

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

733/1

BIOLOGY 1

Time: 3 Hours

Year: 2024

Instructions.

1. This paper consists of sections A and B with a total of **Fourteen (14)** questions.
2. Answer **all** questions from section A and **four (4)** questions from section B.
3. Section A carries **forty (40)** marks and section B Carries **sixty (60)** marks.
4. Cellular phones are **note** allowed in the examination room.
5. Write your **examination Number** on every page of your answer booklet(s).

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SECTION A (40 Marks)

Answer **All** questions from this section. Each question carries **four (4)** marks

1. Describe four types of Sexually Transmitted Infections (STIs) common in Tanzania.
2. Explain four causes for decrease in energy from one trophic level to another.
3. Give four mistakes done by a scientist in writing the scientific name of maize as *zeaMays*.
4. Complete the missing information in the table that shows the amount of ATP produced when one molecule of glucose is completely oxidized by naming the process/products represented using letters A-H as shown in the table below:

Site in a Cell	Respiratory Process	Number of NADH ₂ Produced (×3ATPs)	Number of FADH ₂ Produced (×2ATPs)	ATP Formed directly	Total number of ATP Formed
Cytoplasm	A	B	-	C	8
Matrix of Mitochondrion	Link reaction Pyruvate to Acetyl CoA	D	-	-	6
E	Krebs Cycle	F	2	G	H

5. Differentiate between fibrous and globular proteins.
6. (a) Determine the sex ratios of offspring formed from the union of male and female gametes in F₁ generation
(b) Explain reasons for ratios obtained in (a) not to be achieved in human population.
7. Suggest four techniques that can be used to ensure proper handling of Laboratory wastes.
8. Suggest four strategies that may be employed to solve the problem of students' massive failure in Biology.
9. Give the reasons for the Ministry of Education, Science and Technology (MOEST) to reject the idea posed by one of the zones education officers who decided to prepare a Biology syllabus that accommodates peoples' needs of his context.
10. Explain why in modern teaching and learning environment teachers' ability to keep students' progress in electronic spreadsheet and not paperwork is considered as an achievement.

SECTION B (60 Marks)

Answer all questions from this question. Each question carries **fifteen (15)** marks.

11. Analyze six features which helps *Pinus sylvestris* to adapt to various climate.
12. Analyze six strategies to be used to address the challenge of drugs abuse and addiction among adolescents in Tanzania.
13. Prepare a 10 minutes' lesson plan without including preliminary information to be used in a micro-teaching class session using the topic of safety in our environment and the subtopic of first aid.
14. Show how Sudan III solution as one of the reagents used for food test in biology practicals can be prepared. The following guidelines should be adhered during preparation;
 - (a) 6 apparatuses
 - (b) 2 chemicals
 - (c) 5 procedures.