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

033/2A **BIOLOGY 2A**

ALTERNATIVE A PRACTICAL

(For Both School and Private Candidates)

TIME: 2½ Hours ***Wednesday morning 10/10/2007***

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **two (2)** questions including question number **1**.
3. Each question carries **25** marks.
4. Except for diagrams which must be drawn in pencil, all writings should be in blue/black ink or ball point pen.
5. Electronic calculators are **not** allowed in the examination room.
6. Cellular phones are **not** allowed in the examination room.
7. Write your **Examination Number** on every page of your answer booklet(s).

This paper consists of 3 printed pages.

1. You are provided with solution **S**.

(a) Carry out experiments to identify the food substances present in solution **S**.

(i) Record your experimental work as shown in table 1 below. **(16 marks)**

Table 1

Test for	Procedure	Observations	Inference

(ii) Solution **S** contains ------. **(3 marks)**

(b) Suggest one storage organ in a plant from which solution **S** might have been prepared. **(1 mark)**

(c) For each food substance identified in (a) (ii) above, name its end product(s) of digestion. **(4 marks)**

(d) Which of the identified food substance is mostly needed by small children? **(1 mark)**

2. You are provided with a beaker, tea bag and hot water. Carry out the following experiment:

Pour about 100 cm^3 of hot water into the beaker.

Put the tea bag into the beaker containing hot water.

Observe carefully the experiment for a few minutes.

(a) (i) What happened to the tea bag when it was put in hot water? **(3 marks)**

(ii) Explain why the changes you observed occurred? **(4 marks)**

(b) (i) What do you think was the aim of the experiment? **(3 marks)**

(ii) Draw a conclusion from the experiment. **(3 marks)**

(c) (i) Name the physiological process investigated in this experiment. **(3 marks)**

(ii) Define the process named in (c) (i) above. **(4 marks)**

(iii) What is the importance of this process in nature? **(5 mark)**

3. Study the specimens **J**, **K**, **L**, **M** and **N** provided.

(a) Identify specimens **J**, **K**, **L**, **M** and **N** by their common names. **(5 marks)**

(b) Name the kingdoms for each of specimens **J**, **K**, **L**, **M** and **N**. **(5 marks)**

(c) Suggest the possible habitats for specimens **J** and **K**. **(4 marks)**

(d) Draw and label specimen **N**. **(7 marks)**

(e) List **four (4)** observable differences betweens specimens **J** and **K**. **(4 marks)**