THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2B **BIOLOGY 2B**

(ACTUAL PRACTICAL 2B)

Time: 3 Hours **Year: 2023**

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 the provided specimen **B** in the usual way to display the digestive system and respond to the following questions:
    a) Draw a diagram of a dissected specimen **B** and label six parts that forms the digestive system.
    b) Carefully observe the dissected specimen **B** by using hand lens and identify the structure that carry out each of the following functions:
        i) Transfer of food from mouth to the stomach
        ii) Production of ptyalin enzyme
        iii) Secretion of bile.
    c) Does specimen B have a gall bladder or not? Give a reason for your response.
2. You are provided with specimen D, carry out an experiment using the following procedures:

    Procedures

    a) Cut the specimen D into two halves.
    b) Place one half into a mortar and grind using pestle to make a paste
    c) Place the paste into the test tube and label it as test tube X.
    d) Place the other half into another test tube and label it as test tube Y
    e) Add 2mls of 2% H_2O_2 solution into each of the test tube X and Y and note the changes.
    f) Take a wooden splint and test the evolution of gas in each of the test tubes. Record your observation.

    Questions

    a) (i) What was the aim of this experiment?
    (ii) Which test tube acted as a control experiment?
    b) Why was specimen D grounded?

c) (i) What did you observe after adding 2% hydrogen peroxide solution into each of the test tube X and Y? Give reason for each observation.

(ii) Suggest the name of the substance contained in specimen **D** which was responsible for the changes noted in one of the test tubes in procedure (e).

(iii) Write the chemical equation for the reaction which occurred after adding 2 % of hydrogen peroxide solution which caused the observed changes in one of the test tube in procedure (e).

d) Name the gas evolved in this experiment. Give reasons for your answer.

e) What deductions can be made in this experiment? Give two points.

3. You are provided with specimens **A**, **F**, **C**, **G** and **E** , observe carefully and answer the following questions:

a) What are the observable features shared by specimen **C** and **E**? Give five points.

b) How is specimen **F** important for industrial development? Give four points.

c) Observe the lower surface of the specimen A and answer the following questions.

(i) Identify the structures found on the lower side.

(ii) What is the function of the structure identified in (c) (i)?

d) What are the observable features used to place specimen **C, G** and **E** to their phylum? Give three points.