THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2A **BIOLOGY 2A**

(ACTUAL PRACTICAL A)

Time: 3 Hour. **Tuesday 13/05/2008 a.m**

Instructions

1. This paper has three papers.
2. Answer **all** questions.
3. Question **1** contains 30 marks while question 2 and 3 have 10 marks each.
4. Mobile phones are not allowed inside the examination room.
5. Write your Examination Number on every page of your answer booklet.

1. Dissect specimen **R** to expose both reproductive and excretory systems.

(a) (i) Draw a well-labelled diagram showing two parts of the reproductive system and two parts of the excretory system.

(ii) Indicate with arrows the direction of movement in the excretory system.

(b) (i) State the function of each reproductive part drawn in (a)(i).

(ii) Compare the reproductive system of specimen R to that of a mammal using two points.

(c) (i) Identify the sex of specimen R.

(ii) Give three observable features that support your answer.

2. You are provided with solutions **S** and **T**.

(a) (i) Perform appropriate food tests using iodine, Benedict's, and Biuret solutions.

(ii) Record your procedures, observations, and inferences in a table format.

(b) (i) Name the enzymes that digest each food substance identified.

(ii) State the organ where each enzyme functions best.

(iii) Write the final product for each digestion.

(c) (i) Why is heat needed during Benedict's test?

(ii) What would be the result if a protein sample is tested using iodine?

3. Observe specimens **X**, **Y** and **Z**.

(a) (i) State two observable features used to place specimen Z into its kingdom.

(ii) Give three morphological adaptations that enable Z to survive in dry regions.

(b) (i) Name the organism from which specimen X was taken.

(ii) State two roles played by the scale to that organism.

(iii) How do fish scales differ from reptile scales?

(c) (i) Which features are used to classify specimen Y into dicotyledonous plants?

(ii) What are the economic benefits of specimen Y?