

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
FORM TWO SECONDARY EDUCATION EXAMINATION, 2008

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 answer booklet(s) provided.
4. Write your examination number at the top right hand corner of every page of your answer booklet(s).
5. **ALL** writing must be in blue/black ink. Diagrams must be drawn in pencil and labeled in ink.
6. Cellphones are not allowed in the examination room.

This paper consists of 07 printed pages.

SECTION A (30 MARKS)

1. Select the correct answer in each item and write its letter beside its corresponding item number.

(i) In Biology experiments are used to test:

- A. facts
- B. hypotheses
- C. laws
- D. problems
- E. theories.

(ii) Which of the following is a risk behaviour?

- A. Alcoholism
- B. Being patient
- C. Eating eggs daily
- D. Shaking hands with HIV infected individuals
- E. Sharing toilet facilities with HIV infected individuals.

(iii) Mr. Erick is able to donate blood to any other blood group. Therefore Mr. Erick has blood:

- A. group A
- B. group B
- C. group AB
- D. group O
- E. antigens.

(iv) Green plants in a community are ecologically referred to as:

- A. consumers
- B. decomposers
- C. ecosystem
- D. primary consumers
- E. producers.

(v) The concept of good health implies health.

- A. physical, mental and family
- B. physical, mental and emotional
- C. physical, family and sexual
- D. physical, mental and sexual
- E. reproductive, social and family.

- (vi) A food sample X turned blue-black when it was mixed with iodine solution. This concludes that sample X contained:
- A. fats and oils
 - B. non-reducing sugar
 - C. protein
 - D. reducing sugar
 - E. starch.
- (vii) The three parts responsible for the basic structure and function of any cell are:
- A. nucleus, cell membrane and cytoplasm
 - B. nucleus, nucleolus and cytoplasm
 - C. nucleus, cell membrane and cell wall
 - D. cell membrane, cell wall and cytoplasm
 - E. cell vacuole, chloroplast and mitochondria.
- (viii) Three phyla of kingdom fungi are:
- A. Ascomycota, Basidiomycota and Eumycota
 - B. Ascomycota, Basidiomycota and Zygomycota
 - C. Ascomycota, Bryophyta and Eumycota
 - D. Ascomycota, Bryophyta and Euglenophyta
 - E. Ascomycota, Euglenophyta and Zygomycota.
- (ix) Which of the following is expected to happen if blood supply to the brain is reduced?
- A. Fainting
 - B. Nausea
 - C. Shivering
 - D. Shock
 - E. Vomitting.
- (x) An unexpected event resulting from carelessness, unawareness and ignorance is:
- A. accident
 - B. bad luck
 - C. electric shock
 - D. poisoning
 - E. safety.

2. The following statements are either correct or not correct. In the answer booklet provided write TRUE if the statement is correct and FALSE if the statement is not correct.

- (i) Guard cells are epidermal cells with chloroplasts.
- (ii) Lack of roughage in the diet causes constipation.

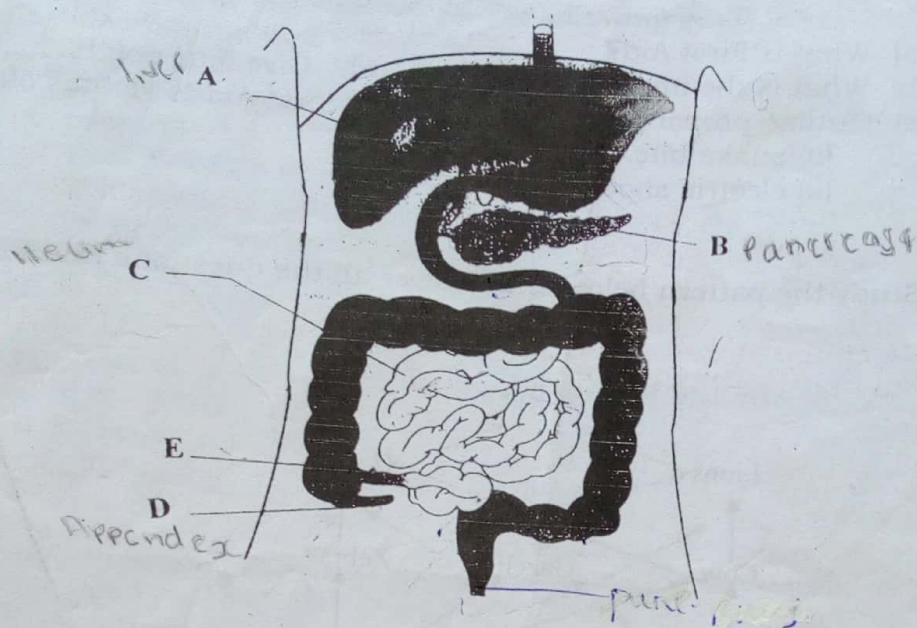
- (iii) Mature red blood cells have very large nuclei.
- (iv) Poor waste disposal may lead to eruption of epidemic diseases.
- (v) Good manners involve talking while eating.
- (vi) Green plants liberate more oxygen at night than during the day.
- (vii) Some laboratory accidents can be avoided by reading warning signs on the chemical containers.
- (viii) During aerobic respiration oxygen is given out.
- (ix) Rape is a type of sexual harassment.
- (x) Erythrocytes are blood cells which defend the body against pathogens.

