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, 20th February 2013 a.m.**

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **all** questions.
3. Question **one (1)** carries 20 marks and the other **two (2)**, 15 marks each.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. Dissect specimen S_1 in the usual way to fully display the viscera general. Pin out the alimentary canal to your right hand side.

(a) Make a neat well labelled diagram of your dissection.

Leave your dissection well displayed for assessment.

(b) Identify the sex of specimen S_1. Give two reasons to support your answer.

(c) How is specimen S_1 adapted to its mode of life?

2. You are provided with solutions S_2 and S_3.

(a) Using the reagents provided, carry out a biochemical test to identify the food substances present in solutions S_2 and S_3. Tabulate your work as shown in Table 1.

Table 1

Food tested	Procedure	Observation	Inference

(b) State the role played by Sodium hydroxide and Dilute hydrochloric acid in the biochemical experiment.

3. You have been provided with specimens G_3, G_4, G_5, G_6 and G_7.

(a) Identify specimens G_3, G_4, G_5 and G_7 by their common names.

(b) State the observable differences between specimens G_4 and G_7 at class level.

(c) State two economic importance of specimen G_4 and G_7.

(d) Classify specimen G_7 to class level and state its habitat.

(e) By listing the number of the statements from the dichotomous key below identify the order of each specimen G_3, G_4, G_5 and G_6.

Key to some Insect Orders

1 (a)	Body dorsoventrally flattened----------	Dictyoptera
(b)	Body not dorsoventrally flattened----------	go to 2
2 (a)	Body covered with hair----------	Hymenoptera
(b)	Body not covered with hair ----------	go to 3
3 (a)	Number of obvious wing (2) two ----------	Diptera
(b)	Number of obvious wing (4) four ----------	go to 4
4 (a)	Hardened outer wings, soft inner wings and membranous----------	Coleoptera
(b)	Outer and inner wings both soft and membranous---------	go to 5
5 (a)	Hind limbs larger than the rest ----------	Orthoptera
(b)	Limbs all of the same size----------	Lepidoptera