

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND CULTURE
FORM TWO SECONDARY EDUCATION EXAMINATIONS, 2010

0033

BIOLOGY

TIME: 2 ½ HOURS

INSTRUCTIONS

1. This paper consists of sections; A, B and C
2. Answer **ALL** questions from section A and B and **one** question from section C.
3. Write your Examination number at the top right corner of every page.
4. **ALL** writing must be in black or blue ink.
5. Cellphones are not allowed in the examination room.

FOR EXAMINER'S 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. For each of the following items choose the correct answer from the given alternatives and write the letter of the correct answer in the box provided.

(i) Which structure differentiates euglena from other members of the Kingdom Protista?

- A. Possession of flagellum
- B. Possession of chloroplast
- C. Possession of antennae
- D. Possession of cell wall

(ii) The feeding relationship represented by the sequences of organisms "Green Plants --> Grasshopper -> Frog" is called:

- A. Food web
- B. Interaction
- C. Food chain
- D. Pyramid

(iii) Which of the following blood groups is a universal recipient?

- A. B
- B. AB
- C. A
- D. O

(iv) When a solution is mixed with Benedicts solution, the food substances that change in colour from blue to green to yellow and finally orange colouration after boiling is called:

- A. Starch
- B. Protein
- C. Reducing sugar
- D. Lipids

(v) Insufficient food rich in protein to children especially infants result into nutritional deficiency disease called:

- A. Marasmus
- B. Obesity
- C. Kwashiorkor

D. Rickets

(vi) The structure of a leaf that allows oxygen and carbon dioxide to diffuse into and out of the leaf during gaseous exchange is known as:

- A. Cuticle
- B. Epidermis
- C. Mesophyll
- D. Stomata

(vii) The blood vessel which carries blood from the lungs to the heart is called:

- A. Pulmonary artery
- B. Vena cava
- C. Pulmonary vein
- D. Renal vein

(viii) Which one of the following are examples of animal tissues?

- A. Muscle, blood and bone
- B. Brain, bone and liver
- C. Skin, heart and brain
- D. Muscle, liver and skin

(ix) What does the concept of good health imply?

- A. A state of physical, sexual and mental fitness
- B. Being physically, mentally and socially fit
- C. A state of family well being
- D. Reproductive health and family care

(x) First Aid given to a victim of electric shock is meant to:

- A. Keep the victim moving
- B. Send the patient to the hospital
- C. Provide the victim with fluids
- D. Lie down with his/her feet higher than head

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

- (i) A brick red precipitate is formed when a bean seed extract is boiled with iodine.
- (ii) Artificial classification is based on few observable features.
- (iii) Air, water and soil are examples of abiotic components of the environment.
- (iv) A structure which prevents the entrance of food and water into the trachea is called villus.
- (v) Fermentation is a form of aerobic respiration in plants.
- (vi) Heart, liver and leaves are examples of organs.
- (vii) Hugging and holding hands leads to HIV transmission.
- (viii) Mosses and liverworts have true roots, stems and leaves.
- (ix) The process of sorting living things into groups is called classification.
- (x) Tuberculosis is a communicable disease.

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

LIST A	LIST B
(i) Ability of the body to resist disease	A. Bilharzia
(ii) A protein deficiency disease found in children	B. Cholera
(iii) Is a common disorder of the human digestive system	C. Cilia
(iv) Is an epidemic disease	D. Constipation
(v) Is caused by flatworms called schistosomes	E. Experiments
(vi) Is caused by lack of vitamin D	F. First aid
(vii) It results from taking too little or too much food	G. First aid kit
(viii) Locomotory structures of amoeba	H. Hypothesis
(ix) Series of investigation intended to discover certain facts	I. Immunity
(x) Services rendered to an accident victim before being taken to hospital	J. Kwashiorkor
	K. Malnutrition
	L. Night blindness
	M. Pseudopodia
	N. Rickets
	O. Vaccination

Answers:

LIST A	i	ii	iii	iv	v	vi	vii	viii	ix	x
LIST B										

SECTION B (50 Marks)

4. (a) What is a microscope?
- (b) Draw a light microscope and label the following parts: eyepiece, coarse adjustment, objectives, stage and mirror.
- (c) What is the function of:
- (i) Microscope slide?
 - (ii) Mirror?
5. (a) A bread was put in a wet cupboard. After a few days the bread was covered by thread-like structures which ended in club-shaped structures.
- (i) Write the common name of the organisms grown on the bread.
.....
 - (ii) Name the kingdom to which the organisms belong.
.....
 - (iii) Name the phylum/division to which the organisms belong.
.....
 - (iv) Outline five points of economic importance of the kingdom you mentioned in part (a) (ii) above.
.....
- (b) (i) What do you understand by the term respiration?
.....
- (ii) Briefly describe three factors that affect the rate of respiration in organisms.
.....
6. (a) Explain the uses of the following First Aid kit components:
- (i) Scissors
.....
 - (ii) Gauze
.....
 - (iii) Adhesive plaster
.....
 - (iv) Iodine tincture
.....
- (b) Outline the procedure of giving First Aid to a victim of nose bleeding.
.....
.....
- (c) Explain the importance of giving First Aid.
.....
.....

7. (a) Define the term "blood transfusion".

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.....

(b) Outline the precautions to be taken during blood transfusion.

.....
.....

(c) Explain why the wall of the left ventricle of the mammalian heart is thicker than the wall of the right

.....
.....

8. (a) What is a community?

.....

(b) (i) Distinguish a food chain from a food web.

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(ii) Explain the significance of food chains and food webs in real life situation.

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(c) Outline three points of importance of care and support to People living with HIV/AIDS (PLWHA).

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SECTION C (20 Marks)

Choose **one** question

9. Write an essay on malaria using the following guidelines:

Cause

- Transmission
- Symptoms
- Effects
- Preventive measures

10. Write an essay on transpiration, using the following guidelines:

- Meaning of transpiration:
- External factors affecting the rate of transpiration: