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: 2 Hours 30 Minutes **Tuesday November 09, 2004 a.m.**

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. Cellular phones are **not** allowed in the examination room.
5. Electronic calculators are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

This paper consists of 3 printed pages.

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1. (a) You are provided with solution S_1. Carry out experiments to identify the food substances present in it. Record your procedure, observations and inferences as shown in the table below.

Test for	Procedure	Observation	Inference

(b) (i) Give one biological importance of each food substance identified in solution S_1 to the body.

(ii) Name the food substances to be added to the food substances identified in S_1 to form a balanced diet.

(iii) Name the digestive juice that contains the enzymes which digest the food substances found in solution S_1.

2. (a) You are provided with cotton wool soaked in alcohol. Rub it against the back of the palm of your hand.

(i) What sensation do you feel?

(ii) How is this sensation brought about?

(iii) What happened to the superficial blood capillaries under the rubbed part?

(iv) What is the natural process which brings the same sensation as in 2.(a)(i) above?

(b) You have been provided with specimen L marked at the ends as Z and W.

(i) Identify, draw and label it.

(ii) Which bones articulate at the points marked W and Z?

(iii) What type of joint is formed at W and Z respectively?

(iv) Why are the surfaces at Z and W smooth?

(v) What is the difference between the joint formed at W and that at Z?

3. You are provided with specimens M_1, M_2, M_3, M_4, M_5 and M_6. Observe them carefully and answer the questions that follow:

(a) (i) Identify specimens M_1, M_2, M_3, M_4, M_5 and M_6 by their common names.

(ii) To which kingdom do specimens M_1 and M_5 belong?

(iii) Make a longitudinal section (L.S.) of specimen M_4 and make a large well labelled diagram to show the embryo.

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(iv) State the habitat(s) for specimens M_2 and M_5.

(v) Compare specimens M_4 and M_6.

(b) (i) State the economic importance of specimens M_2 and M_3.

(ii) What are the adaptive features of specimen M_2 to its mode of life?

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