

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

NOVEMBER 2016

033/2B

BIOLOGY B
(ACTUAL PRACTICAL B)

24 HOURS ADVANCE INSTRUCTIONS

1.0 IMPORTANT

- 1.1 GREAT CARE MUST BE TAKEN **NOT** TO DIVULGE THESE INSTRUCTIONS TO BOTH CANDIDATES AND UNAUTHORIZED PERSONS EITHER DIRECTLY OR INDIRECTLY.
- 1.2 MAKE SURE THAT THE CANDIDATES ARE PROVIDED WITH SPECIMENS, CHEMICALS AND APPARATUS INDICATED IN THIS ADVANCE INSTRUCTIONS ONLY AND NOT OTHERWISE.
- 1.3 PLEASE DO **NOT** OPEN THE ENVELOPE CONTAINING THE QUESTION PAPERS 24 HOURS BEFORE THE TIME OF COMMENCEMENT OF THE EXAMINATION.

2.0 PREPARATION AND LABELLING OF SPECIMENS

2.1 Preparation of solutions

- (a) Prepare 2% starch solution by mixing 20 g of starch powder with 1 litre of distilled water. Boil the contents and allow it to cool.
- (b) Dissolve 20 g of glucose in 1 litre of distilled water.
- (c) Add 500 cm³ of distilled water to 500 cm³ of fresh milk.
- (d) Mix the starch, glucose and milk solutions together. Provide each candidate with 30 cm³.

2.3 Labelling of the specimens and solutions

- | | | |
|-----|---|----------|
| (a) | Mixture of starch, milk and glucose solution----- | K |
| (b) | Rat ----- | W |
| (c) | Lizard----- | X |
| (d) | Tilapia fish ----- | Y |
| (e) | Earthworm ----- | Z |

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2.4 Labelling of reagents

Prepare fresh solutions of the following and label them as such:

- (a) Benedict's solution
- (b) Iodine solution
- (c) Dilute hydrochloric acid
- (d) Dilute sodium hydroxide
- (e) Sudan III
- (f) 1% Copper sulphate solution.

3.0 APPARATI

Provide each candidate with all apparati listed in the Advance Instructions sent to you ea