

**THE UNITED REPUBLIC OF TANZANIA  
PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**



**KIGOMA REGION  
FORM FOUR MOCK EXAMINATION JULY 2025**

**033/1**

**BIOLOGY 1  
(For Both School and Private Candidates)**

**Time: 3:00 Hours**

**MONDAY, 14<sup>TH</sup> JULY, 2025**

**2:00 PM**

**INSTRUCTIONS**

- i. This paper consists of sections A, B and C with a total of fifteen (11) questions
- ii. Answer all questions in sections A and B and two (2) questions from section C.
- iii. All writings should be blue or black pen, except for diagrams which must be drawn in pencil.
- iv. All answers should be written in the answer sheets provided.
- v. Cellular phones and any unauthorized materials are not allowed in the examination room.
- vi. Write your examination number on every page of your answer sheet (s).
- vii. It consists of four (6) printed pages.

**SECTION A (16 MARKS)**

1. In items (i) –(x) select the best answer among the given alternatives and write its letter in the space provided.

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- (i) Assume your friend accidentally cut his finger, which item will you use instead of gloves to stop him from bleeding?
- A. Socks  
B. Tin  
C. Plastic bag  
D. Paper  
E. Piece of cloth
- (ii) During a practical session Adam picked a plant which had the following characteristics fibrous root system, non-wood stem, vascular bundles without cambium and the flowers contained six sepals and six petals. As a biologist what class of a plant picked by Adam belongs?
- A. Dicotyledonae  
B. Angiospermatophyta  
C. Coniferophyta  
D. Monocotyledonae  
E. Pteridophyta
- (iii) Kameme was driving a bicycle in a sun day hour he lost a lot of water through sweating. Which of the following organs are responsible for water loss?
- A. Skin  
B. Kidney  
C. Liver  
D. Stomach  
E. Nephron
- (iv) An axon is one of the parts of nerve cell that plays an important role in transmission of impulses. Which one of the following roles is performed by an axon?
- A. Towards the cell body  
B. Across the synapse  
C. Away from the cell body  
D. To sensory organ  
E. Within the effector organs
- (v) Plant and animal cells have some features in common. What are they among the following?
- A. Cell membrane, cell wall and chloroplast  
B. Mitochondria, nucleus and cell wall  
C. Chloroplast, nucleus and chloroplast  
D. Cell membrane, cytoplasm and nucleus  
E. Vacuole, cell wall and nucleus.
- (vi) The growth of human being starts before and after birth by following a systematic growth patterns which is
- A. Localized growth  
B. Isometric growth  
C. Allometric growth  
D. Diffuse growth  
E. Intermittent growth
- (vii) Farmers in several villages in Kigoma region visited the regional referral hospital with the same complain of vomiting, diarrhoea look like rice water and wrinkled skin. Which disease is likely affecting them;
- A. Gonorrhoea  
B. Cholera  
C. Malaria  
D. Bilharzia  
E. Tuberculosis
- (viii) Chicken, dogs and human being have ability to maintain constant body temperature. They are therefore described as;
- A. Homeotherms  
B. Poikilotherms  
C. Ectotherms  
D. Regulators  
E. Cold blooded organisms
- (ix) There are several theories that try to suggest the origin of life. Which one of the following theories suggests that life arose from non-living matter?
- A. Steady state theory  
B. Spontaneous generation theory  
C. Cosmozoan theory  
D. Special creation theory  
E. Biogenesis theory  
F.
- (x) Environment comprises of biotic and abiotic factors. Which among the following form the abiotic part of the natural environment?
- A. Light, water and trees  
B. Relief, light and air  
C. River, soil and bacteria

D. Animals, wind and humidity

E. Plants, fungi and rocks

2. Match the items in list A with their corresponding responses in list B by writing the letter of correct answer against the number of item.

