



**L-Università  
ta' Malta**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE  
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL  
2018 MAIN SESSION**

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SUBJECT:	<b>Agribusiness</b>
PAPER NUMBER:	Controlled – Unit 3
DATE:	10 <sup>th</sup> April 2018
TIME:	10:00 a.m. to 11:35 a.m.

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**THIS PAPER SHOULD BE RETURNED TO THE INVIGILATOR  
AFTER THE EXAMINATION.**

**Name of candidate** \_\_\_\_\_

**I.D. number** \_\_\_\_\_

**School** \_\_\_\_\_

**Class** \_\_\_\_\_

Answer **ALL** questions in the space provided.

**Scenario:**

Rabbits make an excellent food source, however, rabbits are also bred for shows and as domestic pets.

Your school is planning to set up a rabbit farm and you have been assigned to explain to your fellow classmates the importance of raising and breeding rabbits. You need to show that you are knowledgeable about the subject and thus you are going to be asked about raising and breeding rabbits. You also need to know the basic concepts of genetics since genetic studies allow for improvement in breeding rabbits, both for meat consumption and for shows.

**Question 1**

**K2 (4 marks)**

Define the following terms:

a. allele;

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(1)

b. gamete;

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(1)

c. gene;

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(1)

d. chromosome.

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(1)

**Question 2**

**K3 (4 marks)**

a. Outline Mendel's first law.

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(1)

b. Outline Mendel's second law.

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(1)

c. Which cross would best illustrate Mendel's first law:

- i. BB x bb
- ii. Bb x bb
- iii. Bb x Bb
- iv. bb x bb (1)

d. In the cross Rr x Rr, what percent of offspring would have the same phenotype as the parents?

- i. 25%
- ii. 50%
- iii. 75%
- iv. 100% (1)

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**Question 3****K4 (4 marks)**

a. Are the following statements **TRUE** or **FALSE**? Circle the correct answer.

		True	False	
i.	Meiosis results in genetically different daughter cells whilst in mitosis the daughter cells are genetically identical.			(0.5)
ii.	Chromosome duplication occurs prior to both mitosis and meiosis.			(0.5)
iii.	Mitosis forms gametes, whilst meiosis makes everything other than sex cells.			(0.5)
iv.	Cell division only occurs during mitosis.			(0.5)

b. For each of the following questions circle the correct answer.

i. Which of the following is unique to meiosis?

- nuclear membrane breaks down.
- DNA organises into chromosomes.
- crossing over.
- none of the above.

(0.5)

ii. How many daughter cells are produced in meiosis?

- 1
- 2
- 3
- 4

(0.5)

iii. How many daughter cells are produced in mitosis?

- 1
- 2
- 3
- 4

(0.5)

iv. The number of chromosomes in daughter cells produced by meiosis is \_\_\_\_\_ the number of chromosomes in daughter cells produced by mitosis.

- one-fourth
- half
- equal to
- twice

(0.5)

**Question 4**

**C3 (6 marks)**

Explain the following statements related to the feed and housing requirement of rabbits in different stages of their lives.

a. Explain the need for fibre in a rabbit's diet.

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(2)

b. Explain why a pregnant lactating doe needs a diet higher in protein when compared to a fattening rabbit.

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(2)

c. Explain when and how the nest box in the doe's cage should be prepared.

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(2)

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**Question 5****K7 (4 marks)**

Fill in the table by identifying **ONE** cause and **ONE** prevention measure for the following diseases and disorders.

<b>Disease/Disorder</b>	<b>Cause</b>	<b>Prevention</b>
Buckteeth	(0.5)	(0.5)
Gastrointestinal disease	(0.5)	(0.5)
Sore hocks	(0.5)	(0.5)
Viral diseases	(0.5)	(0.5)

**Question 6**

**C4 (6 marks)**

Discuss **ONE** proper treatment for **SIX** of the following rabbit diseases, disorders and pests of your choice. In your discussion include **ONE** example of treatment and a brief description of how it is administered.

a. Fleas

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(1)

b. Myxomatosis

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(1)

c. Ear canker

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(1)

d. Sore hocks

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(1)

e. Viral haemorrhagic disease (VHD)

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(1)

f. Pasteurellosis

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(1)

g. Coccidiosis

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(1)

