

**THE UNITED REPUBLIC OF TANZANIA**  
**NATIONAL EXAMINATIONS COUNCIL OF TANZANIA**  
**DIPLOMA IN SECONDARY EDUCATION EXAMINATION**

**733/1**

**BIOLOGY 1**

**Time: 3 Hours**

**Year: 2021**

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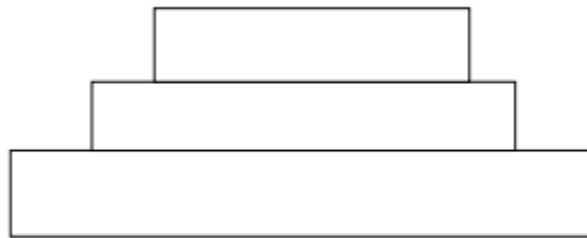
**Instructions**

1. This paper consists of sections **A, B** and **C** with a total of **sixteen (16)** questions.
2. Answer **all** questions in section **A** and any **two (2)** questions from each of section **B** and **C**.
3. Section **A** carries **forty (40)** marks , and section **B** and **C** carry **thirty (30)** 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).

## SECTION A (40 Marks)

Answer **all** questions in this section

1. Give the meaning of the terms
  - (a) Basal Metabolic Rate (B.M.R),
  - (b) Respiratory quotient,
  - (c) Glycolysis and
  - (d) Fermentation as used in respiration.
2. (a) Give the importance of biological keys in classification  
(b) state three significance of scientific naming of organisms.
3. (a) Explain the way enzymes speed up the rate of reaction.  
(b) Describe the effect of substrate concentration on the rate of an enzyme-controlled reaction.
4. (a) Copy the following diagram and write the names of the appropriate trophic levels in an ecosystem.



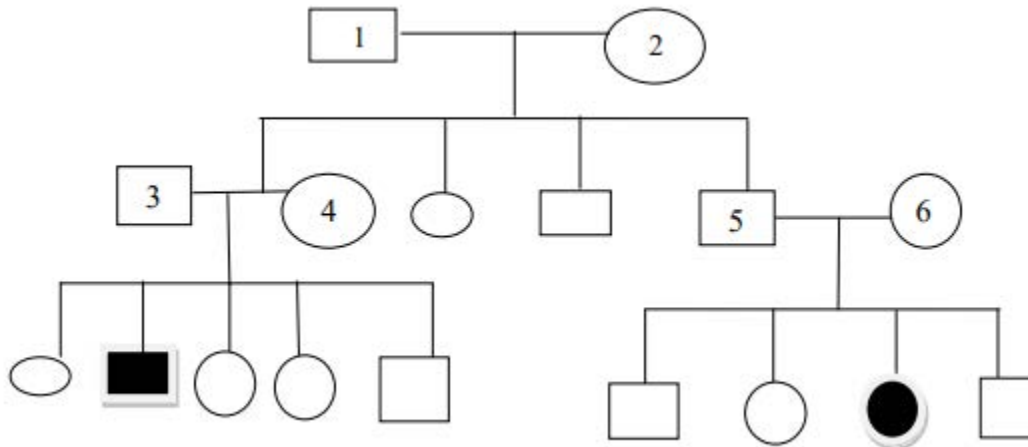
- (b) Explain the reasons for the links in a food chain to oftenly being three.
5. Explain the importance of providing cooperative learning tasks to students in four points.
6. Outline four purposes that a teachers' manual serves.
7. Give four differences between micro teaching and block teaching.
8. Explain briefly the terms as used in constructing a test/examination
  - (a) A valid test
  - (b) Reliable test

- (c) Standardized test
  - (d) Moderated test
9. Analyze four common symptoms of STI/STDs.
10. Use letters T for tall and t for short to identify the phenotypes and genotypes of  $F_1$  generation resulted from the heterozygous tall parents.

### SECTION B (30 Marks)

Answer any **two (2)** questions from this section

11. (a) Describe three distinctive features of each phylum of Kingdom Fungi.  
(b) Analyse five economic importance of Kingdom Fungi.
12. Explain six functions of lipids in the body of a living thing.
13. Study carefully the pedigree showing inheritance of a certain trait and answer questions that follow:



**KEY**



Normal Female



Affected Female



Normal Male



Affected Male

- a) Determine the genotypes and phenotypes of individual parents numbered 1, 2, 3, 4 and 5.
- b) What type of inheritance is displayed by the pedigree?
- c) Suggest two traits transmitted in a manner similar to the given pedigree.

**SECTION C (30 Marks)**

Answer any **two (2)** questions from this section

14. Explain seven purposes that a syllabus serves in the teaching and learning process
15. (a) Identify three challenges of using computer aided programs in the teaching and learning of Biology.  
(b) Suggest five ways which could be used to make information retrieved from the internet useful in class.
16. Suggest six strategies that will promote family and community involvement in the teaching and learning of Biology.