easier to put the sperm into the cow.**
- D Freezing prevents the transmission of disease to the cow.**

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

13 This question is about rare breed pigs.

Rare breeds are generally less productive.

Suggest reasons why a farmer may make a COMMERCIAL decision to keep rare breeds.

[2]

14 Animals can be produced extensively or intensively.

Suggest why each might be considered BAD for animal welfare.

intensive _____

extensive _____

[2]

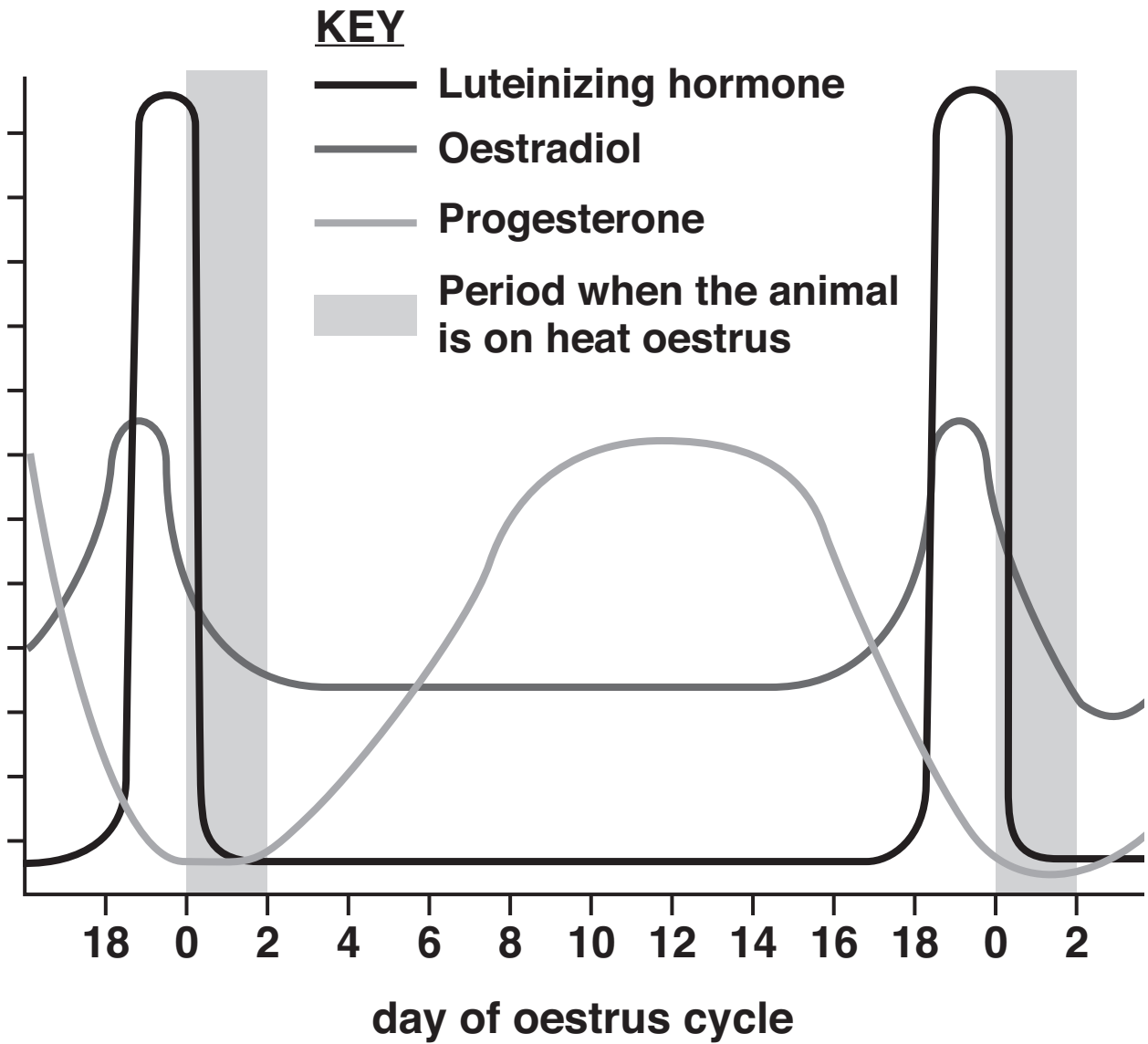
15 Sometimes young sows do not come into season when they should.

Putting a boar near to the sow can often have the effect of bringing her into season.

Suggest how the presence of the boar could alter her reproductive cycle.

[2]

16 The graph shows the changes in an animal's hormones during its oestrous cycle.



The onset of heat (oestrus) in an animal is controlled by a number of hormones.

(a) Which hormones trigger the onset of oestrus?

_____ [1]

(b) Which hormone reduces with the onset of oestrus?

_____ [1]

END OF QUESTION PAPER

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