



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

CANDIDATE
NAME

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CENTRE
NUMBER

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CANDIDATE
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AGRICULTURE

6882/02

Paper 2

October/November 2019

1 hour 30 minutes

Candidates answer:

Section A: Structured questions on the Question Paper.

Section B: Two essay questions on the lined paper provided.

READ THESE INSTRUCTIONS FIRST

Write your Centre Number, Candidate Number and Name 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 is given in brackets [] at the end of each question or part of the question.

For Examiner's Use	
1	
2	
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Total	

This document consists of 17 printed pages and 3 blank pages.

Section A – Structured Questions

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

1 Fig. 1.1 shows the structure of the digestive system of a farm animal.

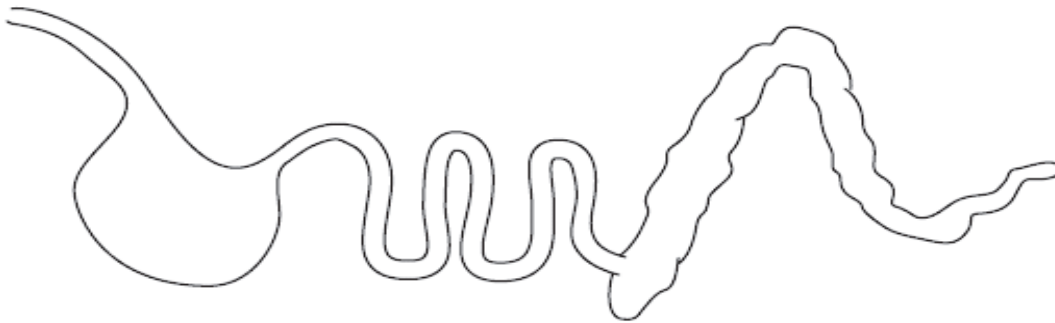


Fig. 1.1

(a) State the type of digestive system shown in Fig.1.1.

..... [1]

(b) Name **two** products of cellulose digestion.

(i)

(ii) [2]

(c) Describe **two** benefits of night faeces/cecotropes in the nutrition of a rabbit.

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

(d) Describe the roles of the enzymes contained in the gastric juice of a calf.

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

[7 Marks]

2 Fig. 2.1 shows an area that is being cleared for farming where stumping and burning are being done.



Fig. 2.1

(a) (i) Outline the tasks that the farmer must do to make a seedbed on the cleared land.

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

(ii) Suggest why it would not be appropriate to apply a fertiliser high in potassium to this reclaimed land.

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

(b) Describe the procedure for potassium testing in a soil extract.

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

(c) Describe the importance of crumb structure in a soil used for growing crops.

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

(d) Describe how a farmer can carry out a simple test for soil pH.

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

(e) Explain the importance of intercropping in achieving food security?

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

[12 Marks]

3 Fig. 3.1 shows an irrigation system.



Fig. 3.1

(a) (i) Name the method of irrigation shown in Fig. 3.1.

..... [1]

(ii) Describe the advantages of using this method of irrigation.

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

(b) Describe the effects of irrigation on crop yield.

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

(c) Explain the environmental impacts of using furrow irrigation for vegetable crops.

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

(d) Suggest **two** technological advancements that could be used when carrying out drip irrigation.

.....

.....

.....

..... [2]

[9 Marks]

4 (a) Define these terms as used in agriculture.

(i) Inbreeding

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

(ii) Heterozygous

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

(b) In sheep the allele **H** for polled is dominant over the allele **h** for horns.

A **pure-bred male** polled sheep was mated with a **pure-bred female** horned sheep.

Genotype of parents	HH	x	hh	
Gametes	_____		_____	_____
F ₁	_____		_____	_____ [2]

(c) The **F₁** generation were mated among themselves to produce an **F₂** generation. What would be the genotypes and phenotypic ratio of this cross? Show your working.

..... [3]

(d) What characteristics would you look for in a breeding cow?

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

(e) Describe the effects of the hormone testosterone in a male cow.

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

[12 Marks]

5 Fig. 5.1 shows part of a farm fence.

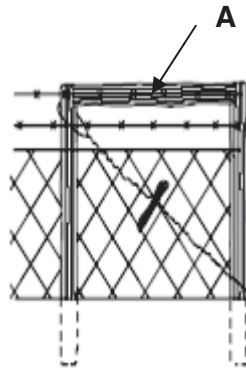


Fig. 5.1

(a) (i) What is A?

..... [1]

(ii) State the function of part A.

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

(b) Describe the importance of droppers in wire fencing.

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

(c) Describe how you would maintain a fence.

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

(d) Describe how fencing can be used to improve communal grazing.

.....

.....

.....

.....

.....

..... [3]

[10 Marks]

6 Table 6.1 shows a financial record for a farm growing 3 hectares of maize.

Table 6.1

Date	Item	Amount	
		E	C
28/01/15	Rent paid	E 500	00
03/02/15	Wages of casual workers	E 1700	00
09/02/15	Purchase of fertiliser	E 260	00
10/02/15	Purchasing farm machinery	E 15000	00
11/02/15	Purchase of pesticides and seeds	E 535	00
03/03/16	Cost for electricity bill	E 400	00
20/03/16	Salary of permanent staff	E 5600	00
25/03/16	Building renovations	E 400	00
04/04/16	Sale of crop	E 43000	00
06/04/16	Cost for transport to market	E 800	00

(a) (i) State any **two** variable costs from Table 6.1.

.....
 [2]

(ii) Calculate the total fixed costs from this farm enterprise.

.....

 [2]

(iii) Find the gross margin of the crop enterprise.

.....

 [2]

(b) Describe any **two** factors that might increase the demand for maize.

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

(c) Describe any **two** factors that could affect maize productivity on the farm.

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

[10 Marks]

Section B – Essay Questions

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

- 7 (a) State the rules for disposing farm chemical waste as stated in the Environmental Act. [3]
- (b) Describe the contribution of Eswatini Environmental Authority towards food security in Eswatini. [3]
- (c) Explain the effect of climate change on livestock productivity in Eswatini. [4]
- [10 Marks]**
- 8 (a) Describe the role of microorganisms' in the soil. [3]
- (b) Explain **two** advantages of crop rotation to crop production. [4]
- (c) Suggest why cultivation is important for good crop production. [3]
- [10 Marks]**
- 9 (a) Describe the feeding programme in broiler production. [3]
- (b) Explain the importance of water supply for poultry. [3]
- (c) Suggest measures that can be taken to prevent disease in poultry. [4]
- [10 Marks]**

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