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THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
ADVANCED CERTIFICATE OF SECONDARY EDUCATION
EXAMINATION 2023

133/3A

BIOLOGY 3A
(ACTUAL PRACTICAL 3A)

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 SPECIMENS, CHEMICALS AND APPARATUSES INDICATED IN THESE PRACTICAL ADVANCE INSTRUCTIONS ONLY AND **NOT** OTHERWISE.

2.0 PREPARATION OF THE SPECIMENS AND SOLUTIONS

2.1 Specimen

Use chloroform to anaesthetize the fresh guinea pig/rat/mouse about 10 minutes before the commencement of the examination. Provide 1 specimen to each candidate.

2.2 Solution

Prepare sucrose solution by mixing 20 g of sucrose crystals with 1 litre of distilled/rain water. Provide each candidate with 30 ml.

3.0 LABELLING OF THE SPECIMENS AND SOLUTION

- | | | |
|-----|---|----------------------|
| (a) | Fresh killed guinea pig/rat/mouse (1 per candidate) ----- | B |
| (b) | Crab (1 for 4 candidates) ----- | P₁ |
| (c) | Grasshopper (1 per candidate) ----- | P₂ |
| (d) | Bee (1 per candidate) ----- | P₃ |
| (e) | Spider (1 per candidate) ----- | P₄ |
| (f) | Millipede (1 for 4 candidates) ----- | P₅ |
| (g) | Sucrose solution (30 ml per candidate) ----- | Q |

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4.0 LABELLING OF THE CHEMICALS

Prepare the fresh solutions, label them by their name, and then arrange in such a way that can be shared by 4 candidates.

- (a) Dilute hydrochloric acid solution
- (b) Benedict's solution
- (c) Sodium hydroxide solution
- (d) 1000 ml of tap/rain water

5.0 APPARATI

Provide each candidate with the following apparati:

- (a) 4 test tubes
- (b) 1 test tube rack
- (c) 1 test tube holder
- (d) 1 measuring cylinder
- (e) 1 test tube brush
- (f) Bunsen burner (can be shared by 4 candidates)
- (g) 1 measuring cylinder (10 ml) or dropper with measurements
- (h) 4 watch glasses
- (i) 2 beakers (200-300 ml)
- (j) 1 hand lens
- (k) 1 dissecting kit/instruments
- (l) 1 dissecting board/tray
- (m) 1 scalpel

6.0 OTHER REQUIREMENT PER CANDIDATE

- (a) 1 pair of gloves
- (b) 1 piece of cotton wool
- (c) 3 stickers
- (d) 30 cm cotton thread
- (e) 10 office pins

7.0 ASSESSMENT OF THE DISSECTION AND DRAWING (5 Marks)

A biology teacher appointed will be required to make an on-the spot assessment of each candidate's dissection and drawing at least 45 minutes after the beginning of the Biology Practical examination. The candidates' scores of the assessment should be recorded on a separate form provided. The form **must be attached to each candidate's script** and sent to NECTA.

8.0 NOTE TO EXAMINATIONS SUPERVISORS AND LABORATORY TECHNICIAN/ BIOLOGY TEACHER APPOINTED

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 and the labels used for the specimens, chemicals and apparati 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.