



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini General Certificate of Secondary Education

CANDIDATE  
NAME

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CENTRE  
NUMBER

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**AGRICULTURE**

**6882/02**

Paper 2

**October/November 2022**

**1 hour 30 minutes**

**Additional Material:** Calculator

Candidates answer:

**Section A:** Structured questions on the Question Paper.

**Section B:** Two Essay questions on the spaces provided in the question paper.

**READ THESE INSTRUCTIONS FIRST**

Write your Name, Centre Number and Candidate Number on all the work you hand in.  
Write in dark blue or black pen.

You may use an **HB** pencil for any diagrams or graphs.  
Do not use staples, paper clips, glue or correction fluid.

Answer **all six** structured questions and attempt **two** essay questions out of the three provided.

At the end of the examination, fasten all your work securely together.

The number of marks are given in brackets [ ] at the end of each question or part of the question.

For Examiner's Use	
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<b>Total</b>	

This document consists of **18** printed pages and **2** blank pages.

**Section A – Structured Questions**

Answer **all** questions in this section (60 marks)

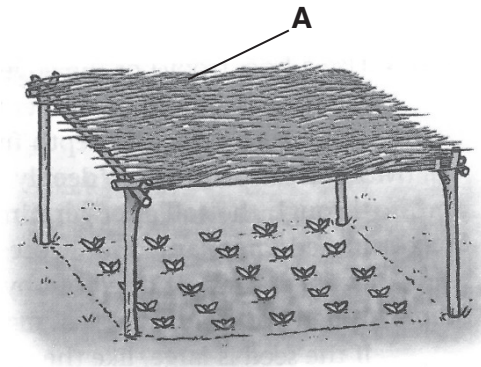
1 (a) Describe the characteristics of a soil suitable for a garden site.

.....

.....

..... [2]

(b) Fig. 1.1 shows a shaded seedbed.



**Fig 1.1**

Suggest **two** reasons why part **A** in **Fig. 1.1** is important.

(i) .....

.....

(ii) .....

..... [2]

(c) Describe the process of *hardening-off* of seedlings before they are transplanted.

.....

.....

..... [2]

(d) Give **two** reasons why seedlings should be transplanted with a ball of soil from the seedbed.

.....  
.....  
..... [2]

(e) Suggest a disadvantage of '*protective spraying*' against pests.

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

(f) Suggest how digging the soil may reduce pests.

.....  
.....  
..... [2]

**[11 marks]**

2 (a) Fig. 2.1 shows a drip irrigation system.



Fig. 2.1

(i) Describe how this system works.

.....  
.....  
.....  
..... [3]

(ii) State any **two** advantages this system has over other methods of crop irrigation.

.....  
.....  
..... [2]

(b) Discuss how irrigation can make crop production more profitable on a farm.

.....  
.....  
..... [2]

(c) Explain how minimum tillage contributes to the conservation of soil water.

.....

.....

.....

..... [2]

**[9 marks]**

3 (a) Define the following terms.

(i) Homozygous

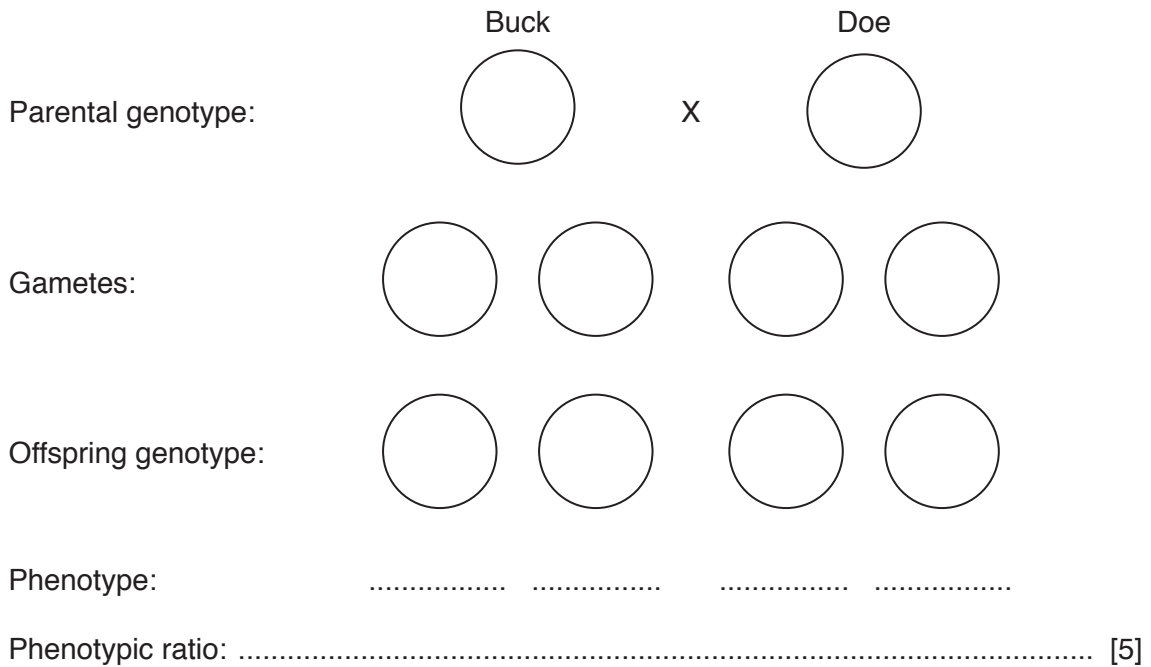
.....  
 ..... [1]

(ii) Recessive

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

(b) Two heterozygous black rabbits were mated. The black allele (**B**) is dominant to white allele (**b**).

