

Candidate's Examination No.....

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
FORM TWO SECONDARY EDUCATION EXAMINATION, 2009

0033

BIOLOGY

TIME: 2½ HOURS

INSTRUCTIONS

1. This paper consists of sections A, B and C.
2. Answer **ALL** questions from sections A and B and **ONE** question from section C.
3. **ALL** answers must be written in the spaces provided.
4. Write your examination number at the top right hand corner of every page.
5. **ALL** writing must be in blue or black ink. Diagrams must be drawn in pencil and labelled in ink.
6. Cellphones 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 | | |

This paper consists of 10 printed pages.

SECTION A (30 MARKS)

1. Select the correct answer in each item and write its letter in the box provided.

- (i) An object to be observed under the microscope is placed on the:
- A. base
 - B. coarse adjustment
 - C. eye piece
 - D. mirror
 - E. stage.

- (ii) All of the following are communicable diseases:
- A. cancer, gonorrhoea and syphilis
 - B. cholera, gonorrhoea and syphilis
 - C. cholera, kwashiorkor and marasmus
 - D. cholera, marasmus and rickets
 - E. goitre, meningitis and tuberculosis.

- (iii) Which of the following is a group of animal tissues?
- A. Blood, cardiac muscle, liver and skin
 - B. Blood, epithelial, muscle and nerve
 - C. Blood, eye, muscle and skin
 - D. Blood, heart, kidney, and spermatozoan
 - E. Blood, kidney, muscle, and skin.

- (iv) Which of the following is used to control all activities in a plant cell?
- A. Cell wall
 - B. Cell vacuole
 - C. Chloroplast
 - D. Cytoplasm
 - E. Nucleus.

- (v) A person whose diet lacks Iodine is likely to develop a nutritional disorder known as:
- A. goitre
 - B. night blindness
 - C. pellagra
 - D. rickets
 - E. scurvy.

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- (vi) A group of interdependent organisms living in an environment is called:
A. biosphere
B. community
C. ecology
D. ecosystem
E. population.
- (vii) The essential pigment which transports oxygen in blood stream is:
A. erythrocyte
B. haemoglobin
C. leucocyte
D. lymphocyte
E. thrombocyte.
- (viii) The following are the products of respiration **except**:
A. alcohol, carbon dioxide and energy
B. alcohol, energy and lactic acid
C. carbon dioxide, energy and lactic acid
D. carbon dioxide, energy and water
E. glucose, oxygen and water.
- (ix) The following waste can be recycled **except**:
A. aluminium cans
B. contaminated syringes
C. glass jars and bottles
D. papers and cardboards
E. plastic bags.
- (x) Which of the following is the chemical substance that catch fire easily?
A. Corrosive
B. Flammable
C. Harmful
D. Irritant
E. Oxidant.

2. The following statements are either correct or not correct. Write **TRUE** if the statement is correct or **FALSE** if the statement is not correct in the space provided.

- (i) A hand lens is used to make objects look smaller than their normal sizes. _____

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- (ii) Blood groups are classified on the basis of the presence or absence of plasma antigens. _____
- (iii) Displaying good manners is behaving in a way that is accepted by the majority. _____
- (iv) First aid is given by a qualified doctor before a victim is sent to the hospital. _____
- (v) Inhaled air contains less amount of water vapour than exhaled air. _____
- (vi) Oxygen is not important to plants. _____
- (vii) People living with HIV/AIDS should be isolated to avoid spreading of the disease to others. _____
- (viii) Salting and smoking are methods of food preservation. _____
- (ix) The largest group in the classification system is a phylum. _____
- (x) Transpiration provides cooling to the plants. _____

3. Match the phrase or term in List A with that in List B by writing its letter against the number of item in List A in the table provided below.

| LIST A | | LIST B | |
|---------------|--|---------------|------------------|
| (i) | A protein deficiency disease found in children | A. | active immunity |
| (ii) | An element needed for manufacture of chlorophyll in plants | B. | passive immunity |
| (iii) | An organism with both plant and animal characteristics | C. | magnesium |
| (iv) | Fungi which cause food spoilage | D. | phosphorus |
| (v) | Immunity that develops as a result of the body making antibodies against pathogens | E. | mucor |
| (vi) | Is an endemic disease | F. | yeast |
| (vii) | The process whereby cells absorb water and swell | G. | kwashiorkor |
| (viii) | They increase surface area for absorption of digested food substances | H. | marasmus |
| (ix) | Transport products of photosynthesis from the leaves | I. | lungs |
| (x) | Structures for gaseous exchange in birds | J. | spiracles |
| | | K. | amoeba |
| | | L. | euglena |
| | | M. | alveoli |
| | | N. | villi |
| | | O. | phloem |
| | | P. | xylem |
| | | Q. | cholera |
| | | R. | malaria |
| | | S. | flaccidity |
| | | T. | turgidity |

| LIST A | (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) | (ix) | (x) |
|--------|-----|------|-------|------|-----|------|-------|--------|------|-----|
| LIST B | | | | | | | | | | |

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(ii) Construct a simple food web involving the following organisms: grasshopper, frog, grass, hawk and snake.

(iii) Which group of organisms are not shown on the food web diagram you have drawn?

What is their importance to the food web?

7. (a) What is a lymphatic system?

(b) Give the importance of the lymphatic system in a mammal.

(i)

(ii)

(c) Explain the advantages and disadvantages of blood transfusion.

Advantages:

(i)

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(ii)

Disadvantages:

(i)

(ii)

8. (a) (i) What is gaseous exchange?

(ii) Why is it healthier to breath through the nose than through the mouth?

(b) Outline factors affecting the rate of breathing in mammals.

(i)

(ii)

(c) Give differences between aerobic and anaerobic respiration.

| | Aerobic respiration | Anaerobic respiration |
|-------|---------------------|-----------------------|
| (i) | | |
| (ii) | | |
| (iii) | | |

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SECTION C (20 MARKS)

Choose **ONE** question

9. Write an essay on: Waste Disposal, under the following guidelines:
- meaning of waste
 - types of waste according to their physical state with two examples in each type
 - meaning of waste disposal
 - proper ways of disposing waste with two examples in each way
 - importance of proper waste disposal.

OR

10. Write an essay on: Health, using the following guidelines:
- meaning of health, infection and personal hygiene
 - factors which contribute to good health
 - ways of maintaining proper personal hygiene during puberty.