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

133/3A

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

Time: 3:20 Hours **Wednesday, 09th May 2018 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. Calculators, cellular phones and any unauthorized materials 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 $\mathbf{K_1}$. Dissect the specimen $\mathbf{K_1}$ in a usual way to fully display the digestive system and excretory system. Pin the ileum to your right side.

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

Leave your dissection properly displayed for assessment.

(b) (i) Name the structure in the specimen $\mathbf{K_1}$ which is responsible for re-absorption of water molecules from undigested food materials.

(ii) How does the structure named in 1 (b) (i) adapted to its function?

(c) Explain how the centrally location of the gizzard in specimen $\mathbf{K_1}$ help it to adapt its environment.

2. You have been provided with solutions **A** and **B**.

(a) Using the chemicals and the reagents provided, carry out the biochemical experiment to identify the food substances contained in each solution **A** and **B**. Tabulate your results as shown in the following table.

Food Tested	Procedure	Observation	Inference

(b) (i) What is the role of the food substance(s) identified in solution **A** and **B**?

(ii) Briefly explain how the alimentary canal is adapted for absorption of the food substances identified in solution **A** and **B**.

3. You have been provided with specimens $\mathbf{G_2}$, $\mathbf{G_3}$, $\mathbf{G_4}$ and $\mathbf{G_5}$.

(a) (i) Give two reason to why you agree or disagree that specimens $\mathbf{G_2}$, $\mathbf{G_3}$, $\mathbf{G_4}$ and $\mathbf{G_5}$ are members of same Kingdom.

(ii) What are the observable differences between specimens $\mathbf{G_2}$ and $\mathbf{G_5}$ at Class level?

(b) State three adaptations of specimen $\mathbf{G_4}$ to its life.

(c) In what ways are specimens $\mathbf{G_2}$ and $\mathbf{G_5}$ important in the ecosystem?

(d) (i) Classify the specimen $\mathbf{G_4}$ to class level.

(ii) Where can we find the specimen $\mathbf{G_5}$?