THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2A **BIOLOGY 2A**

(ACTUAL PRACTICAL A)

Time: 3 Hour. **Tuesday 13/05/2003 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 the provided specimen **Z** in the usual way to expose the digestive and reproductive systems. Then, respond to the following:

   (a) Draw a well labelled diagram of dissected specimen Z showing six parts of the digestive system and two reproductive parts.

   (b) Identify three major parts of the alimentary canal visible in specimen Z.

   (c) State the observable differences in reproductive system between male and female **Z**.

2. You are provided with specimen X1 and X2 and instructed to carry out the following experiment:

   (i) Cut specimen X1 into two halves using a scalpel.

   (ii) Add 2 drops of iodine to one half and observe after 5 minutes.

   (iii) To the second half, add 3 drops of Benedict's solution, heat gently and observe.

   (iv) Peel specimen X2 and rub it on a brown paper sheet, then heat it under flame and observe.

   Questions:

   (a) What colour change was observed when iodine was added to specimen X1?

   (b) Identify the food substances present in specimen X1.

   (c) What was the chemical basis for the colour change observed with iodine?

   (d) Name the enzymes responsible for digesting the food substances identified in X1 and their end products.

   (e) Mention four roles of the identified food substance in X1 in plant metabolism.

   (f) State two adaptive functions of the food substance in specimen X2 to desert animals.

3. You are given specimens F, G, H and I. Observe them and answer:

   (a) Mention five observable features that differentiate specimen F and H.

   (b) Identify three shared features between specimens G and I.

   (c) Draw specimen G and label five observable features.