EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Agricultural Science

Paper 3 Practical Test

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

This question paper consists of 5 printed pages
Answer all questions

Question 1

(a) You are provided with AS1 in a Petri dish.

AS1 is a stock feed.

Carry out the test for starch and proteins to determine its nutritional value. Use half a spatula for each of the required tests.

Write your methods, observations and conclusions in the table below.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Observation</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) State the functions of the nutrient present in AS1 to livestock.

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

[Total: 10 marks]
Question 2

You are provided with AS2.

(a)  
(i) Draw a large labelled diagram of AS2 in the tray below to show its position during storage.

(ii) Why should a farmer ensure that AS2 is placed in that position during storage?

(b) Examine AS2 and give three visible qualities a farmer should consider in order to select it for incubation.

(c) Give one reason why AS2 is turned during incubation.

[Total: 10 marks]
Question 3

AS3 is a structure used in Agriculture.

(a) What is the identity of AS3? [1]

(b) (i) What is the main product made in the structure AS3? [1]

(ii) State two uses of the product you have mentioned in (b)(i) above. [2]

(c) (i) What is the by-product made during the production of the main product? [1]

(ii) State three ways in which the by-product is used in industry. [3]

(d) (i) Name the organism which produces the products named in (b)(i) and (c)(i) above. [1]

(ii) What is the other importance of the organism in agriculture? [1]

[Total: 10 marks]
Question 4

You are provided with specimens AS4 and AS5 which are equipment used on livestock.

(a) (i) Identify the specimens AS4 and AS5.  

AS4 ......................................................................................................................... [1]

AS5 ......................................................................................................................... [1]

(ii) What operations are AS4 and AS5 used for on a farm?  

AS4 ......................................................................................................................... [1]

AS5 ......................................................................................................................... [1]

(iii) Give one reason in each case why the operation you mentioned in (a) (ii) above should be carried out on livestock.  

AS4 ......................................................................................................................... [1]

AS5 ......................................................................................................................... [1]

(b) State two other methods which could be used for the same purpose in place of AS4 and AS5.  

AS4 (i) ..................................................................................................................... [1]

(ii) ......................................................................................................................... [1]

AS5 (i) ..................................................................................................................... [1]

(ii) ......................................................................................................................... [1]

[Total: 10 marks]