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 1/2 Hours **9 November 2001 p.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. All answers must be written in the answer booklet(s) provided.
5. Write your Examination Number on every page of your answer booklet(s).

This paper consists of 2 printed pages.

1. You have been provided with paste S_1. The paste was obtained by grinding solid food sample in a mortar and mixing the product with a little amount of water.

   Design and carry out experiments to find out the different food substances present in S_1.

   (a) Record your experimental work as shown in Table 1 below:

   Table 1.

Test	Procedure	Observations	Inference

   (b) Name the nutritional problems a child is likely to suffer if fed with a diet deficient/lacking the food substances you have identified. Give reasons.

   (c) Give two natural sources of each of the food substances you have identified in S_1.

2. Open your mouth widely. Using the mirror provided, observe all the structures you can see on the mirror/from your image.

   (a) Name the different sensory organs visible.

   (b) What are the functions of each sense organ observed?

   (c) Draw and label the sense organ you saw in the mouth. In your diagram show the location of the sensory structures associated with the various named stimuli .

   (d) Name the fluid secreted in the mouth in response to presence of food in the mouth.

   (e) State two functions of the liquid named in (d) above in digestion.

3. You have been provided with specimens A, B, C and D. Study them carefully and answer the following questions:

   (a) (i) Identify specimens A and B using their common names.

   (ii) Name the habitats of specimens A and B.

   (iii) Briefly explain how the different structures observed on A and B adapt the plants to their habitats.

   (iv) What term is used to describe these plants in relation to water economy?

   (b) (i) Identify specimens C and D.

   (ii) To which kingdoms do specimens C and D belong?

   (iii) In which way(s) is specimen C similar and yet different from specimen D?