Complete the genetic diagram.



(c) Suggest any **two** advantages to the farmer of using artificial insemination (AI) on cows.

(i) .....  
 .....

(ii) .....  
 ..... [2]

(d) Explain with reasons, why a farmer would use embryo transfer in cows.

.....  
.....  
..... [2]

**[11 marks]**

4 (a) Fig. 4.1 shows an external parasite..

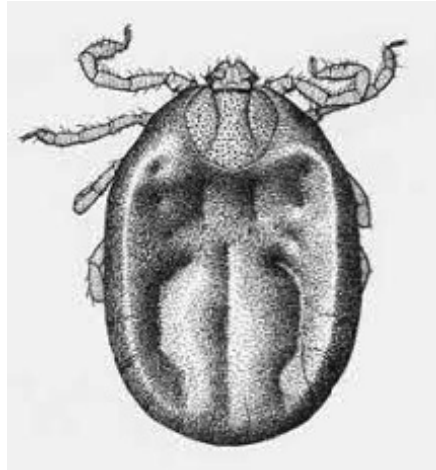


Fig. 4.1

(i) Name the parasite shown in Fig. 4.1.

..... [1]

(ii) For which disease in cattle is this parasite a vector.

..... [1]

(iii) State any **two** pasture management practices that help control this parasite.

1 .....

2 ..... [2]

(b) Give any **one** control method for internal parasites.

.....

..... [1]



- (c) A pasture has a carrying capacity of one cow per two hectares. It is divided into four paddocks. The area of each paddock and the cattle they contain are given in **Table 4.1**.

**Table 4.1**

<b>Paddock</b>	<b>Number of cattle</b>	<b>Area of paddock (hectares)</b>
<b>X</b>	99	80
<b>W</b>	75	150
<b>V</b>	200	175
<b>Y</b>	250	200

- (i) Calculate the stocking rate of paddock **X**.

.....  
 .....  
 ..... [2]

- (ii) Which paddock has the correct stocking rate?

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

- (d) Suggest any **two** effects of under grazing in a pasture.

(i) .....  
 .....  
 (ii) .....  
 ..... [2]

**[10 marks]**

5 (a) Fig. 5.1 shows the reproductive system of a cow.

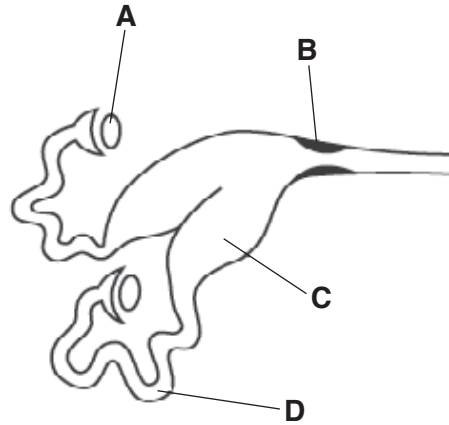


Fig. 5.1

(i) Name parts C and D shown in Fig 5.1.

C .....

D ..... [2]

(ii) Give the functions of part A and B shown in Fig. 5.1.

A .....

.....

B .....

..... [2]

(b) Describe the process of selective breeding used to improve hardiness in livestock.

.....

.....

.....

.....

.....

..... [3]

(c) Explain why rations given to ruminants during gestation should be increased.

.....  
.....  
.....  
..... [2]

(d) Discuss the reasons for weaning calves from their mothers.

.....  
.....  
.....  
..... [2]

**[11 marks]**

6 (a) Fig. 6.1 shows the stages of germination.



Fig. 6.1

(i) Name part X.

..... [1]

(ii) What is the type of germination shown in Fig. 6.1?

..... [1]

(b) State any two reasons why germination is poor on clay soil.

(i) .....

.....

(ii) .....

..... [2]

(c) Discuss how organic matter affects soil quality.

.....

.....

.....

..... [2]

(d) Explain why the nutrient content is low on sandy textured soils.

.....

.....

.....

..... [2]

**[8 marks]**

**SECTION B – Essay Questions**

Answer any **two** questions in this section (20 marks)

- 7 (a) State the importance of sexual reproduction in plants. [3]
- (b) Describe asexual propagation of sweet potatoes. [4]
- (c) Explain how the inclusion of grass in a crop rotation may benefit the soil. [3]
- [10 marks]**
- 8 (a) State how wooden posts may be preserved with creosote. [3]
- (b) Describe the construction of wooden fence suitable for handling cattle in a spray race. [4]
- (c) Explain the advantage of diamond mesh fencing. [3]
- [10 marks]**
- 9 (a) State three uses of a farm budget. [3]
- (b) Describe any **two** types of loans and their uses. [4]
- (c) Explain the impact of environmental risks on maize production. [3]
- [10 marks]**

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