**THE UNITED REPUBLIC OF TANZANIA**

**NATIONAL EXAMINATIONS COUNCIL OF TANZANIA**

**DIPLOMA IN SECONDARY EDUCATION EXAMINATION**

**733/2A** **BIOLOGY 2A**

**(ACTUAL PRACTICAL 2A)**

**Time: 3 Hours** **Year: 2022**

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**Instructions**

1. This paper consists of **three (3)** questions.
2. Answer **all** questions.
3. Question number **one (1)** carries **twenty (20)** marks and the rest carry **fifteen (15)** marks each.
4. Cellular phones and any unauthorized materials are not allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet (s)

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**1.** Dissect specimen C (a male or female cockroach) in the usual way to display the reproductive and excretory systems. The candidates were supposed to respond to the following questions:

(a) Draw a well-labelled diagram of dissected specimen C to show two parts that form each of the reproductive and excretory systems.

(b) What function does each of the two reproductive parts labelled in 1(a) have?

(c) What is the sex of specimen C? Give three evidences.

(d) Observe the thread like structures present in specimen C and state why they are so numerous

**2.** You are provided with solutions P and Q and answer the following questions:

(a) Use the reagent provided to carry out the biochemical test to identify classes of food contained in solution P and Q. Tabulate your results as shown in the following table:

| **Food Test** | **Procedure** | **Observation** | **Inference** |
|---|---|---|---|
| | | | |

(b) State three functions of the food substance(s) identified in solution P and Q in human body.

(c) (i) What digestive enzyme is responsible for digestion of food substance identified in solution Q in the duodenum?

(ii) Give the end product of digestion carried by the enzyme identified in (c) (i).

(d) What nutritional disease is caused by the defficiency of food substance contained in solution Q to human?

3. You are provided the specimens labelled **L, M, N, O** and **R**. Observe the specimens carefully and answer the questions that follow:

(a) With what observable features would you place the specimens **M, N** and **R** in their

respective classes? Give two points for each.

(b) Which observables features help the specimen **O** to be an agent of pollination? Give two points.

(c) Draw a diagram of specimen N and label the locomotive structures.