

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

133/2

BIOLOGY 2
(For Both School and Private Candidates)

Duration: 3 Hours

Year: 2025

Instructions

1. This paper consists of six (06) questions.
2. Answer **five (5)** questions.
3. Each question carries **twenty (20)** marks.
4. All writing must be in **blue** or **black** ink, **except** drawings which must be in pencil.
5. Communication devices and any unauthorised materials are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).



Answer five (5) questions in this paper.

1. Describe five merits and three demerits of bacteria in human life.
2. A certain scientist went to Kalahari Desert with his dog for exploration. Despite the high temperature in the desert, they both survived. Elaborate four adaptive mechanisms that helped them to survive.
3. (a) Describe the process of metamorphosis in housefly.
(b) "Mitosis is a helpful process in multicellular and unicellular organisms." In five points, justify this statement.
4. A cross carried out between purple flowered plant with short stem and red flowered long stem produced purple short stem plants in the first filial generation. Test crossing of the individuals in F₁, produced individuals with the ratio of 1:1:1:1. Use appropriate letter to carry out cross to show the formation of the ratio.
5. "There is no single type of ecological pyramid which is perfect on its own." Justify this statement by giving three advantages and limitations of each type of the ecological pyramid.
6. Describe the formation of following types of fossils and give an example for each:
 - (a) Coprolite
 - (b) Compressed and carbonized plant fossils
 - (c) Imprints
 - (d) Mould and casts
 - (e) Entire organism