

TANZANIA HEADS OF ISLAMIC SCHOOLS COUNCIL
FORM TWO INTER ISLAMIC MOCK ASSESSMENT
BIOLOGY

033 MARKING SCHEME JULY/AUGUST, 2026

1. Multiple choices:

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
C	D	D	C	C	No answer	D	B	A	B

01 MARK @ = 10 MARKS

2. Matching items

(i)	(ii)	(iii)	(iv)	(v)
E	D	A	No answer	B

01 MARK @ = 05 MARKS

3. Relationship between Biology and other scientific fields

(i) Medicine and pharmacy

This is shown whether sick person is given prescribed medicine. Biology helps is shown pharmacists understand diseases, identify their caused and develop drugs that treat illness, control symptoms and support recovery.

(ii) Agriculture

This is reflected in the production and availability of food used to feed the sick person. Agriculture provides crops and animals products that are grown and managed using biological knowledge of soil, plants and animals to ensure food supply.

(iii) Nutrition

This is shown when the family provides nutritious foods. Biology helps in understanding the type of nutrients need's by the body to repair tissues, boost immunity and restore health during illness.

(iv) Forestry

This is shown when family uses knowledge of medicinal plants from nearby trees, forestry involves the study and management of trees and forests, many of which

provide herbal medicines used in treating diseases, showing the link between plants and health care.

@ point 02 ½ marks = 10 marks

4. Movement of Red blood cell

- (a) Route to the lungs: The red blood cell first enters the blood stream from the bone marrow into nearby blood vessels. It travels through veins to the venacava, then enters the right atrium of the heart. It moves to the right ventricle, which pumps it through the pulmonary artery to the lungs. **04 marks**
- (b) What happens in the lungs: In the lungs, the red blood cell passes through the lung capillaries around the alveoli. Oxygen from the air in the alveoli diffuses into the blood and combines with haemoglobin to form oxyhaemoglobin. At the sometime, carbon dioxide leaves the blood and enters the alveoli to be exhaled. **03marks**
- (c) Return to the heart and body: After delivering oxygen, this red blood cell returns to the heart through the vena cava then enters the right atrium of the heart. It moves to the right ventricle, which pumps it through the pulmonary artery to the lungs.

03 marks

5. Cell structure

(a) Types of cells

(i) Plant cell **01 mark**

(ii) Animal cell **01 mark**

(b) (i) Mitochondria **02 marks**

(ii) DIAGRAM SHOWING THE STRUCTURE OF MITOCHONDRIA **01mark**

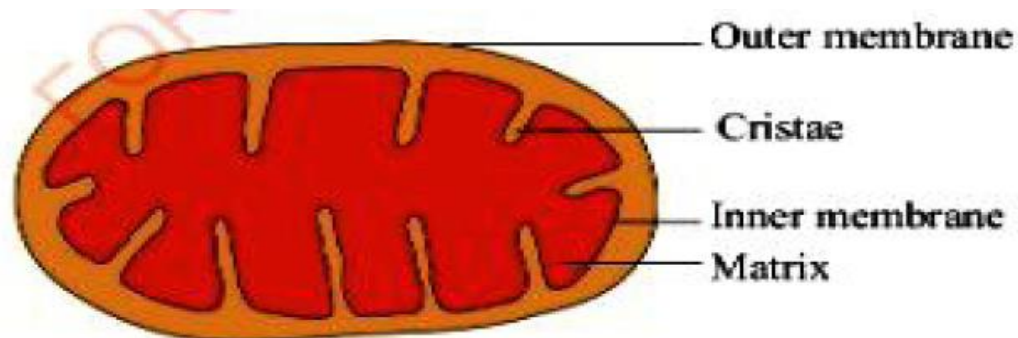


Diagram = 01 mark

Labeling (4 points) @ 01 mark = 04 marks

6. Using a microscope

- (i) Slide did not settle in the stage

He should correctly place the slide on the stage and secure it using the stage clips. The slide must be over the hole so that light can pass through properly.

- (ii) Unable to achieve sharp focus

He should start with the low-power objective lens and use the course adjustment knob first, the fine adjustment knob to make the image clear. After that he can switch to higher magnification if needed and use only the fine adjustment knob.

- (iii) Image too bright

He should adjust the amount of light entering the microscope by using the diaphragm or iris control. Reducing the light intensity will improve the contrast and make details of the specimen clear.

