

EXAMINATIONS COUNCIL OF SWAZILAND
 in collaboration with
 UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE
 Swaziland General Certificate of Secondary Education

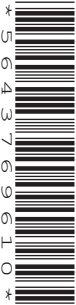
CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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AGRICULTURE

6882/02

Paper 2

October/November 2011

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 a soft pencil for any diagrams or graphs.
 Do not use staples, paper clips, highlighters, 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 **10** printed pages and **2** blank pages.



Section A – 60 Marks
Answer **all** questions in this section.

1 Fig. 1.1 is a diagram of a seedbed.

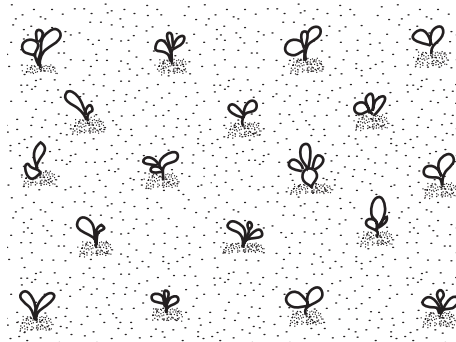


Fig. 1.1

(a) Describe how a seedbed is prepared in a garden plot which has **not** been used for a year.

.....

.....

.....

..... [3]

(b) (i) State **two** things that should be done in a seedbed once the plants have just emerged.

.....

..... [2]

(ii) Give **one** reason why some plants may **not** be successfully transplanted.

.....

..... [1]

- (c) For a named vegetable crop, state **one** bacterial disease, describe how it harms the crop and explain how the disease is controlled.

Name of vegetable crop.....

(i) name of bacterial disease [1]

(ii) harmful effect on the vegetable crop

..... [2]

(iii) control of the disease

..... [2]

[11 marks]

- 2 (a) Fig. 2.1 shows a root hair. The arrows represent the entry of water.

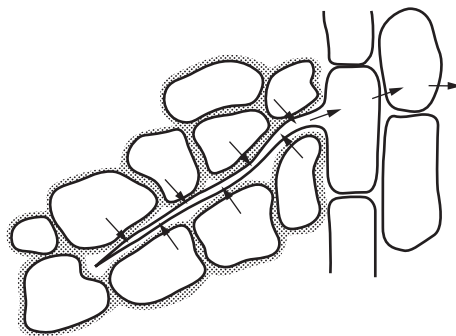


Fig. 2.1

(i) Name the process shown in Fig. 2.1.
..... [1]

(ii) Describe the process shown in Fig. 2.1.
.....
.....
..... [3]

(b) Explain how the root hairs are adapted to their function.

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

(c) Outline the path taken by water molecules from roots to the leaves.

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

(d) Suggest how plants are adapted to live in dry conditions.

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

[10 marks]

3 (a) Fig. 3.1 shows the digestive system of a rabbit.

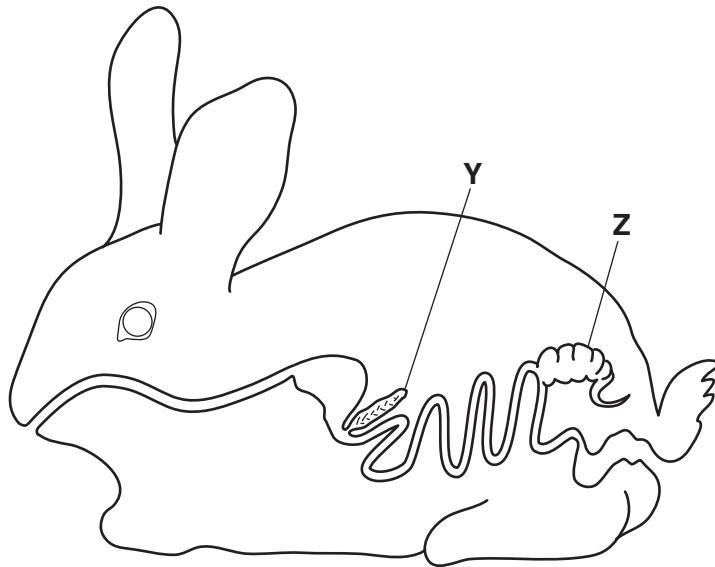


Fig. 3.1

(i) On the diagram label with **X** one structure where digestive enzymes are found.

Name the structure you have labelled **X**.

..... [2]

(ii) State the function of the part labelled **Y** in Fig. 3.1.

function of **Y** [1]

(b) (i) Name the type of micro-organism found in the structure labelled **Z** in Fig. 3.1.

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

(ii) Describe the role of the micro-organisms in **Z**.

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

(c) Animals need different diets at different times of their lives.

(i) Suggest, with a reason, which nutrient should be increased in the diet of a young animal.

name of nutrient [1]

reason [1]

(ii) Suggest, with a reason, which nutrient should be increased in the diet of animals pulling a plough:

name of nutrient [1]

reason [1]

[9 marks]

4 (a) Define the following genetic terms.

(i) *homozygous*
.....[1]

(ii) *chromosome*
.....[1]

(b) A homozygous disease-resistant plant is crossed with a homozygous non-resistant plant.

If **RR** is resistant and **rr** is non-resistant, what will be the phenotypes for both the F₁ and the F₂ generations? **Show your working.**

[4]

(c) Suggest reasons for selective breeding in crop production.

