

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

033/1

BIOLOGY 1

(For Both School and Private Candidates)

Duration: 3 Hours

Year: 2025

Instructions

1. This paper consists of sections A, B and C with a total of **eleven (11)** questions.
2. Answer **all** the questions in sections A and B and **two (2)** questions from section C.
3. Section A carries **sixteen (16)** marks, section B **fifty four (54)** marks and section C carries **thirty (30)** marks.
4. All writing should be in **blue** or **black** pen, **except** drawing which must be in pencil.
5. Communication devices and any unauthorized materials are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).



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SECTION A (16 Marks)
Answer all questions in this section.

1. For each of the items (i) - (x), choose the correct answer from among the given alternatives and write its letter beside the item number in the answer booklet provided.
- (i) Farmers at Mtakuja village observed a continuous decrease of amount of beans yield in their farms. How is this step in the scientific process refers?
- A Experimentation B Problem identification C Hypothesis
D Conclusion E Data collection
- (ii) Form Two students who recently visited Mikumi National Park saw Zebra, Shrubs, Giraffe, Lion, Cheetah, Grasses, and Mushroom. Which of these organisms would they group as primary consumers?
- A Grasses and shrubs B Giraffe and shrubs C Lion and cheetah
D Zebra and giraffe E Mushroom and zebra
- (iii) In the process of making doughnuts a woman mixed wheat flour, yeasts, sugar, and water; kneaded the mixture and covered it. After half an hour, the dough raised. Which one of the following made the dough to rise?
- A Yeasts B Glucose C Wheat flour
D Water E Sugar
- (iv) A bleeding pregnant woman was confirmed to have an embryo implanted in the fallopian tube. Which complication was she suffering from?
- A Preeclampsia B Miscarriage
C Breech birth D Premature birth
E Ectopic pregnancy
- (v) Which mechanism does the human body undergo in response to cold weather condition?
- A Vasodilation of arterioles B Vasoconstriction of arterioles
C Sweating and panting D Relaxation of erector muscles
E Decreased metabolic rate
- (vi) Which diseases occur worldwide?
- A Tuberculosis and cholera B Malaria and bilharzia
C COVID - 19 and cholera D AIDS and COVID - 19
E AIDS and tuberculosis

(vii) If you have noticed water spills on the floor of the class room, what would you do to prevent accident?

- A Wait for the floor to dry
- B Walk slowly on the floor
- C Wipe the floor immediately
- D Apply mud on the floor
- E Shift to another classroom

(viii) Which one of the following is **not** a part of a movable joint?

- A Bone
- B Tendon
- C Cartilage
- D Synovial fluid
- E Ligament

(ix) Which one of the following are examples of sex linked characteristics in human?

- A Colour blindness and albinism
- B Haemophilia and tongue rolling
- C Colour blindness and haemophilia
- D Tongue rolling and blood group
- E Blood group and haemophilia

(x) Organisms in class Reptilia have dry skin with horny scales. Which of the following organisms fall under this category?

- A Lizard, crocodile, turtle and snake
- B Crocodile, bat, chicken and lizard
- C Snake, salamander, frog and crocodile
- D Turtle, mouse, snake and salamander
- E Eagle, flamingo, chicken and lizard

2. Match the roles of the hormones in **List A** with their corresponding hormones in **List B** by writing the letter of the correct response beside the item number in the answer booklet(s) provided.

List A	List B
(i) Controls contraction and relaxation of uterine walls during birth.	A Antidiuretic
(ii) Promotes conversion of excess glucose into glycogen in the blood.	B Thyroxine
(iii) Regulates amount of water reabsorption in the kidney tubules.	C Adrenaline
(iv) Stimulates milk production in lactating mammals.	D Oxytocin
(v) Controls metabolic activities in the body.	E Glucagon
(vi) Promotes development of secondary sexual characteristics in females.	F Insulin
	G Oestrogen
	H Prolactin

9.

10.

11.

SECTION B (54 Marks)

Answer **all** questions in this section.

3. Mkutano villagers use traditional methods to process, preserve and store variety of foods they obtain from their daily activities. Outline six advantages of such methods.
4. With the aid of a labeled diagram, describe the events which take place during the prophase stage of mitosis.
5. How are the cardiac muscles adapted to perform their roles? Give six points.
6. Bacteria, Amoeba and Non-flowering plants reproduce asexually. Explain three merits and three demerits of the type of reproduction exhibited by these organisms.
7. A man with heterozygous blood group A married a woman with heterozygous blood group B. One among their offsprings produced was blood group O. Use genetic cross to show the probability of producing such offspring.
8. By using example, explain how each of the following provide evidences for organic evolution. Give three points for each.
- (a) Fossil records
- (b) Comparative embryology

SECTION C (30 Marks)

Answer two (2) questions from this section.

9. You are invited as a guest speaker in a youth meeting to fight against drug abuse. Recommend six preventive and control measures you would address to them.
10. Matatu villagers have appointed you as a chair person for campaign against gonorrhoea prevention. Explain three ways of transmission and five measures that will help them to prevent the disease.
11. Analyse five environmental factors which affect the rate of transpiration in plants.