

Candidate Name: _____

Centre Number				Candidate Number									

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Agricultural Science

5037/1

Paper 1 Theory

Tuesday

19 JULY 2016

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.

FOR EXAMINER'S USE	
Section A	
Section B	
Total	

Section A

Answer all questions in this section

- 1 **Figure 1** shows the maize and groundnut root systems.

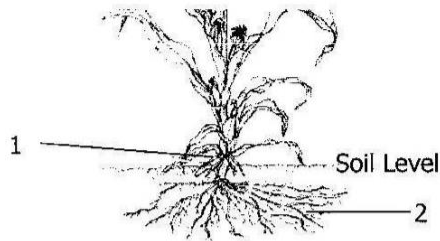


Figure 1A

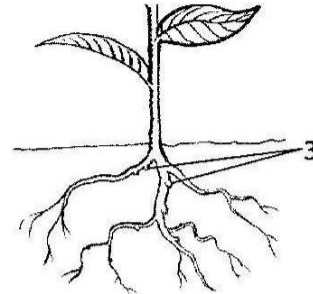


Figure 1B

- (a) Identify the type of the root system in:

(i) **Figure 1A**

(ii) **Figure 1B** [2]

- (b) Name the structures labelled **1** to **3**.

1

2

3 [3]

- (c) What is the importance of the structures labelled **3** in soil fertility?

.....

.....

..... [3]

[Total: 8]

- 2 Study the diagram in **Figure 2** and answer the following questions.

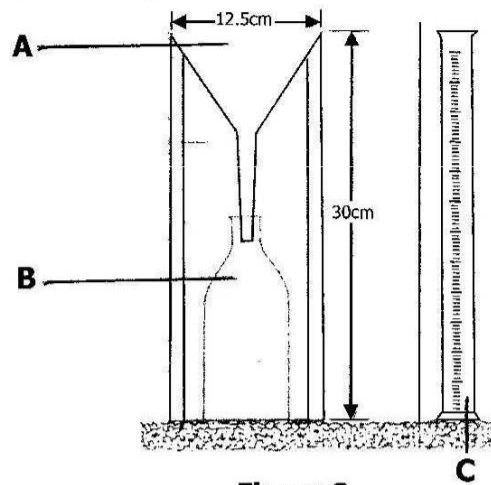


Figure 2

- (a) Identify the instrument in **Figure 2** above.

..... [1]

- (b) Mention the functions of the parts labelled **A**, **B** and **C**.

A

B

C [3]

- (c) State the effect of the amount of water received in an area on pasture.

.....

.....

..... [4]

[Total: 8]

- 3 **Figure 3** shows the result of an experiment carried out by a pupil on a sample of soil.

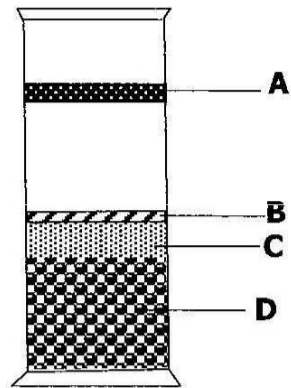


Figure 3

- (a) Name the soil particles labelled **B**, **C** and **D**.

B

C

D [3]

- (b) Why is substance **A** important in soil?

.....
.....
.....
.....
..... [5]

[Total: 8]

4 **Figure 4** shows a traditional maize storage structure.

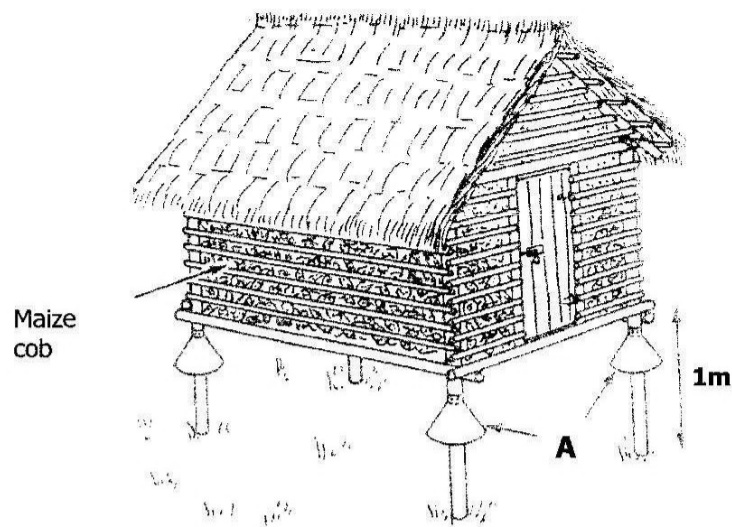


Figure 4

- (a) Identify the maize storage structure represented by **Figure 4** above.
 [1]
- (b) (i) Name the part of the maize storage labelled **A**.
 [1]
- (ii) State the function of the part labelled **A**.

 [1]
- (c) List local available materials used to construct the farm structure represented in **Figure 4** above.
- (i)

- (ii) [3]
- (d) Describe a structure suitable for storing a crop.
 [2]

[Total: 8]

5 **Figure 5** shows an animal drawn cultivator.

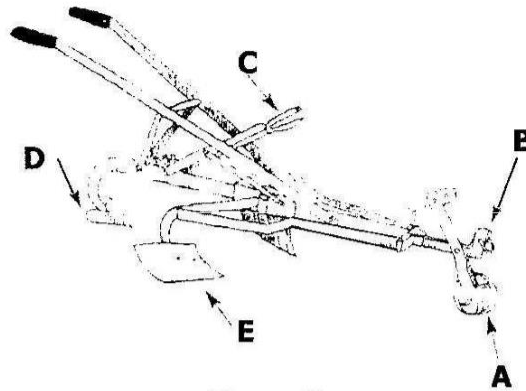


Figure 5

(a) Label the parts **A** to **E**.

- A**
- B**
- C**
- D**
- E** [5]

(b) How can you prepare the farm implement in **Figure 5** for storage?

- (i)
-
- (ii)
-
- (iii)
-
-
- [3]

[Total: 8]

Section B**Answer any three questions from this section.**

- 6** **(a)** State the advantages of crop rotation. [4]
- (b)** Distinguish clearly between:
- (i)** mixed cropping, and
- (ii)** mixed farming. [6]
- (c)** Explain how intercrops maintain the soil fertility and reduce soil erosion. [10]
- [Total: 20]**

7 For Maize:

- (a)** State the usual time of the year when the seed is sown and the reason for this. [2]
- (b)** Describe the desirable conditions of the soil prior to seed sowing and explain how this is achieved. [10]
- (c)** Describe how you would decide when the crop is ready for harvest. [2]
- (d)** Explain how the crop is stored and the conditions necessary for proper storage. [6]
- [Total: 20]**

- 8** **(a)** State the functions of the following in a bird;
- (i)** crop, [2]
- (ii)** proventriculus; [2]
- (b)** Explain how the gizzard carries out its functions. [8]
- (c)** Outline how you would feed day-old broiler chicks until they are eight weeks. [8]
- [Total: 20]**

- 9** **(a)** **(i)** Explain how the water cooling system of a four stroke internal combustion engine works. [7]
- (ii)** Why should an engine have a cooling system? [5]
- (b)** **(i)** What is meant by centre of gravity? [2]
- (ii)** Why is it important for a tractor to have a low centre of gravity? [6]
- [Total: 20]**

- 10** **(a)** State the factors of production. [4]
- (b)** Explain the advantages of keeping farm records. [10]
- (c)** Outline the decisions a farmer makes in crop production on the farm. [6]
- [Total: 20]**