h. Buckteeth

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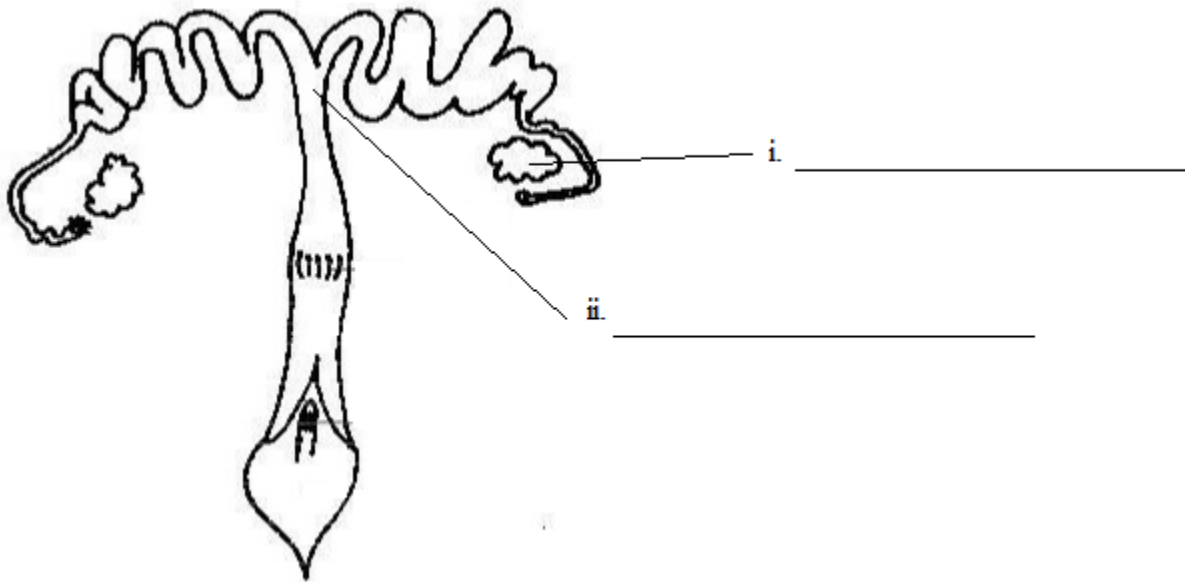
(1)

**Question 7**

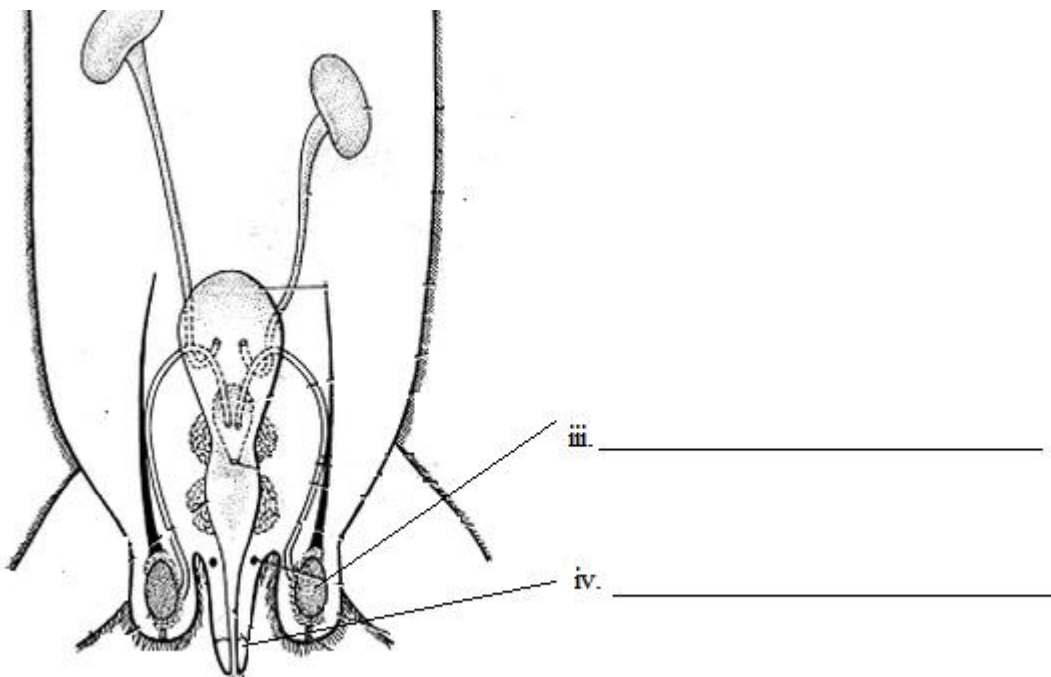
**K8 (4 marks)**

Consider the following diagrams of a male and female rabbit reproductive system.

a. Label the organs marked in both diagrams



(1)



(1)



b. Describe **ONE** function of the following structures within a rabbit's reproductive system:

i. prostate;

\_\_\_\_\_ (0.5)

ii. cervix;

\_\_\_\_\_ (0.5)

iii. cowper's glands;

\_\_\_\_\_ (0.5)

iv. uterotubal junction.

\_\_\_\_\_ (0.5)

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**Question 8**

**C5 (6 marks)**

By considering the Legal Notice 260 of 2003 on Animal Slaughter or Killing (Protection) Regulations, answer the following questions:

a. Provide **ONE** reason why stunning is important for rabbits.

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(2)

b. Explain **ONE** method of proper rabbit stunning.

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(2)

c. Are the following statements **TRUE** or **FALSE**? Circle the correct answer.

		True	False	
i.	If unloading delay is unavoidable upon arrival, rabbits must be protected from extremes of weather and provided with adequate ventilation.			(0.5)
ii.	Rabbits may be suspended for slaughter provided that appropriate measures are taken to ensure that, on the point of being stunned, they are in a sufficiently relaxed state for stunning.			(0.5)
iii.	The condition and state of health of the animals at the slaughterhouse should <b>not</b> be inspected.			(0.5)
iv.	For animals which have been stunned, bleeding must be started as soon as possible after stunning.			(0.5)

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