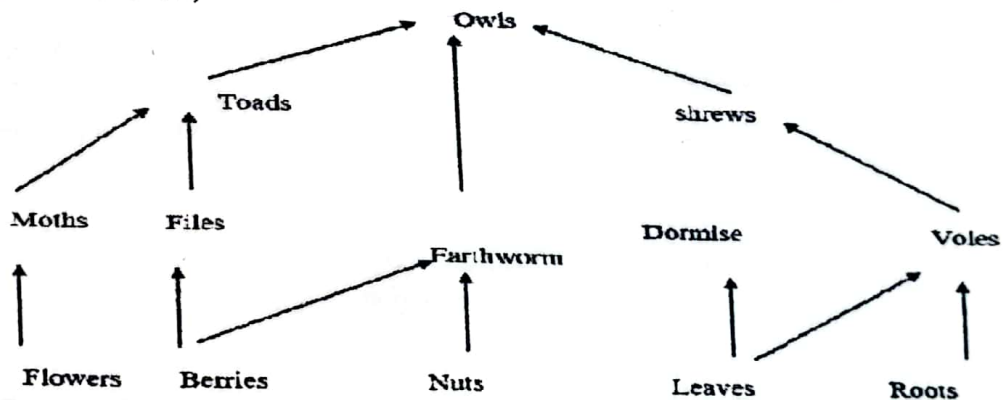
List A	List B
(i) Oxidation of glucose into energy.	A. Bronchiole
(ii) Specialized cell in plants that control the opening and closing of the stomata.	B. Lenticels
(iii) Part of the respiratory system that allows the passage of air to and from the lungs.	C. Alcohol
(iv) One of the small pores on the bark of woody plants which is responsible for gaseous exchange.	D. Alveoli
(v) A thin tube that branches from a bronchus within the lung.	E. Aerobic respiration
(vi) One of the end products of fermentation process in plants.	F. Anaerobic respiration
	G. Stomata
	H. Lactic acid
	I. Guard cells
	J. Spongy mesophyll cells
	K. Trachea

### SECTION B (54 MARKS)

3. Some chemicals used in biological experiments are very dangerous and harmful. In what ways the following substances are harmful?

- (i) Biohazards
- (ii) Radioactive substances
- (iii) Toxic substances
- (iv) Corrosive substances
- (v) Highly flammable substances
- (vi) Oxidizing agents

4. In a certain survey a researcher observed different organisms living in a particular environment. After a long time of observation he realized that most organism were interacting and he finally decided to construct a food web as seen below. Study the diagram and answer the questions that follow;



- (a) From the diagram name (i) one primary consumer and (ii) one Secondary consumer
- (b) Construct, using the food web above, one food chain, with four links?
- (c) Explain why every food chain must begin with green plant.
- (d) If all the owls were killed, what would happen to the size of the populations of earthworms?
- (e) Name the organisms which are both secondary consumers and tertiary consumers

5. Plants depend on their leaves to get food since they are the only parts through which photosynthesis process takes place;

- (a) Give four reasons as to why a plant leaf is said to be suitable for photosynthesis
- (b) How the process of photosynthesis is important in our daily life? Give three points.

(c) Write a well balanced equation of photosynthesis including conditions necessary.

6. There are so many disorders related to reproductive systems that affect reproduction in human being.

(a) Explain briefly one cause of any two disorders that may interfere the reproductive system of a female and one cause of any two disorders that may interfere the reproductive system of a male.

(b) Plants that undergo sexual reproduction need to have a certain reproductive organ. Name a particular organ.

7. (a) A biology teacher distributed the following materials to Form Three students such that pieces of lemon, pieces of sugarcane, flagyl tablets and common salt. He asked the students to draw the structure responsible for tasting the provided materials and label it by using materials to indicate where they are being tasted.

(b) State three roles apart from tasting that are performed by the structure drawn in 7(a) above.

8. (a) Among the characteristics of living things is growth and development. In order for an organism to grow well, there must be a particular cell division.

(i) Identify and give the meaning of the kind of cell division responsible for the growth.

(ii) What will be the effects in living organisms if the process mentioned above would not occur? (Four points).

(b) State three roles of water during seed germination.

#### SECTION C (30 MARKS)

9. Between months of June and October most plants start to undergo wilting, this is due to light intensity from the sun causing the plant leaves to lose water into the atmosphere.

(i) Name the process in which the plant leaves lose water in the atmosphere during the day.

(ii) Outline and explain three environmental factors that affect the rate of the process mentioned in (i) above.

(iii) Explain three advantages and two disadvantages of the above named process in (i) above.

10. A biologist called Gregor Mendel crossbred between a white bull and black cow and obtained all F1 generation with white fur. But after self crossing of F1 individuals, Mendel observed that some individuals of F2 had white fur and others had black fur.

(a) Which character was dominant? Give reason

(b) Use genetic diagrams to show how F1 and F2 were obtained.

(c) State the phenotypes and genotypes of F2 generation.

(d) If 104 individuals were obtained in F2 generation

(i) How many were white?

(ii) How many were black?

11. A certain boy visited his grandmother and found her with the following symptoms; chills, fever, sweating, nausea and vomiting, joint pain, headache and abdominal pain. Then he decided to take her to the hospital for diagnosis and treatment.

(a) Name the disease the grandmother was suffering.

(b) Discuss the cause, mode of transmission and control measures of the disease named in (a) above.