



EXAMINATIONS COUNCIL OF LESOTHO
Lesotho General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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AGRICULTURE

Paper 1

0179/01

October/November 2018

1 hour 45 minutes

Marks: 100

Candidates answer Sections A and B on the Question Paper.

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.

DO NOT WRITE IN ANY BARCODES.

Section A

Answer **all** questions in the spaces provided.

You are advised to spend no longer than 1 hour on Section A.

Section B

Answer any **two** questions.

Write your answers on the lined pages provided.

You are advised to spend about 45 minutes on this section.

At the end of the examinations, fasten all your work secured together.

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

For Examiner's Use	
Section A	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Section B	
11	
12	
13	
14	
15	
Total	

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Examinations Council of Lesotho



(c) Agriculture has gone through several developmental stages, starting with hunting and gathering up to commercial farming.

Suggest three factors that led to these developmental stages.

.....

.....

.....

.....

..... [3]

[Total: 8]



- 3 (a) The recommended application rate for superphosphate fertiliser is 200kg/ha for sorghum production.

Determine the amount of superphosphate fertiliser that should be applied on a 10m² plot.

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

- (b) Describe the signs and effects of a deficiency of phosphorus in plants.

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

[Total: 5]



5 (a) Fig. 5.1 shows the structure for storing maize harvest.

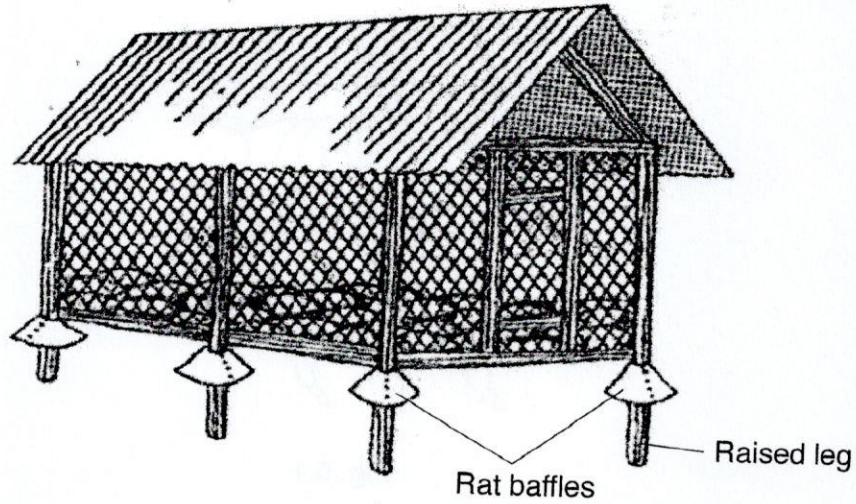


Fig. 5.1

Give a reason for having raised legs on the structure and a reason for using meshed wire for constructing the structure.

raised legs
.....
meshed wire
..... [2]

(b) Suggest **two** ways of protecting maize grains from insect pests during storage.

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

[Total: 4]



(b) Fig. 6.2 shows a man reading instructions written on the container of a chemical.



Fig. 6.2

(i) State any **three** precautions that should be taken while using chemicals.

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

(ii) Give a reason why it is important for the farmer to read and understand instructions before using chemicals.

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

(c) Describe a biotechnical method of controlling pests.

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

[Total: 10]



(b) In cattle breeding, polledness is dominant over horned. Allele for polledness (R) is dominant over horned (r). A homozygous polled bull is mated with a homozygous horned cow.

(i) Use the punnet square to determine the genotypes of F_1 generation.

[2]

(ii) Predict the phenotypic ratio where F_1 is crossed with another F_1 .

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

[Total: 8]



9 For a **named legume crop**,

(a) State any viral disease that attacks it and describe its mode of infection.

crop

disease

mode of infection

..... [2]

(b) Describe the harmful effects of the viral disease on the productivity of this crop and explain how the disease can be prevented.

harmful effects

.....

.....

prevention

.....

..... [5]

[Total: 7]



SECTION B

- 11 (a) A farmer decides to improve a flock of Merino sheep through selective breeding.

List any **two** traits of economic importance the farmer can select for breeding. [2]

- (b) Discuss the benefits of embryo transfer in genetic improvement of livestock. [5]

- (c) Differentiate between selective breeding and genetic modification in livestock improvement. [8]

[Total: 15]

- 12 (a) For a **named livestock animal**, state the internal parasite and describe the parasite's life cycle. [3]

- (b) Explain the damage that is caused by this parasite to animals and suggest ways of controlling parasites in the rangeland. [5]

- (c) For good pasture management, it is important to mix grasses with legumes when establishing a pasture.

Discuss the importance of including legumes and suggest other ways in which a pasture can be managed for better productivity. [7]

[Total: 15]

- 13 (a) It is a common practice for farmers in Lesotho to plant the same crop continually on the same land year after year. It is now being realised that the yield is declining gradually while the costs of production are getting higher.

- (i) State the name of the farming system that is being practiced by these farmers. [1]

- (ii) Suggest why the yield is declining and suggest a farming practice that can be adopted to reduce the effect of the method in (i). [5]

- (b) Explain the principle of diminishing returns. [3]

- (c) Lesotho is a well-known state for its abundance of water. However, very few people are engaged in fish production. Suggest reasons why this production is not popular. [6]

[Total: 15]



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