- (iv) Microscope not on a stable surface

He should place the microscope on a firm, flat and middle the table to prevent shaking or movements. This ensures the image remains steady and easy to focus.

- (v) Too many overlapping cells

He should prepare a better slide by using a thinner section of the specimen and ensuring it is evenly spread. This can be done by carefully sticing the specimen or using a staining technique to separate cells for clearer viewing.

@ 02 marks = 10 marks

7. External structure of the leaf in relation to photosynthesis

- (a) Effect on food production (photosynthesis). Leaves are the main site of photosynthesis. Covering them affects

- (i) Light absorption – Leaves cannot receive sunlight – Photosynthesis stops
- (ii) Carbon dioxide entry – Stomata maybe blocked – Less CO₂ enters the leaf
- (iii) Chlorophyll function – Without light, chlorophyll cannot trap energy
- (iv) Result: No glucose (food) is produced – Plant starves

Any three points @ 02 marks = 06 marks

- (b) Effect on food distribution (translocation) – Food made in leaves transported through phloem to other part of plant
 - (i) When no food is produced, phloem transport decreases or stops
 - (ii) Roots, fruits and stem do not receive nutrients
 - (iii) Growth, fluency and fruit formation are reduced.

Any two points @ 02 marks = 04 marks

8. Plants exposed to high pollution

- (a) Effects of pollution on transport of nutrients and gases.
 - (i) Dust and pollutants may block stomata, reducing gas exchange
 - (ii) Acidic rain can damage leaves and roots, affecting water and mineral uptake
 - (iii) Toxic substance in air or soil can interfere with absorption
 - (iv) Damage to chlorophyll reduces photosynthesis, limiting energy for transport processes.
 - (v) Xylem and phloem function maybe impaired, reducing movement of water and food

Any three points @ 02 marks = 06 marks

- (b) Long-term effects on growth and reproduction
 - (i) Stunted growth due to reduced photosynthesis and nutrient supply
 - (ii) Yellowing of leaves (chlorosis) and early leaf fall
 - (iii) Reduced flowering and poor seed or fruit production.
 - (iv) Increased susceptibility to diseases and environmental stress
 - (v) Plant death in severe pollution conditions.

Any two points @ 02 marks = 04 marks

- 9. (a) Excess sugar intake can lead to several health problems including
 - Obesity
 - Teeth decay (Dental caries)

- Heart related diseases **Any 2 points @ 01 = 02 marks**
- (b) Fibres are important for digestion. A diet lacking fibre can lead to several problems
 - Constipation
 - Poor digestion
 - Weight gain
 - Higher cholesterol levels **Any 02 points @ 01 = 02 marks**
- (c) Lack of enough fluids affects body functions
 - Dehydration
 - Constipation
 - Dry skin **Any 02 points @ 01 = 02 marks**
- (d) The habit affect digestion and overall health
 - Heartburn
 - Obesity
 - Hypertension
 - Blockage of the blood vessels **Any 02 points @ 01 = 02 marks**
- (e) This may seen harmless but can affect digestion
 - Increased risk of backflow of stomach acid
 - Discomfort, bloating and stomach pain
 - May worsen condition like heartburn
 - Reduced blood circulation around the abdominal area

Any 02 points @ 01 = 02 marks

10. Investigating anerobic respiration

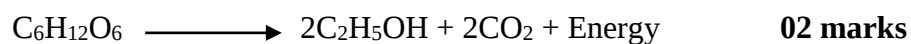
- (a) Bubbles are caused by production of carbon dioxide which rises up. **02marks**
- (b) To prevent entrance of oxygen (to maintain anaerobic condition necessary for fermentation). **02 marks**
- (c) (i) Fermentation (Anaerobic respiration) **01 mark**

Reason: Because glucose is broken down by the organism yeast to produce alcohol, carbon dioxide and energy in absence of oxygen. **02 marks**

- (ii) Fermentation is the process of breaking down glucose absence of oxygen by microorganisms like yeast to form alcohol, carbon dioxide and energy

02 marks

- (d) Balanced chemical equation



- (e) To demonstrate fermentation (Anaerobic respiration) using yeast and glucose.

02marks

- (f) (i) Brewing industry : Used to produce alcoholic beverages like beer and wine.

01 mark

- (ii) Baking industry: Yeast fermentation produces carbon dioxide which causes dough to rise.

01 mark