

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

**FORM TWO EXAMINATION
BIOLOGY**

Time: 2½ Hours

May 2024

INSTRUCTIONS

1. This paper consists of THREE (3) sections A, B, and C with a total of ten (10) questions.
2. Attempt **ALL** questions.
3. All answers must be written in the spaces provided.
4. Write your examination number on every page in this question paper.
5. All writing must be in blue/black ink. Diagrams must be drawn in pencil and labeled in ink.
6. Cell phones and calculators are not allowed in the examination room

FOR EXAMINER'S USE ONLY		
Question Number	Score	Initials of Examiner
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		

SECTION A (16 Marks)

Answer all questions

1. Choose the most correct answer among the given alternatives and write down the answer in the space given.
 - (i) Which nutritional disorder would result if a person consumes larger quantities of carbohydrates than body's requirement?
 - A. Rickets
 - B. Marasmus
 - C. Beriberi
 - D. Obesity
 - (ii) When investigating the effect of fertilizers on crop yield, the crop yield is
 - A. Independent variable
 - B. Dependent variable
 - C. Control experiment
 - D. Determining factor
 - (iii) are applied on the wound to prevent infections
 - A. Malaria medicine
 - B. Antiseptic solution
 - C. Liniment
 - D. Elastic bandages
 - (iv) A nurse told a mother with a bow-legged child that her child had a vitamin deficiency. Which of the following could the deficient vitamin?
 - A. Vitamin A
 - B. Vitamin B
 - C. Vitamin C
 - D. Vitamin D
 - (v) The following can be used to alleviate pain on a person who has been stung by bees.
 - A. Vinegar
 - B. Water
 - C. Lemon juice
 - D. Washing soda
 - (vi) Which of the following structures of organisms are homologous?
 - A. Wings of birds and wings of grasshoppers
 - B. Wings of bats and arms of baboons
 - C. Arms of man and wings of butterfly
 - D. Wings of housefly and wings of butterfly

(vii) Which of the following is a viral disease?

- A. Malaria
- B. Candidiasis
- C. HIV/AIDS
- D. Cholera

(viii) Which of the following set of structures represents organs?

- A. Heart, Leaf and Eye
- B. Heart, Blood and Eye
- C. Brain, Skin and Blood
- D. Intestines, Liver and Shoot

(ix) A form two student was studying amoeba under the light microscope. The place where she placed the specimen is called.

- A. Nosepiece lens
- B. Diaphragm
- C. Stage
- D. Eyepiece lens

(x) Organelles responsible for protein synthesis in a cell are called

- A. Centrioles
- B. Chromosomes
- C. Lysosomes
- D. Ribosomes

2. Match items in list A with the correct phrase in list B.

LIST A	LIST B
(i) A thin semi permeable layer, which encloses the animal cell and control the movement of material in and out of the cell.	A. Cytoplasm
(ii) A semi-fluid material made up of water and dissolved chemical substances, which supports cell organelles.	B. Chloroplast
(iii) An oval or spherical organelle suspended in the cytoplasm, which controls the functions of all other parts of the cell.	C. Vacuoles
(iv) Oval-shaped organelles with double membranes, which produce energy.	D. Nucleus
(v) Fluid filled spaces bound by a membrane, which secrete and excrete wastes from the cell.	E. Centrioles
	F. Cell wall
	G. Mitochondria
	H. Cell membrane
	I. Ribosomes

SECTION B (54 Marks)

Answer all questions

3. (a) Seypalm secondary school Biology laboratory is said to be one of the best Biology laboratories in the country. Briefly describe seven features that must have been observed in the laboratory that make people believe Seypalm Secondary School Biology laboratory to be the one of the best.

- (i)
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- (ii)
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- (iii)
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- (iv)
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- (v)
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- (vi)
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- (vii)
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- (b) Briefly explain the difference between a model and a specimen.

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4. (a) Your neighbours have come to ask you for help that their mother has contracted a shock attack. Outline the measures you would take to help the victim.

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- (b) What can you state to your neighbours as the possible causes of the problem?

- (i)
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- (ii)
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- (iii).....
-
- (iv).....
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5. A damp slice of bread was observed to have grown dark and fuzzy masses as shown in the figure 1 picture below:



- (a) (i) Give the phylum of the observed organisms.

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- (ii) State three main features of the member organisms belonging to that phylum.

1.
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2.
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3.
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- (b) Draw a labelled diagram of the observed organism as seen under a microscope or a powerful hand lens.

6. (a) parents and teachers insist on training their children and students on personal hygiene skills.

(i) What exactly do they mean by personal hygiene?

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(ii) State any four principles of personal hygiene

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(b) Give four reasons why parents and teachers insist on personal hygiene.

(i)
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(ii)
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(iii)
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(iv)
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7. Seypalm believes that Classification was another unnecessary topic that made Tanzanian education complicated without being any helpful in real life situations. Use your knowledge of biology to prove to him that he is wrong.

(i)
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(ii)
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(iii)
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(iv)
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(v)
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8. (a) Distinguish between translocation and transpiration.

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 (b) The Mammalian heart is enclosed by a double layer of membrane called pericardium.
 Explain the following:

(i) What makes this membrane prevent the heart from over-expanding when it is beating very fast?

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(ii) Why the inner part of the heart is lined with blood vessels? Explain by giving three points

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9. (a) Parents brought two children to a health centre, one was diagnosed with marasmus and the other was diagnosed with kwashiorkor. State the cause of each of the disorders as distinct from each other and give two symptoms of kwashiorkor that distinguishes it from marasmus.

Marasmus is caused by	while Kwashiorkor is caused by
Two symptoms unique to Kwashiorkor	
(i)	
(ii)	

(b) The child with kwashiorkor was also bowlegged; the doctor said it was also due to malnutrition. State three nutrients that must be missing in the child's diet and give the function of each.

Deficient nutrient	Function in the human body
(i)	

[illegible]