



TANZANIA HEADS OF ISLAMIC SCHOOLS COUNCIL

FORM TWO INTER ISLAMIC MOCK ASSESSMENT

BIOLOGY

033

TIME: 2:30 Hours

Thursday, 30th July 2026 p.m.

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 carries seventy (70) marks, and Section C carries fifteen (15) marks.
4. All writings must be in blue or black ink, except for drawings, 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 of this paper.

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) Form two students at Azania Secondary School are grouping cells from a pawpaw stem. They observed that similar cells performing the same function are packed together to transport water. What level of cell organisation are students observing?
- A. Organ
B. System
C. Tissue
D. Organisation
- (ii) A learner observes that viruses have genetic material surrounded by a protein coat. What is the name of the particular protein coat?
- A. Cell wall
B. Capsule
C. Membrane
D. Capsid
- (iii) In a family garden in Morogoro, Juma tested whether compost manure improves spinach growth. He used two plots with the same soil and the same seed variety. Why was using the same seed important?
- A. To make a fair test by having plants depend on each other.
B. To make a fair test by having more independent plants
C. To make a fair test by having plants receive the same manure
D. To make a fair test by having plants as the controlled variable
- (iv) Amina noticed mould spreading on stored bread and wanted to study its structure, reproduction and classification. Which branch of Biology would be most relevant to her needs?
- A. Entomology
B. Parasitology
C. Mycology
D. Ecology
- (v) At home near Lake Victoria, Rehema's meal contains fish, ugali and green vegetables. Which statement best analyses the nutritional value of this meal?
- A. It mainly supplies energy and growth nutrients only
B. It lacks growth, protective nutrients and minerals fully
C. It supplies energy, growth and protection nutrients
D. It supplies protective nutrients, water and fibre
- (vi) Which evaluation best explains the error of the form one student who wrote "Homo Sapiens" instead of "Homo sapiens" as the scientific name of the human being?
- A. The genus name should also be written in small letters.
B. The genus name should start with a capital letter
C. The species name should start with a capital letter
D. Both names should start with capital letters.

(vii) A boy notices that when he lies on his back at home, breathing feels slightly harder compared to when he sits upright. Why is breathing easier in the later position than the earlier one?

- A. The bronchi enlarge more to receive oxygen
- B. The ribs stop moving, hence simplifying breathing
- C. The nostrils are much more open towards the lungs
- D. The diaphragm moves more freely downward

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(viii) Juma's mother advises him to include vegetables, such as spinach, in his meals to avoid constipation. How do vegetables help to prevent the condition?

- A. They increase enzyme production in the gut
- B. They add roughage that stimulates peristalsis
- C. They increase the vitamins in the digestive system
- D. They increase water absorption in the stomach

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(ix) Farouq waters his potted plant daily but keeps it in a room with closed windows. After a few days, the plant appeared weak and poorly supported. Which analysis best explains this condition?

- A. The plant gets enough water but less sunlight for photosynthesis
- B. The plant gets less water but enough sunlight for photosynthesis
- C. The plant gets less water and sunlight for photosynthesis
- D. The plant gets enough water and sunlight for photosynthesis

☐

(x) A farmer notices that plants wilt during hot afternoons but recover in the evening. What is the main reason for this physiological process?

- A. Increase in food production through photosynthesis.
- B. Loss of water through transpiration
- C. Lack of minerals
- D. Reduced oxygen production through the low respiration process

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2. Match the distinctive features of animals in **LIST A** with their corresponding phylum in **LIST B** by writing the letter of the correct response beside the item number in a table provided.

LIST A		LIST B
(i)	They have a cylindrical, unsegmented body with pointed ends.	A. Chordata
(ii)	They have a dorsoventrally flattened body, ribbon-like or leaf-like in shape.	B. Arthropoda
(iii)	They have a supporting structure called the notochord in embryonic stages.	C. Cnidaria
(iv)	They have hair-like structures called chaetae for locomotion.	D. Platyhelminthes
(v)	They have segmented body regions called tagmata	E. Nematoda
		F. Porifera
		G. Mollusca

LIST A	(i)	(ii)	(iii)	(iv)	(v)
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LIST B					
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SECTION B (70 Marks)

Answer **all** questions in this section

3. At a certain home, a family member falls ill due to poor nutrition. The family gives prescribed medication, ensures proper nutrition, measures body temperature, and uses information from online health resources and traditional plant knowledge of nearby trees to support recovery. Explain how this scenario reflects the relationship between Biology and the four scientific fields you have learned.

(i) _____

(ii) _____

(iii) _____

(iv) _____

4. Imagine you are a tiny red blood cell named "X". You have just been created in the bone marrow, and you are ready to start your journey to the human body. Your mission is to deliver oxygen to the body's cells and remove carbon dioxide from the body.

- (a) Where will you go first? Describe your route to the lungs. What structure (like heart, blood vessels) will you pass through?

- (b) Once you reach the lungs, what happens? How do you pick up oxygen, and what do you do with carbon dioxide?

- (c) After delivering oxygen to the body cells, how do you return to the heart? What happens next?

