



EXAMINATIONS COUNCIL OF SWAZILAND
Swaziland General Certificate of Secondary Education

CANDIDATE
NAME

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CENTRE
NUMBER

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CANDIDATE
NUMBER

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AGRICULTURE

6882/02

Paper 2

October/November 2018

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	
3	
4	
5	
6	
7	
8	
9	
Total	

This document consists of **11** printed pages and **1** blank page.

Section A – Structured Questions

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

1 (a) State a different cultural control method for:

(i) bacterial wilt of tomatoes

.....

(ii) blight of potatoes

.....

(iii) maize streak virus

..... [3]

(b) State the possible dangers caused by the persistent use of farm chemicals in the control of weeds.

.....

.....

..... [2]

(c) Explain with reasons why biological control of weeds is rarely used by farmers.

.....

.....

..... [2]

(d) Suggest **two** precautions that farmers take to minimise environmental pollution from farm chemicals.

1

.....

2

..... [2]

[9 marks]

2 Figure 2.1 shows the internal structure of a leaf.

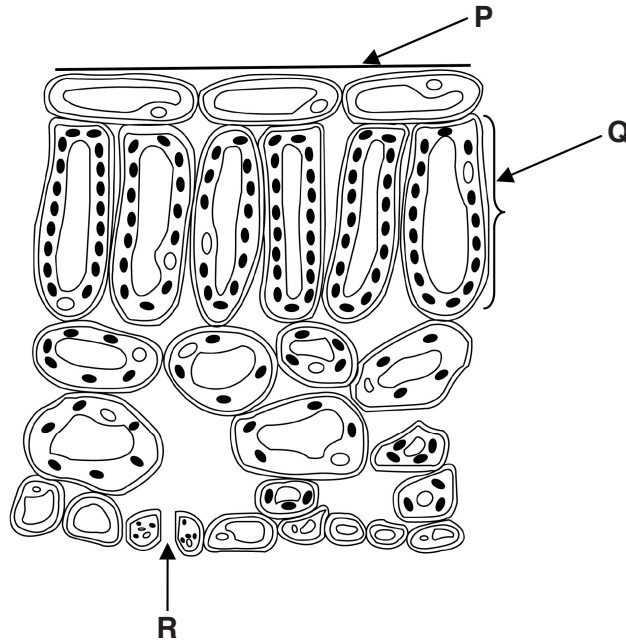


Fig. 2.1

(a) (i) Name the pigments found in cells labelled Q.

..... [1]

(ii) State the functions of the parts labelled P and R.

P

R [2]

(b) Briefly describe transpiration.

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

(c) (i) Explain what is meant by active transport.

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

(ii) Explain why active transport is important in plants.

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

(d) Suggest the importance of translocation to food crops.

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

[11 marks]

3. (a) Give **one** reason why monoculture is a good practice to use in commercial farming.

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

(b) State any **two** ways by which farming contributes to world trade.

1
.....
2
..... [2]

(c) Describe briefly how soil erosion is reduced by:

(i) shifting cultivation

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

(ii) intercropping

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

(d) Explain how an increase in greenhouse gases leads to global warming.

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

(e) Suggest any **two** possible impacts of climate change on Swaziland's agriculture.

1
.....
2
..... [2]

[9 marks]