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.

LIST A		LIST B	
(i)	A blood vessel containing blood rich in digestive food materials.	A.	Duodenum
(ii)	A perfume sprayed at one corner of a room is soon smelt at the opposite corner.	B.	Ileum
(iii)	Accumulates in muscles during intensive exercise.	C.	Hepatic portal vein
(iv)	A living part of an ecosystem	D.	Mesenteric artery
(v)	A series of investigations intended to discover certain facts.	E.	Diffusion
(vi)	Locomotory structures of paramecium.	F.	Osmosis
(vii)	Individuals in this category can interbreed and produce fertile offspring.	G.	Flagella
(viii)	Is a pandemic disease	H.	Cilia
(ix)	It shows the true relationship of organisms.	I.	Abiotic component
(x)	The part of the digestive system where most absorption of the end products of digestion occur.	J.	Biotic component
		K.	Artificial classification
		L.	Natural classification
		M.	Experiments
		N.	Hypothesis
		O.	Lactic acid
		P.	Pyruvic acid
		Q.	AIDS
		R.	Malaria
		S.	Kingdom
		T.	Species

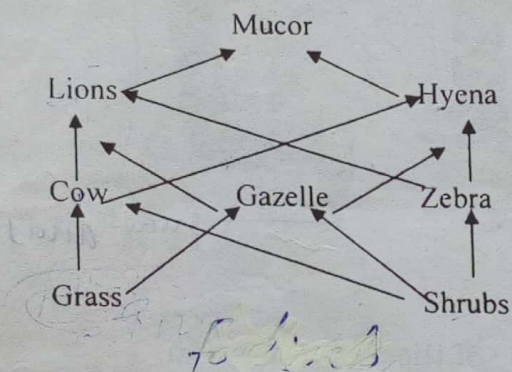
SECTION B (50 MARKS)

4. Study the diagram below and answer the questions that follow:



- (a) Write the name of the above diagram.
 - (b) Identify structures labeled A, B, C, D and E.
 - (c)
 - (i) Name two enzymes secreted by the structure labeled B and the type of food substances they act on.
 - (ii) What substance is secreted by the structure labeled A and what is its role in digestion?
 - (iii) State the adaptations of the structure labeled C, which make it suitable for absorption of digested food.
5. (a) (i) What is respiration?
- (ii) Name the two types of respiration.
- (b) Describe four factors that affect the rate of respiration.
- (c) Outline the four features of respiratory surfaces.

6. (a) Define transpiration.
 (b) Outline the significance of transpiration in plants.
 (c) Give four differences between an onion cell and a cheek cell.
7. (a) What is First Aid?
 (b) What is the importance of First Aid? Give four points.
 (c) Outline proper procedures of giving First Aid to victims of:
 (i) snake bite.
 (ii) electric shock.
8. Study the pattern below and answer all the questions that follow.



- (a) (i) What is the name of the feeding relationship represented above?
 (ii) What does the sequence
 "shrubs → zebra → hyena → mucor"
 represent? *food chain*
- (b) Name the organisms which are:
 (i) secondary consumer.
 (ii) primary producers.
- (c) What is the role of mucor in the pattern above?

Food web = Inter-relationship of organisms

SECTION C (20 MARKS)

9. Write an essay on AIDS by using the following guidelines.
- (a) Meaning of AIDS
 - (b) Cause of the disease
 - (c) Where can the causative organism be found in an infected person?
 - (d) Transmission of the disease
 - (e) Symptoms of the disease
 - (f) Prevention of the disease.

OR

10. Write an essay on the economic importance of bacteria in:
- (i) Agriculture
 - (ii) Medicine
 - (iii) Industries.