

Candidate Name _____

Centre Number	Candidate Number									

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Agricultural Science

5037/3

Paper 3 Practical Test

Tuesday

28 NOVEMBER 2017

Candidates answer on the question paper

Additional materials

As listed in instructions to supervisors.

Time 1 hour 30 minutes

Instructions to Candidates

Write your **Name, Centre Number and Candidate Number** in the spaces at the top of this page.

There are **four (4) questions** in this paper. Answer **all** questions.

You should show the essential steps in any calculation. Record all experimental results and observations in the spaces provided on the question paper.

Use sharp pencils for your drawings. Coloured pencils or crayons should not be used.

Information for Candidates

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

Cell phones are not allowed in the examination room.

FOR EXAMINER'S USE	
1	
2	
3	
4	
TOTAL	

Answer all questions

Question 1

You are provided with **AS1** and **AS2** which are two types of animal feed.

- (a) Moisten a little of **AS1** with concentrated hydrochloric acid and heat in a flame on a clean nichrome wire. Repeat the experiment with **AS2** and record your observation and conclusion.

Food substance	Observation	Conclusion
AS1		
AS2		

- (b) Put one spatula full of **AS1** in a clean test tube, add 3ml of distilled water and shake well. Add 3ml of Biuret reagent and shake the test tube gently. Repeat the experiment with **AS2** and record your observation and conclusion in the table below.

Food substance	Observation	Conclusion
AS1		
AS2		

- (c) Which of the food samples would you recommend to the farmer whose layers are laying eggs which easily break? Give a reason for your answer.

(i) **Recommended food sample**

.....

..... [1]

(ii) **Reason**

.....

.....

[Total: 10 marks]

Question 2

You are provided with soil sample AS3. Carry out the following experiment using AS3.

- (a) (i)** Place **AS3** in the measuring cylinder provided.

Record the volume of **AS3**

..... [1]

- (ii)** Add 50cm³ of water to **AS3** in the cylinder. What do you observe?.

..... [1]

- (iii)** Record the volume of the mixture of **AS3** and water.

..... [1]

- (iv)** What is the expected volume of the mixture?

..... [1]

- (v)** What is the difference between the actual volume of the mixture and expected volume of the mixture?

..... [1]

- (vi)** What is being investigated in this experiment?

..... [1]

- (b)** Calculate the percentage of the substance you have mentioned in **(a) (vi)** above.

.....

 [3]

- (c)** What is the importance of the substance being investigated?

.....
 [1]

[Total: 10 marks]

Question 3

AS4 is a germinating seed.

- (a) Examine **AS4** carefully and make a well labelled diagram to show visible features.

[5]

- (b) Which group of plants does **AS4** belong to? Give a reason for your answer.

Group: [1]

Reason: [1]

- (c) State **three** conditions necessary for the germination of **AS4**.

(i) [1]

(ii) [1]

(iii) [1]

[Total: 10 marks]

Question 4

AS5 is used on the farm.

(a) Identify **AS5**.

..... [1]

(b) State **two uses** of **AS5**.

(i) [1]

(ii) [1]

(c) Explain **how AS5** is used in making structures named in **(b)** above.

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

(d) State **two reasons** why **AS5** is used for the purpose in **(b)** instead of ordinary wire.

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

(e) Give **two other** alternatives to **AS5**.

(i) [1]

(ii) [1]

[Total: 10 marks]