

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: 2:30 Hours

Wednesday 7<sup>th</sup>, October 2009 a.m.

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Instructions

1. This paper consists of **two (2)** questions.
2. Answer **all** questions.
3. Each question carries 25 marks.
4. Except for diagrams which must be drawn in pencil all writing should be in blue/black/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 2 printed pages.

flowers  
flour

Rice

Starch - duodenums  
Reducing and non-reducing

(Small intestine)  
(ileum)

1. (a) You are provided with solution S<sub>1</sub>. Carry out experiments to identify the food substances present in it. Record your procedure, observation and inferences as shown in the table below.

Pancreas  
Juice

Test for	Procedure	Observation	Inference

- (b) (i) Name the food substances you have identified.  
 (ii) State **two (2)** sources of each food substance named in 1(b) (i) above.  
 (iii) Mention **one (1)** role of each food substance you have identified.
- (c) In which parts of the digestive system are the above mentioned food substances digested? In each case mention the enzyme and the products.

2. (a) Using a hand lens examine specimen A<sub>1</sub>.
- (i) Identify specimen A<sub>1</sub> by its common name.  
 (ii) Name the phylum and class to which specimen A<sub>1</sub> belongs.  
 (iii) Give an example of another organism which belongs to the same phylum as specimen A<sub>1</sub>.
- (b) Draw a well labelled diagram of specimen A<sub>1</sub>.
- (c) How is specimen A<sub>1</sub> adapted to its mode of nutrition?  
 (d) What is the economic importance of specimen A<sub>1</sub>?  
 (e) Where can specimen A<sub>1</sub> be found?

Test for	procedures	observations	Inference
Starch	1. Iodine solution was added to solution Iodine was in yellow orange yellow	The colour turned blue black or deep blue	Limnonthicus
Non-reducing sugar	1. HCl solution was added to solution The mixture was boiled and allowed to cool		