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**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION
2021**

033/2A

**BIOLOGY 2A
(ACTUAL PRACTICAL A)**

03 HOURS PRACTICAL 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 THE SPECIMENS, CHEMICALS AND APPARATUSES INDICATED IN THESE PRACTICAL ADVANCE INSTRUCTIONS ONLY AND NOT OTHERWISE.

2.0 PREPARATION OF SPECIMENS

- (a) Prepare two (2) Irish potatoes of about 6 - 7 cm long. Provide each candidate with both Irish potatoes.
- (b) Use a beam balance to weigh 6 g of table salt for each candidate. Put 3 g on the two separate watch glasses and label each as sample A.
- (c) Use a beaker (400 ml)/cooking pot to prepare the boiling water which will be used by the candidates to boil the specimens during the examination. Place the boiling point in such a way that can be shared by 4-6 candidates.

3.0 LABELLING OF SPECIMENS AND CHEMICALS

- | | | |
|---|-------|--|
| (a) Irish potato (2 per candidate) | _____ | Irish potato
Sample A (3 g)
D
E
F
Water |
| (b) Table salt (3 g per candidate) | _____ | |
| (c) Bread mould (1 piece per candidate) | _____ | |
| (d) Small pine branch (1 per candidate) | _____ | |
| (e) Earthworm (1 per candidate) | _____ | |
| (f) Distilled/tape/rain water (1000 ml per candidate) | _____ | |

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4.0 APPARATI

Provide each candidate with:

- (a) 1 beaker (200 ml)
- (b) 1 scalpel/knife
- (c) 1 spatula
- (d) 1 scooper
- (e) 1 pipette/dropper
- (f) 1 ruler
- (g) 2 stickers
- (h) 4 watch glasses
- (i) 2 water trough/ crystallising dish
- (j) 1 measuring cylinder
- (k) 1 spoon (can be shared by 4 candidates)
- (l) 1 clock (can be shared by 10 candidates).

**5.0 NOTE TO EXAMINATIONS SUPERVISORS AND LABORATORY TECHNICIAN/
APPOINTED BIOLOGY TEACHER**

After the arrangement of the laboratory for examination, the Laboratory Technician/ Biology teacher assigned the responsibility to arrange the laboratory must fill in the attached declaration form in page 3. The form indicates the quantity provided to each candidate and the labels used for the specimens, chemicals and apparatus as indicated in the 03 Hours Practical Advance Instructions. The form must be filled at the beginning of each session of the examination and submitted to the Council enclosed together with the candidates' scripts in the last envelope of the final session.