

**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

Wednesday, 14th May 2014 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. Dissect specimen S_1 in the usual way. Carefully pin the alimentary canal to your right hand side. Clearly display the structures whose roles are:
 - (i) Digestion of food materials.
 - (ii) Excretion.
 - (iii) Reproduction.

Leave your dissection properly displayed for assessment.

- (a) Draw a neat and well labeled diagram of your dissection.
 - (b) Identify the sex of specimen S_1 . Give reasons.
 - (c) State one role played by each part which makes up the fore gut.
2. You have been provided with solutions S_2 and S_3 .

- (a) Identify the food substances present in solution S_2 and S_3 by using the chemicals and reagents provided. Tabulate your work as shown in the following Table:

Food Tested	Procedure	Observation	Inference

- (b) Explain the basis of each test, which produced positive results in 2(a).
 - (c) An excess of one food substance identified in 2(a) is stored in the body.
 - (i) Identify which of the food substances needs to be converted before storage?
 - (ii) Name the organ and the hormone influencing the conversion of food substance to a form that can be stored.
 - (iii) State the form relevant for storage.
3. You have been provided with specimens E_1 , E_2 and E_3 .
 - (a) Identify specimens E_1 , E_2 and E_3 by their common names.
 - (b) State two adaptations shown by each specimen E_1 and E_2 to its habitat.
 - (c) Classify the specimens E_1 and E_2 to Class level.
 - (d) Examine the underside of a frond of specimen E_3 , then, identify structures responsible for reproduction.
 - (e) Study specimens E_1 and E_3 carefully then state why these specimens are said to belong to the same Kingdom but not the same Division/Phylum?