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

NOVEMBER 2017

033/2A

BIOLOGY 2A (ACTUAL PRACTICAL A)

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 DIRECT OR INDIRECTLY.
- 1.2 MAKE SURE THAT THE CANDIDATES ARE PROVIDED WITH THE SPECIMENS, CHEMICALS AND APPARATI INDICATED IN THESE 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 OF SOLUTION AND LABELLING

2.1 Preparation of solution and specimens

- (a) Dissolve 20g of sucrose in 1 litre of water.
- (b) Mix the sucrose solution with 500 cm³ of cooking oil and stir the mixture well. Provide each candidate with 30 cm³.
- (c) For fresh chicken or small bird, use chloroform to anaesthetize the animal 40 minutes before the examination start.

2.2 Labelling of the specimens and solutions

- (a) A mixture of sucrose and cooking oil solution----- X
- (b) Grasshopper----- K₁
- (c) Killed/preserved chicken or small bird----- K₂
- (b) Pine leaf----- K₃
- (c) Maize seedling----- K₄

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2.3 Reagents

Prepare fresh solutions and label them as bench reagents.

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

2.0 APPARATI

Provide each candidate with the following apparatus

- (a) Test tubes ----- 4
- (b) Test tube rack ----- 1
- (c) Test tube holder ----- 1
- (d) Test tube brush ----- 1
- (e) Source of heat (Bunsen burner) ----- 1
- (f) Pipette/dropper ----- 1
- (g) Beakers----- 2
- (h) Watch glasses ----- 3