EXAMINATIONS COUNCIL OF ZAMBIA
Examination for General Certificate of Education Ordinary Level

Biology

Paper 3 Practical Test

Friday 29 JULY 2016

Additional materials:
As listed in Instructions to Supervisors.

Time: 1 hour 15 minutes

Instructions to candidates

Write your name, centre number and candidate number in the spaces provided at the top of this page.
There are two questions in this paper.
Answer both questions.
Write your answers in the spaces provided on the question paper.
Use sharp HB pencils for your drawings. Coloured pencils and crayons should not be used.

Information for candidates

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

Cell phones are not allowed in the examination room.
You are provided with food material A. Transfer two spatula fulls of food material A into the beaker labelled A1. Add 50 cm³ of distilled water to A1 and shake the contents.

(a) (i) Test 2 cm³ of solution A1 for reducing sugars and record the results in the table provided below.

<table>
<thead>
<tr>
<th>Reagent(s)</th>
<th>Volume of test reagent(s)</th>
<th>Observation(s)</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Test 2 cm³ of solution A1 for the presence of proteins and record the results in the table below.

<table>
<thead>
<tr>
<th>Reagent</th>
<th>Volume of test reagent</th>
<th>Observation(s)</th>
<th>Conclusion</th>
</tr>
</thead>
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</tbody>
</table>

(ii) Describe the method you used to obtain the results in Part (a) (i) above.

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

(iii) Explain what the observation has shown in terms of sugar content of solution A1.

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

[4]
(c) (i) Place food materials of A1 on a white tile and carry out the test for starch and complete the table below.

<table>
<thead>
<tr>
<th>Reagent</th>
<th>Volume of test reagent</th>
<th>Observation(s)</th>
<th>Conclusion</th>
</tr>
</thead>
</table>

(ii) Explain why the food material was placed on a white tile.

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

(d) (i) State the use of reducing sugars in animals.

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

(ii) State one storage organ for starch in plants.

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

(iii) Explain why the food sample A was ground to small pieces.

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

[Total: 20]
2. You are provided with specimens M1, M2 and M3.

(a) (i) Make a drawing of specimen M1 and label any four parts.

(ii) Measure the widest part of the drawing and draw a line where the measurement was taken.
Measurement of drawing .........................................................[2]

(b) Calculate the magnification of the drawing.

Magnification = ................................................................. [3]

(c) (i) Compare the outward appearance of specimens M2 and M3 with M1.
M2 .........................................................................................
M3 .........................................................................................[2]

(ii) Describe the process that caused the condition of M2.
...............................................................................................[3]

(iii) What could be done to the plant of M3 to make its leaf look like that of M1?
...............................................................................................[2]

[Total: 20]
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