THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
ADVANCED CERTIFICATE OF SECONDARY EDUCATION
EXAMINATION

133/3A
BIOLOGY 3A
(ACTUAL PRACTICAL A)
(For Both School and Private Candidates)

Time: 3:20 Hours

Tuesday, 09th May 2017 a.m.

Instructions

1. This paper consists of three (3) questions.

2. Answer all the questions.

3. Question one (1) carries 20 marks and the other two (2), 15 marks each.

4. Except for diagrams which must be drawn in pencil, all writing should be in blue or black ink.

5. Cellular phones are not allowed in the examination room.

6. Write your Examination Number on every page of your answer booklet(s).
1. You have been provided with specimen S₁. Dissect the specimen S₁ in a usual to fully display the digestive system. Pin the ileum to the right side of the animal.

   (a) Draw a large, neat, well labelled diagram of your dissection.

   Leave your dissection properly displayed for assessment.

   (b) How does the:
       (i) ileum in the specimen S₁ modified to suit its function?
       (ii) specimen S₁ adapt to its mode of life?

2. You are provided with solutions S₂ and S₃.

   (a) Using the reagents provided, carry out a biochemical test to identify the food substances present in solutions S₂ and S₃. Tabulate your work as shown in the following table:

<table>
<thead>
<tr>
<th>Food tested</th>
<th>Procedure</th>
<th>Observation</th>
<th>Inference</th>
</tr>
</thead>
</table>

   (b) Why do we use sodium hydroxide and dilute hydrochloric acid in the biochemical experiment?

3. You have been provided with specimens G₃, G₄, G₅, and G₆.

   (a) (i) Identify the specimens G₃, G₄, G₅, and G₆ by their common names.
       (ii) Classify G₄, G₅, and G₆ to class level.

   (b) What are the observable differences between the specimens G₄ and G₆ at Class level?

   (c) In what ways are the specimens G₄ and G₆ important in the ecosystem?

   (d) Where can we find the specimen G₆?