THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2C **BIOLOGY 2C**

(ACTUAL PRACTICAL 2C)

Time: 3 Hours **Year: 2022**

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 **A** in the usual way to display the viscera-in-situ and respond to the following questions:
   (a) Which procedures did you follow from pinning back the outer skin to pinning back the inner skin?
   (b) Draw a diagram of the dissected specimen and label three observable parts which are concerned with the transportation of blood.
2. You provided with specimen **Q** and required them to carry out procedures (a) to (i) and then answer the questions follow:
   (a) Cut specimen **Q** into small pieces using scapel.
   (b) Place the pieces into mortar and mix it with one spatula full of sand
   (c) Grind the mixture using pestle to make a paste.
   (d) Label 2 test tubes as test tube B and C.
   (e) Place a small portion of the paste into each test tube
   (f) Add 2 ml of 2% H_2O_2 solution into the test tue B and note the change.
   (g) Test the nature of the gas evolved from the test tube using a wooden splint. Record your observation.
   (h) Add 2 cm 3 of distilled water to the contents of test tube C then boil for 3 minutes.
   (i) Repeat the same procedure in stage (f) and (g) for test tube C then record your observation.

   Questions
   (a) (i) What was the aim of this experiment
   (ii) Which test tube was used as a control experiment?
   (b) Give a reason for doing each of the following:
   (i) Mixing specimen Q with sand.
   (ii) Grinding the specimen Q.
   (c) (i) What did you observe after adding 2% hydrogen peroxide solution into

each of the test tubes B and C? Give reason for each observation

(ii) Suggest the name of the substance contained in the specimen Q which was responsible for the changes noted in (f).

(iii) Write a chemical equation for the reaction which occurred after adding 2% hydrogen peroxide solution to the test tube B.

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

(e) What can you deduce from this experiment?

3. You are provided with specimens **D, E** and **F.** Observe them carefully then answer the following questions:

(a) (i) What are the observable features used to place specimen E to its respective Kingdom? State two features.

(ii) How are the members of the Class to which the specimen E belong important for industrial development? Give three points.

(iii) State four observable features which enable specimen E to adapt to its habitat.

(b) (i) Identify the organism from which specimen D was taken.

(ii) How is specimen D important to the organism from which it was taken? Give two points.

(c) What observable features are used to place specimen F to its respective Phylum? State three features.