THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2A **BIOLOGY 2A**

(ACTUAL PRACTICAL A)

Time: 3 Hour. **Tuesday 16/05/2006 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 **F** (cockroach) to reveal its internal reproductive and excretory systems.

(a) (i) Draw a well-labelled diagram of the internal parts exposed.

(ii) Use arrows to show the flow of reproductive products and excretory materials.

(b) (i) State the role of the reproductive system in insects.

(ii) Explain how the malpighian tubules function.

(c) (i) Determine the sex of specimen F.

(ii) Justify with three observations.

2. You are provided with solution **L** suspected to contain proteins and starch.

(a) (i) Carry out food tests and record results as follows:

Food Test	Procedure	Observation	Inference

(b) (i) State the enzyme used to break down starch and its end product.

(ii) What organ secretes the enzyme for protein digestion?

(iii) Why are proteins essential in the human body?

(c) (i) Why should the solution be kept warm during Benedict's test?

(ii) What is the role of water in a Biuret test?

3. Observe specimens **G**, **H** and **J**.

(a) (i) Mention five observable features common in all three.

(ii) What are two distinct features of specimen J?

(b) (i) Explain how specimen H adapts to jumping.

(ii) State two economic values of specimen G.

(c) Draw specimen J and label five external parts.