

Candidate's Examination Number .....

THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATIONS COUNCIL  
FORM TWO SECONDARY EDUCATION EXAMINATION

0033

BIOLOGY

Time: 2:30 Hours

Thursday, 27<sup>th</sup> November 2014 a.m.

Instructions

1. This paper consists of sections A, B and C.
2. Answer all questions in sections A and B and one (1) question from section C.
3. Answers must be written in the space provided.
4. All communication devices and calculator are **not** allowed in the examination room.
5. Except for diagrams that must be drawn in pencil, all writing should be in blue or black ink.
6. Write your Examination Number at the top right corner of every page.

FOR EXAMINERS' USE ONLY		
QUESTION NUMBER	SCORE	EXAMINERS' INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		

SECTION A (30 Marks)

Answer **all** questions in this section.

1. For each of the items (i) - (x), choose the correct answer from among the given alternatives and write its letter in the box provided.

(i) Which of the following is the second step of the scientific investigation?

- A Identifying the problem
- B Experimentation
- C Formulating hypothesis
- D Asking questions.

(ii) The known common types of microscopes are:

- A Light and technical microscope
- B Light and electricity microscope
- C Light and electron microscope
- D Electrical and light microscope.

(iii) Which First Aid provided to a victim of Hiccup?

- A Wash the victim's mouth to remove food remains.
- B Hold victim's breathe to increase carbondioxide in the blood.
- C Take a deep breathe in victim's mouth to increase oxygen.
- D Ask a person to go to hospital immediately.

(iv) Which of the following are communicable diseases?

- A Gonorrhea, sickle cell anemia, bilharzia.
- B Typhoid, cholera, tuberculosis.
- C AIDS, cholera, anemia.
- D Influenza, pellagra, cholera.

(v) The neuron found in human being is an example of:

- A a tissue
- B a cell
- C an organ
- D a system.

(vi) Which method is advised for disposing hazardous materials?

- A Use of landfill.
- B Make pit latrine.
- C Use an incinerator.
- D Recycling.



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(vii) An organism which move by means of flagella include:

- A Paramecium and euglena
- B Euglena and bacteria
- C Bacteria and amoeba
- D Amoeba and plasmodium.

☐

(viii) A causative agent of blood pressure in human beings is

- A over consumption of fatty food
- B drinking plenty water
- C drinking juice
- D food poisoning.

☐

(ix) The structures on the wall of the ileum responsible for absorption of digested food are called

- A alveoli
- B villi
- C mesophyll
- D epiglottis.

☐

(x) Aerobic respiration takes place in the presence of

- A Water
- B Carbondioxide
- C Oxygen
- D Hydrogen.

☐

2. Write **TRUE** if the statement is correct or **FALSE** if a statement is not correct.

- (i) A microscope is **not** very important equipment in the biology laboratory .....
- (ii) Plant cell has irregular shape while animal cell has regular shape .....
- (iii) It is safe to touch body fluid with bare hands when giving First Aid.....
- (iv) Zoology is the study of animal .....
- (v) The conditions necessary for photosynthesis are presence of carbondioxide and oxygen.....
- (vi) Absorption of digested food takes place in the esophagus.....
- (vii) Gaseous exchange in plants takes place through the gills.....
- (viii) Recycling means turning waste material into useful products .....
- (ix) A cell is a group of organisms performing the same function.....
- (x) Biology is the study of living things .....

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3. Match the responses in **List B** with the phrases in **List A** by writing the letter of the correct response from **List B** below the item number of **List A** in the table provided.

List A		List B
(i)	A vascular tissue used for transportation of water and mineral salts towards the leaf.	A Stomata
(ii)	A small pore which allow gaseous exchange into and out of the leaf.	B Sponge mesophyll
(iii)	A water proof material which protect the leaf from injury and excessive water loss.	C epidermis
(iv)	A bean shaped structure for effective control of water loss and gaseous exchange.	D Cuticle
(v)	A broad part of a leaf which increase large surface area for absorption of light and carbondioxide.	E Lamina
(vi)	A part of a leaf with cells loosely parked to allow maximum gaseous exchange.	F Petiole
(vii)	A vascular tissue used for transportation of manufactured food away from the leaf.	G Vein
(viii)	A part of a leaf which have abundant chlorophyll to maximize light absorption and photosynthesis.	H Midrib
(ix)	A leaf stock that attaches the leaf to a stem.	I Margin
(x)	The outermost layer found on lower and upper surface of a leaf.	J Cross mesophyll
		K Apex
		L Guard cell
		M Phloem
		N Xylem
		O Palisade mesophyll

#### ANSWERS

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

#### SECTION B (50 Marks)

Answer **all** questions in this section.

4. (a) Define the term "Biology" and "Biologist".

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(b) Mention major branches of Biology.

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(c) Briefly explain how Biology is related to the following fields:

(i) Agriculture

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.....  
.....

(ii) Medicine

.....  
.....  
.....

5. (a) State two characteristics of the Kingdom Fungi

(i) .....  
.....  
(ii) .....  
.....

(b) Figure 1 represents an organism which feed on dead organic matter. Study the diagram carefully then answer the questions that follow:

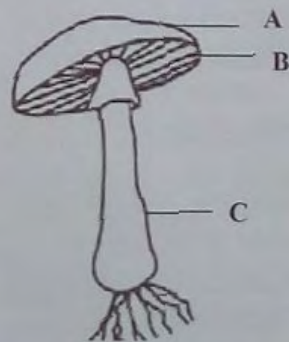


Figure 1

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- (i) What is the name of organism in Figure 1?  
.....  
.....
- (ii) Name the part labelled with letter A, B and C.  
.....  
.....  
.....
- (c) Mention the Phylum in which the organism in "Figure 1" belongs.  
.....
6. (a) What do you understand by the term "Puberty"?  
.....  
.....
- (b) Mention four requirements of personal hygiene.  
(i) .....  
(ii) .....  
(iii) .....  
(iv) .....
- (c) State two ways of maintaining person hygiene during puberty.  
(i) .....  
.....  
(ii) .....  
.....
7. (a) What do you understand by the following terms as used in Biology?  
(i) Transportation of materials  
.....  
.....  
(ii) Mass flow  
.....  
.....  
.....
- (b) Explain what would happen when a plant cell is immersed in hypertonic solution?  
.....  
.....



(c) State one function of each of the following blood vessels:

(i) Pulmonary vein

(ii) Pulmonary artery

8. (a) Define the term "natural environment" as used in Biology.

(b) List six components of the food chain and food web.

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(c) (i) Give one example of the biotic component of the environment.

(ii) Give one example of abiotic component of the environment.

### SECTION C (20 Marks)

Answer one (1) question in this section.

9. Explain the causes, symptoms and control/prevention measures of asthma in the respiratory system.

10. Elaborate any three traditional and three modern methods used in food processing, preservation and storage.

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