

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
FORM TWO NATIONAL ASSESSMENT

033

BIOLOGY

Time 2:30 Hours

Year: 2025

Instructions

1. This paper consists of sections A, B and C with a total of **ten (10)** questions.
2. Answer **all** questions in each section.
3. Section A carries **fifteen (15)** marks, section B **seventy (70)** marks and section C carries **fifteen (15)** marks.
4. All writing must be in **blue** or **black** ink **except** drawing which must be in pencil.
5. Communication devices and any unauthorised materials are **not** allowed in the assessment room.
6. Write your **Assessment Number** at the top right corner of every page.

FOR ASSESSOR'S USE ONLY		
QUESTION NUMBER	SCORE	ASSESSOR'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		



SECTION A (15 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 in the box provided.

(i) Which respiratory surface is responsible for gaseous exchange in the tadpole?

A Book lung B Skin
C Gills D Lungs

(ii) Which procedure in a scientific investigation involves a series of activities which are done to discover relationships or facts that may lead to the acceptance or rejection of a hypothesis?

A Data interpretation B Problem identification
C Data recording D Experimentation

(iii) A person suffering from meningitis shows the following pair of symptoms:

A Stiff neck and delirium B Weight loss and stiff neck
C Diarrhoea and seizures D Prolonged cough and fever

(iv) Why is the cell wall important to a plant cell?

A Controls activities of the cell B Produces energy for the cell
C Protects and supports the cell D Absorbs sunlight energy

(v) A Form Two student measured weight of different food substances and recorded the results as follows:

1. Maize flour 10 kg
2. A bag of beans 50 kg
3. A bag of rice 5000 g
4. Cassava flour 2000 g

Which one was the heaviest?

A 4 B 2
C 1 D 3

(vi) How would a person suffering from high blood pressure control the disorder?

A Eating food with high levels of fats
B Engaging in regular physical exercises
C Taking a high salt diet and enough fibre
D Drinking alcohol and smoking cigarette

(vii) Which one would you recommend to prevent dental caries disease?

A Limiting amounts of lipids and carbohydrates in the diet
B Taking antacids and eating very hot and cold foods
C Eating foods with fibres such as fruits and vegetables
D Brushing teeth regularly with recommended tooth paste

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(viii) The following are communicable disease:

- (i) Bilharzia, malaria and tuberculosis
- (ii) Tuberculosis, cholera and gonorrhoea
- (iii) Common cold, HIV/AIDS and cholera
- (iv) Syphilis, gonorrhoea and typhoid

Which sets of diseases are caused by bacteria?

- A (iii) and (iv)
- B (i) and (ii)
- C (i) and (iv)
- D (ii) and (iv)

(ix) How do arteries differ from veins?

- A Arteries have valves at regular intervals while veins lack valves
- B Arteries have thin walls while veins have thick muscular walls
- C Arteries carry carbondioxide gas while veins carry oxygen gas
- D Arteries have narrow lumens while veins have wide lumens

(x) Which food chain depicts the correct flow of energy in the ecosystem?

- A Grasses → Bacteria → Antelope → Leopard
- B Grasses → Leopard → Antelope → Bacteria
- C Grasses → Antelope → Leopard → Bacteria
- D Leopard → Antelope → Bacteria → Grasses

2. Match the functions of the parts of the human digestive system in **List A** with the corresponding parts in **List B** by writing the letter of the correct response below the item number in a table provided.

List A	List B
(i) Allows absorption of the end products of digestion into the blood.	A Stomach
(ii) Allows food within it to be broken down into small particles by teeth.	B Duodenum
(iii) Stores undigested and indigested food temporarily.	C Colon
(iv) Stores food temporarily before further digestion.	D Oesophagus
(v) Allows food to pass into the stomach by a series of wave like-muscular contractions.	E Pharynx
	F Ileum
	G Mouth
	H Rectum

Answer

List A	(i)	(ii)	(iii)	(iv)	(v)
List B					

SECTION B (70 Marks)

SECTION B (70 MARKS)
Answer **all** questions in this section.

3. (a) Briefly explain three proper ways of waste disposal in the environment.

(i)

explain three properties of water.

(ii)

(iii)

(b) Outline four effects of poor waste disposal.

(i)

(ii)

(iii) _____

(iv) _____

4. A student took a half cut piece of peeled raw Irish potato and made a shallow hole on it. He placed it in a beaker that contained water which did not cover the potato. Then he put 1 ml of sugar solution in a hole. After 30 minutes the volume of water on the potato hole increased.

(a) What was the process being investigated?

(b) How is the process identified in 4(a) important to living organisms? Give four points.

(i) _____

(ii) _____

(iii) _____

(iv) _____

5. (a) Classify the following organisms from Kingdom to Phylum/Division level.

(i) Moss

(ii) Yeast

(b) Why is classification an important process? Give three reasons.

(i) _____

(ii) _____

(iii) _____

6. Describe the mechanism of taking air into the human lungs.

(i) _____

(ii) _____

(iii) _____

(iv) _____

(v) _____

7. Briefly explain five ways of transmitting Human Immunodeficiency Virus (HIV).

(i) _____

(ii) _____

(iii) _____

(iv)

(v)

8. Form Two students were provided with Irish potato, knife, mortar and pestle, sieve, test tube, water, dropper and iodine solution to carry out food test experiment.

(a) Outline four steps they will follow to prepare food solution.

(i) _____

(ii) _____

(iii) _____

(iv) _____

(b) Write an experimental report to confirm the presence of a starch in the solution prepared in (a). Present your report in the following table:

Food Tested	Procedure	Observation	Inference

9. You have entered the biology laboratory and found three chemical containers on the table labelled: **Flammable**, **Toxic** and **Corrosive** respectively.

(a) Draw the warnings signs that represent the labels.

Flammable	Toxic
Corrosive	

(b) Why are flammable, toxic and corrosive chemicals dangerous to human beings?

(i) Flammable

(ii) Toxic

SECTION C (15 Marks)

Answer question **ten** (10).

10. In six points, support the statement that “Bacteria are important organisms to human being.”

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