

**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 in 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) Identify 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_1 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 main 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.