

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

033/2A

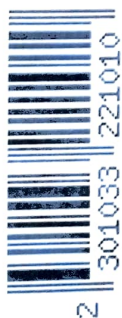
BIOLOGY 2A
(ACTUAL PRACTICAL A)
(For Both School and Private Candidates)

Time: 2:30 Hours

Year: 2023

Instructions

1. This paper consists of **two (2)** questions. Answer **all** the questions.
2. Each question carries **25** marks.
3. All writings should be in **blue** or **black** ink, except diagrams which must be in pencil.
4. Cellular phones and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).



1. You have been provided with specimens **J**, **X**, **Y** and **Z**. Observe the specimens carefully, then answer the following questions:
- (a) (i) Draw a well labeled diagram of specimen **X** with locomotory structures intact.
(ii) Why specimen **X** must have locomotory structures? Give four reasons.
(iii) Use a knife to cut and totally remove the scales and fins from specimen **X** and explain seven activities that will be impaired, if the specimen is returned to its habitat alive.
 - (b) (i) Study specimen **Y** and **J** and give their common names and the part of the skeleton from which each specimen were taken.
(ii) Briefly explain the function performed by specimen **Y** in the human body.
(iii) Explain four adaptive features of specimen **Y** which help it to perform its function to the human body.
 - (c) (i) Carefully observe the structure of specimen **J** and identify the type of joint(s) that would be formed to the body of the animal.
(ii) Explain how the specimen **J** is adapted for formation of the joint(s) identified in (i).
 - (d) Closely observe specimen **Z** and explain three characteristic features which help it to move in its habitat easily.
2. Carefully study the specimens **G**, **H** and **K** and answer the following questions:
- (a) (i) Identify one feature which may influence the artificial classification system to place both specimens **K** and **H** into the same taxonomic group.
(ii) Why scientists may not concur with the use of artificial classification system for grouping specimens **K** and **H** into taxonomic group? Give a reason.
 - (b) (i) Classify each of the specimens **G**, **H** and **K** to Class level.
(ii) Account for the features used in the natural classification system to place specimens **G** and **H** to their Classes.
(iii) Name four organisms which share the same Phylum with the specimen **K**.
(iv) In what ways members that were placed together with specimen **K** in the same Class are advantageous in our daily life?
 - (c) (i) Draw a diagram of specimen **H** and label external features.
(ii) Identify two observable features of specimen **H** at the Kingdom level.