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

033/2A **BIOLOGY 2A**

ALTERNATIVE PRACTICAL
(For both School and Private Candidates)

TIME: 2.30 Hours. **11 November 2002 a.m.**

INSTRUCTIONS

1. This paper consists of THERE (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 centre and index number on every page of your answer booklet(s).

This paper consists of 2 printed pages

1. You are provided with 2 plant organs: O_1 and O_2. Prepare separate extracts from O_1 and O_2. Carry out food test experiments to identify the substances present in each organ. Tabulate your working as shown below.

Test for	Procedure	Observation	Inference

(a) Name organs O_1 and O_2

(b) State the functions of O_1 and O_2 in the life of the plant. Give reasons for your answer

(c) List down two ways m which specimen O_2 is important to man

(d) Describe the path taken by a food molecule present in O_1, from the time it is absorbed until it reaches the right atrium (auricle).

2 You are provided with an evaporating dish/beaker, solution W, substance X and a filter paper. Carry out the following experiment:
Add substance X into a beaker. Place two drops of solution W at the centre of the filter paper. Observe the experiment for two minutes. Note any change which takes place.

(a) Identity substance X and solution W giving reasons for your answers.

(b) Explain why the change you observed occurred.

(c) (i) Draw a conclusion from the experiment.

(ii) State the importance of the phenomenon in nature.

3 (a) Examine specimens T_1 and T_2 and then answer the following questions:

(i) Identify specimens T_1 and T_2.

(ii) Classify T_1 and T_2 into their respective kingdoms.

(iii) List down the common habitat for T_l and T_2.

(iv) State the mode of nutrition in T_1 and T_2.

(v) Write down the economic importance of T_1 and T_2.

(b) Examine specimens Z and Y carefully and answer the following questions:

(i) Identify specimens Z and Y using their common

(ii) State the mall function of specimens Z and Y in a plant's life.

(iii) Specimen Z is used by plants to respond to stimulus. State the stimulus and the type of response.