4. Figure 4.1 shows the demand curve for rice consumption per household.

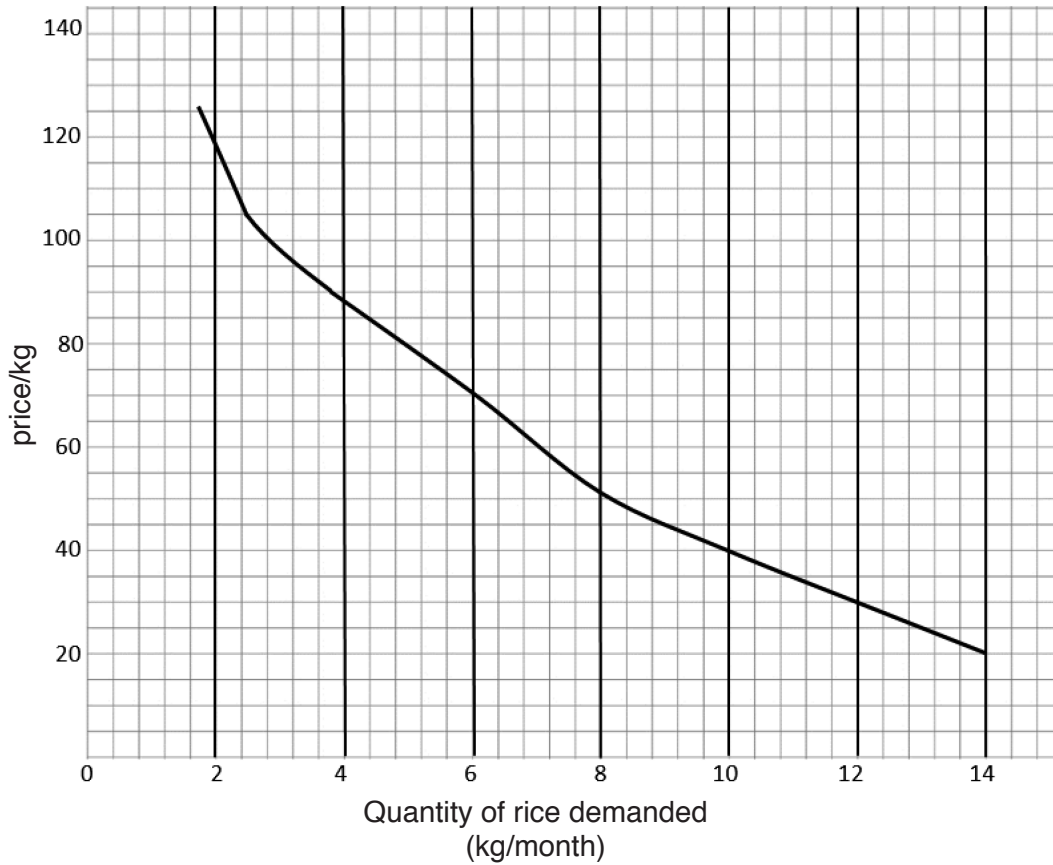


Fig. 4.1

(a) State the price/kg when quantity demanded is 4 kg/month.

..... [1]

(b) Suggest any **three** factors that could affect the demand of a product other than price.

1

2

3 [3]

(c) Name any **three** possible risks for an agricultural enterprise.

1

.....

2

.....

3

..... [3]

(d) Suggest **three** factors to consider when preparing a budget for a farming enterprise.

1

.....

2

.....

3

..... [3]

[10 marks]

5. (a) Define the term homozygous.

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

(b) In beans, the allele for long pods is dominant (**G**) and the allele for short pods is recessive (**g**). A bean plant homozygous for long pods was crossed with a plant with short pods. Show the F1 and F2 genetic cross.

F1

F2

[4]

(c) State the genotypic ratio for the offspring in the F2.

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

(d) (i) Explain how a plant breeder can artificially pollinate plants.

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

(ii) Suggest **one** reason why a plant breeder might prefer self-pollination.

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

(e) Explain the importance of selective breeding in livestock.

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

[10 marks]

6. (a) Explain why soil samples are collected using the zigzag method.

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

(b) Figure 6.1 shows a beaker after a soil sample has been shaken with water and allowed to settle.

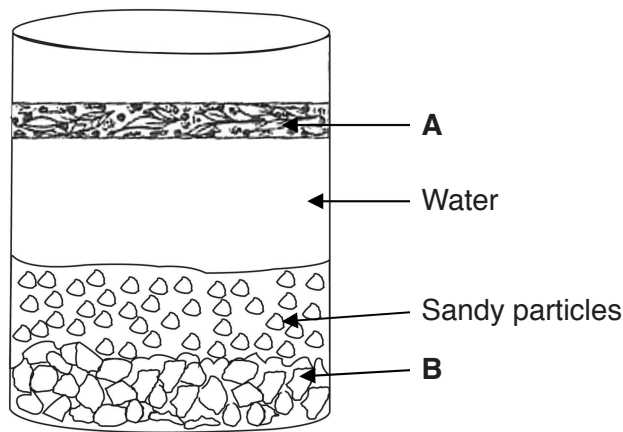


Fig. 6.1

(i) Name the constituents labelled A and B.

A
B [2]

(ii) Using the information in Fig. 6.1, describe the characteristics of this soil.

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

(c) Describe how to carry out a soil test for nitrate (nitrogen).

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

(d) Describe the effect of leaching on nitrogen availability in soils.

.....

.....

..... [2]

[11 marks]

Section B – Essay Questions

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

7. (a) Explain what is meant by desertification [2]
(b) Describe the factors that lead to desertification in Swaziland. [5]
(c) Suggest the impact of desertification on Agriculture in Swaziland. [3]
[10 marks]
8. (a) Explain what is meant by intermediate technology. [2]
(b) Discuss how the structure and operation of a farm trailer supports energy efficient intermediate technology. [4]
(c) Suggest safety precautions that should be taken when using a farm trailer. [4]
[10 marks]
9. (a) Describe the mode of attack of a cutworm in a maize crop. [2]
(b) Pest control can be cultural, chemical or biological.
Discuss the effectiveness of these methods in controlling pests of maize. [6]
(c) Explain where in a crop rotation should maize be planted? [2]
[10 marks]

