EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Agricultural Science
Paper 1 Theory

Tuesday 8 AUGUST 2017

Additional Materials
Answer Booklet

Time: 2 hours

Instructions to candidates

Write your name, centre number and candidate number in the spaces at the top of this page and on the Answer Booklet.

There are ten questions in this paper.

Section A
Answer all questions.

Write your answers in the spaces provided on the question paper.

Section B
Answer any three questions.

Write your answers in the Answer Booklet provided.

At the end of the examination:

1. fasten the Answer Booklet securely to the question paper.

2. enter the numbers of the Section B questions you have answered in the grid for Examiner’s use.

Information for candidates

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

You are advised to spend no longer than 40 minutes on Section A.

Cell phones are not allowed in the examination room.
Section A

Answer all questions in this section

1. **Figure 1** shows a vegetative propagation method.

![Diagram of vegetative propagation method]

**Figure 1**

(a) (i) Identify the vegetative propagation method represented by figure 1.

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

(ii) Label part A on the diagram. [1]

(iii) Outline two conditions that lead farmers to using the method in figure 1.

1. ...........................................................................................................................

..............................................................................................................................

2. ...........................................................................................................................

.............................................................................................................................. [2]
(b) Give two advantages for carrying out vegetative propagation.

1

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......................................................................................................................

2

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

(c) How would a farmer:

(i) ensure that the plant structure in figure 1 survives?

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

(ii) conclude that the structure is growing well?

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

[8 marks]
2 (a) What is meant by the term “day length” in agriculture?  
.................................................................................................................................................. [2]

(b) State the importance of day length to crop growth.  
..................................................................................................................................................  
..................................................................................................................................................  
..................................................................................................................................................  
..................................................................................................................................................  
.................................................................................................................................................. [2]

(c) Explain how farmers apply the knowledge of day length in agriculture.  
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..................................................................................................................................................  
..................................................................................................................................................  
..................................................................................................................................................  
.................................................................................................................................................. [2]

(d) Classify sweet potatoes and maize crops according to day length.

Sweet potatoes ..........................................................................................................
.............................................................................................................................................

Maize ......................................................................................................................... [2]  
............................................................................................................................................. [8 marks]
3. **Figure 2** shows the digestive system of a hen.

![Figure 2]

(a) Name the structures labelled A, B and C.

A ................................................................. [1]
B ................................................................. [1]
C ................................................................. [1]

(b) Explain the functions of the structures labelled A and B.

A ........................................................................ [1]
B ........................................................................ [2]

(c) How can you prevent a hen from laying soft-shelled eggs?

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

(d) What should a farmer do to improve the function of structure C in a hen?

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

[8 marks]

[Turn over]
Figure 3 shows a relationship between supply and price.

![Graph showing supply relationship]

**Figure 3**

(a) What is the price per mango when:

(i) 700 mangoes are supplied?

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

(ii) 2000 mangoes are supplied?

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

(iii) How many mangoes will be supplied at the price of K1.80 per mango?

.............................................................................................................. [1]
(b) State **three** factors of production on a farm.

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

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(c) Give **two** ways by which a farmer can increase sales of agricultural produce/products on a farm.

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[8 marks]
Figure 4 shows a farm activity during seedbed preparation.

(a) Identify the farm activity represented by figure 4.

(b) Name:
(i) the implement labelled A.
(ii) the implement labelled B?

(c) Give three reasons for using the farm implement labelled A.
(i) ................................................................. [1]
(ii) ................................................................. [1]
(iii) ................................................................. [3]

(d) Outline maintenance practices which need to be carried out on the farm implement labelled A.

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

[8 marks]
Section B

Answer any three questions from this section.

6  (a) Explain why the local soil and weather conditions are suitable for growing groundnuts in your area. [9]
   (b) Discuss the growing of groundnuts under the following:
        (i) Preparation of soil for sowing, [3]
        (ii) Sowing, [4]
        (iii) Weed control. [4]

   [Total: 20]

7  (a) Outline the factors that affect the development of agriculture in Zambia. [11]
   (b) Give examples of different kinds of agricultural enterprises. [9]

   [Total: 20]

8  (a) Explain why fish farmers prefer *Tilapia* breed of fish in fish farming. [10]
   (b) (i) What is integrated fish farming? [3]
        (ii) State the advantages of integrated fish farming. [4]
        (c) Describe different ways of harvesting fish from fish ponds. [3]

   [Total: 20]

9  (a) Describe how cooperatives are organized. [14]
   (b) Explain the common interest of farmers in a cooperative. [6]

   [Total: 20]

10 (a) List six advantages of mechanizing agriculture. [6]
    (b) Outline the different maintenance activities to be carried out on farm equipment before storing them. [8]
    (c) Describe a suitable site for farm buildings. [6]

   [Total: 20]
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