THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2B **BIOLOGY 2B**

(ACTUAL PRACTICAL B)

Time: 3 Hour. **Wednesday 12/05/2004 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 **A** to display the full **digestive system**.

(a) (i) Draw a labelled diagram showing at least six internal parts involved in digestion.

(ii) Indicate the direction of food flow using arrows.

(b) (i) Identify the part that stores bile.

(ii) Name the structure responsible for digestion of starch.

(iii) Mention the part that connects the mouth to the stomach.

(iv) State the main function of the small intestine.

(c) (i) Is the gall bladder present in specimen A?

(ii) Justify your answer using one biological reason.

(iii) What precaution should be observed when dissecting the thoracic region?

2. You are given **specimen D .**Conduct an experiment to observe catalase activity.

(a) (i) Cut specimen D into two parts and grind one half to make a paste.

(ii) Place equal quantities into test tubes X and Y.

(iii) Add 2 ml of 2% hydrogen peroxide into both and observe.

(iv) Test the evolved gas with a glowing splint.

(b) (i) What was the aim of this experiment?

(ii) Which test tube acted as a control and why?

(iii) What did you observe and what caused the difference between the two tubes?

(c) (i) Name the enzyme responsible for the change.

(ii) Write the balanced chemical equation for the reaction.

(iii) What gas was released and how did you confirm it?

(d) (i) What conclusion can you draw from this experiment?

(ii) How can the same experiment be altered to test temperature sensitivity of enzymes?

3. Observe specimens **P , Q,** and **R.**

(a) (i) List three reasons why specimen P is placed in Class Insecta.

(ii) State two benefits of specimen P to crop production.

(iii) What roles do insects like P play in ecological balance?

(b) (i) Mention two major differences between specimen R and P.

(ii) Identify the phylum of specimen Q.

(iii) Give one economic use of specimen Q.

(c) (i) Draw specimen Q and label three external structures.

(ii) Explain the role of the labelled structures in survival or reproduction.