.....
.....
.....
.....[4]

(d) Suggest a problem which may arise from breeding selectively for one trait over a period of time. Give an example.

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

[12 marks]

5 Fig. 5.1 shows how soil is collected from field 1 to provide a sample for testing.

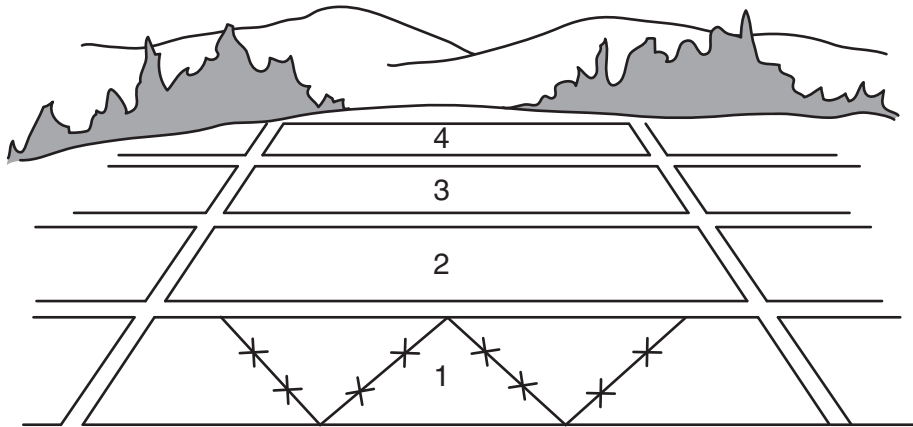


Fig. 5.1

(a) Why is it important to use the method shown in Fig. 5.1?

..... [1]

(b) Briefly describe a test to find the pH of a soil.

.....
.....
.....
.....
.....
.....
..... [4]

(c) Explain the benefits of adding lime to an acidic soil.

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

(d) Growing crops continuously can create more acidic conditions in the soil.

Give **two** possible causes for this.

- 1.
- 2. [2]

[9 marks]

- 6 (a) What is the purpose of a farm budget?

.....[1]

- (b) Table 6.1 shows the budget for a farm.

Table 6.1
maize production costs per hectare in 2008

item	cost
seed (10 kg)	E 200 – 00
tractor hire	E 150 – 00
pesticides	E 200 – 00
fertiliser	E 2 250 – 00
labour	E 800 – 00
insurance	E 500 – 00
interest on production (loan)	E 300 – 00
rent	E 400 – 00
total	E 4 800 – 00

- (i) Fig. 6.1 is a bar chart showing fixed costs from Table 6.1.

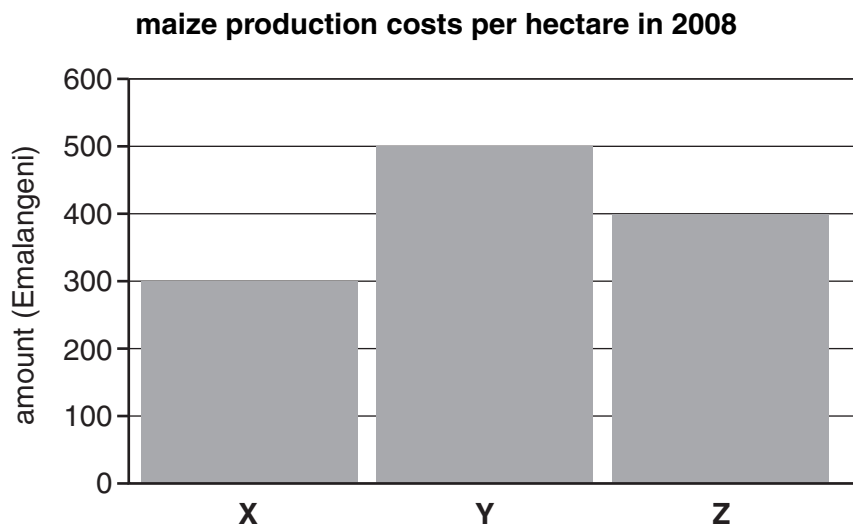


Fig. 6.1

State the fixed costs as represented by each bar.

X.....

Y.....

Z.....[2]

(ii) What percentage of the total costs are fixed?

Show your working.

[2]

(iii) Explain the difference between fixed and variable costs.

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

(c) Suggest **two** ways of minimising cost of production in an enterprise.

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

[9 marks]

Section B – 20 Marks

Answer any **two** questions in this section.

- 7 (a) Describe the importance of agriculture in the life of the Swazi nation. [5]
- (b) How important are entrepreneurs in agricultural development? [2]
- (c) Discuss the role of women in agricultural development in Swaziland. [3]
- [10]**
- 8 (a) State the factors to be considered when selecting a cultivar of a vegetable for an area. [4]
- (b) Explain why the following functions are essential for the marketing of vegetables
- *packaging*
 - *advertising.*
- [4]
- (c) Why is it important to carry out market research before growing a cultivar? [2]
- [10]**
- 9 (a) Explain what is meant by a fertile soil. [2]
- (b) Suggest ways a farmer can improve soil fertility. [4]
- (c) Describe farming practices which might adversely affect soil fertility. [4]
- [10]**

END OF PAPER