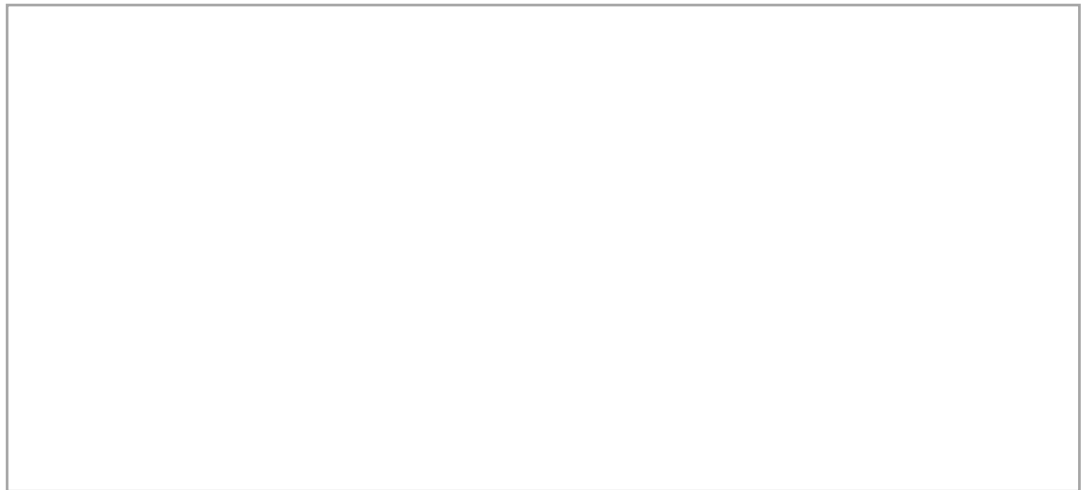
5. Ntazona observed two cells under a microscope. One had a cell wall and chloroplasts, while the other did not.

- (a) Identify the two types of cells observed.

- (i) Cell with cell wall and chloroplast _____
(ii) Cell without cell wall and chloroplast _____

- (b) A certain cell is unable to produce energy (ATP) due to damage to a certain organelle.

- (i) Identify the organelle _____
(ii) Draw the structure of the damaged organelle and label its four parts



6. Khalid attempted to observe plant cells using a prepared slide under a light microscope, but he was unable to obtain a clear image due to the challenges listed below. Educate him on how to address the challenges faced to obtain a clear image of a plant cell.

- (i) The slide containing the specimen did not settle on the stage for observation.

- (ii) He was unable to achieve sharp focus.

- (iii) The image was too bright, making it difficult to see the specimen's details.

- (iv) The microscope was not placed on a stable, flat surface.

- (v) Too many cells were overlapping in the specimen.

7. After two years without a harvest, orange farmers decided to consult a traditional healer. The healer told them that to get good yields, they must cover their plants' leaves. As an agricultural officer, explain the effects of covering the leaves on the production and distribution of food in the plant.

- (a) Effects on food production

- (i) _____

(ii) _____

(iii) _____

- (b) Effects on food distribution

- (i) _____

(ii) _____

8. Imagine a scenario where a flowering plant is exposed to high levels of pollution.

- (a) How might this pollution affect the plant's ability to transport essential nutrients and gases?
(Briefly explain using three (3) points)

- (i) _____

(ii) _____

(iii) _____

(b) What long-term effect could this have on its growth and reproduction? (Explain briefly using two points)

(i) _____

(ii) _____

9. Many digestive disorders result from improper eating habits. State two consequences of having the following eating habit.

(a) Eating food with a lot of sugar

(i) _____

(ii) _____

(b) Taking meals with no or little fibre

(i) _____

(ii) _____

(c) Not drinking enough water and other fluids.

(i) _____

(ii) _____

(d) Eating foods with too much fat, oils or too many spices

(i) _____

(ii) _____

(e) Wearing very tight clothes that put pressure on the stomach

(i) _____

(ii) _____

SECTION C (15 Marks)

Answer question **ten (10)**

10. A Form Two student was asked to design and explain an experiment demonstrating how yeast interacts with glucose under suitable conditions. She used the following procedures to obtain the results.

PROCEDURES:

- She added a spatulaful of glucose to 10 cm³ of warm water in a test tube, then added 2g of yeast, and shook the test tube.
- She covered the mouth of the test tube with cotton wool.
- She left the mixture undisturbed for ten minutes.

OBSERVATION:

Bubbles were observed on the surface of the solution.

QUESTIONS:

(a) What brought about her observation?

(b) Briefly explain why it was important to cover the mouth of the test tube.

(c) (i) Name the physiological process taking place between the two reagents in the experiment above. Give reason(s) for your answer.

Name: _____

Reason(s): _____

(ii) Define the process in (c) (i) above

(d) Write a balanced chemical equation for the reaction taking place between the two reagents.

(e) What was the aim of the experiment?

(f) Briefly explain two (2) industrial applications of the physiological process you named in (c) (i) above.

(i) _____

(ii) _____