

Candidate's Examination Number \_\_\_\_\_

**SMZ**

**ZANZIBAR EXAMINATIONS COUNCIL**

**FORM THREE ENTRANCE EXAMINATION**

**044**

**BIOLOGY**

**TIME: 2:30 HOURS**

**MONDAY, 9<sup>th</sup> DECEMBER 2019 a.m.**

**INSTRUCTIONS TO CANDIDATES**

1. This paper consists of **THREE (3)** sections **A, B** and **C**.
2. Answer **ALL** questions in Section **A** and **B**. and any **TWO (2)** questions in section **C**. Question **Nine (9)** is compulsory.
3. Write your Examination Number on each page.
4. Write your answers in the spaces provided.
5. Cellular phones are not allowed in the Examination room.
6. Use a blue or black pen in writing. The diagrams must be drawn in pencil.

FOR EXAMINER'S USE ONLY		
QUESTION NUMBER.	MARKS	SIGNATURE
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9a.		
9b.		
10.		
11.		

**This paper consists of 12 printed pages**

**SECTION A: (30 Marks)**

Answer **ALL** questions in this section

1. Choose the correct answer and write its letter in the table below the question.

i) The field of biology that deals with classifying organisms

A: Identification    B: Nomenclature    C: Taxonomy    D: Classification

ii) The immediate assistance given to a sick or injured person before getting professional medical help

A: Emergence Aid    B: First Aid    C: First Aid Kit    D: First service

iii) An instrument used in scientific studies to make small things look bigger

A: Centrifuge    B: Electronic balance    C: Microscope    D: Mirror

iv) The ability of the body to resist infection and disease

A: Prevention    B: Immunity    C: Vaccination    D: Treatment

v) A way of studying things by testing facts systematically

A: Scientific name    B: Scientific approach  
C: Scientific method    D: Scientific study

vi) The process of turning waste into new products

A: Incinerating    B: Recycling    C: Burying    D: Dumping

vii) Methods of food processing used to prevent food from going bad

A: Food test    B: Food poisoning    C: Food preservation    D: Food storage

viii) The green colouring pigment found in the leaves of green plants

A: Xanthophyll    B: Antioxidant    C: Carotenoid    D: Chlorophyll

- ix) The red pigment in erythrocytes responsible for transportation of oxygen  
A: Plasma B: Haemoglobin C: Lymph D: Bile
- x) Organisms such as green plants that can manufacture their own food  
A: Scavengers B: Decomposers C: Producers D: Consumers

**Answers**

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the items found in the laboratory in **LIST A** with the uses in **LIST B**. Write the answers in the table below the question.

<b>LIST A</b>	<b>LIST B</b>
i) Cage	A. A shallow glass in which specimens are put for observation
ii) Model	B. A device that has tubes used for picking live insects
iii) Aquaria	C. A device with thin end for lifting specimen from the specimen bottle
iv) Petri dish	D. Mesh wire or metal bars for keeping live animals
v) Watch glass	E. A cylindrical container that is marked to show the volume of liquids
vi) Syringe	F. A small piece of glass that protects the lenses of the microscope
vii) Dissecting tray	G. A device for scooping powder or crystals
viii) Cover slip	H. A copy of the original object to simplify teaching
ix) Mounting needle	I. A container in which creatures living in water are kept
x) Pooter	J. A shallow container used as evaporating surface or for covering beakers
	K. It is used to heat substances at high temperatures
	L. A flat container covered with wax for specimen to be cut
	M. A hollow tube made of glass or plastic used for transferring small quantities of liquid

**Answers**

i	ii	iii	iv	v	vi	vii	viii	ix	x

3. Read the questions below very carefully and then fill in the blank spaces.
- Materials that are no longer needed are referred to as \_\_\_\_\_.
  - A scientific system of naming organisms is \_\_\_\_\_.
  - Amoeba use \_\_\_\_\_ for locomotion and to \_\_\_\_\_ food particles.
  - Food substances peas, mushroom, beef, and termites are rich in \_\_\_\_\_.
  - The \_\_\_\_\_ trophic level is made up of \_\_\_\_\_ such as bacteria and fungi.
  - The \_\_\_\_\_ controls the functions of all the parts of the cell.
  - The blood cells responsible for clotting of blood are known as \_\_\_\_\_.

**SECTION B: (50 Marks)**

Answer **ALL** questions in this section

4. Study the Figure X below then answer the questions that follows



Figure X

- a) Identify any two (2) biotic factors from the figure X.

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b) Identify any two (2) abiotic factors from the figure X.

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c) Construct any two (2) food chains from the figure X.

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d) List any two (2) artificial components of environment found in the figure X.

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e) i) What is the ecological name of the figure X.

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ii) Define it

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5. With examples define the following terms

a) Cell

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b) Tissue

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c) Organ \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

d) System \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

e) Mention any two (2) structures that are only found in plant cell  
 \_\_\_\_\_  
 \_\_\_\_\_

6. a) Draw the cross-sections of i) A vein ii) An artery

b) Write any two (2) differences between an artery and a vein

Artery	Vein
i)	
ii)	

7. Give the reasons for the following phenomenon

a) Palisade cells contain many chloroplasts.

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b) A person with blood group AB can receive blood from all blood groups.

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c) The donor's blood must be screened before transfusion.

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d) Digestion of protein cannot start in the mouth.

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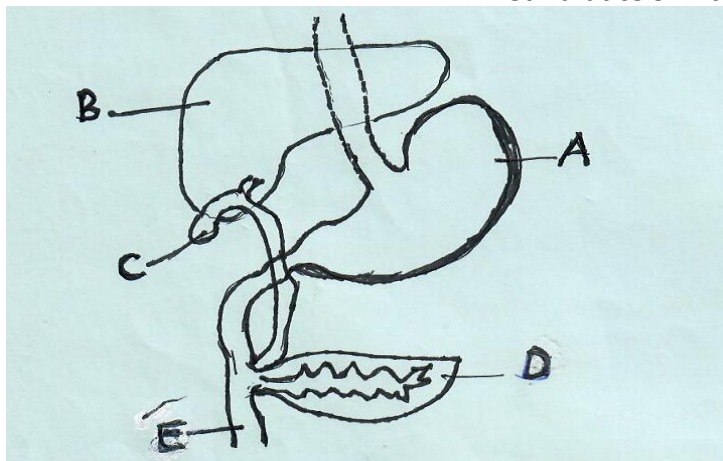
e) The cell membrane allows only some substances to pass in and out of the cell.

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8. a) Study the part of a diagram of the human digestive system below, then answer the questions follow it.



Name the labelled parts

A \_\_\_\_\_ B \_\_\_\_\_

C \_\_\_\_\_ D \_\_\_\_\_

E \_\_\_\_\_

b) From the diagram (a) above, name the part whereby

- i. Food is stored \_\_\_\_\_
- ii. Bile is stored \_\_\_\_\_
- iii. pH is acidic \_\_\_\_\_
- iv. Bile is produced \_\_\_\_\_

c) Name the digestive juices that are produced in the parts shown in the diagram

\_\_\_\_\_  
 \_\_\_\_\_



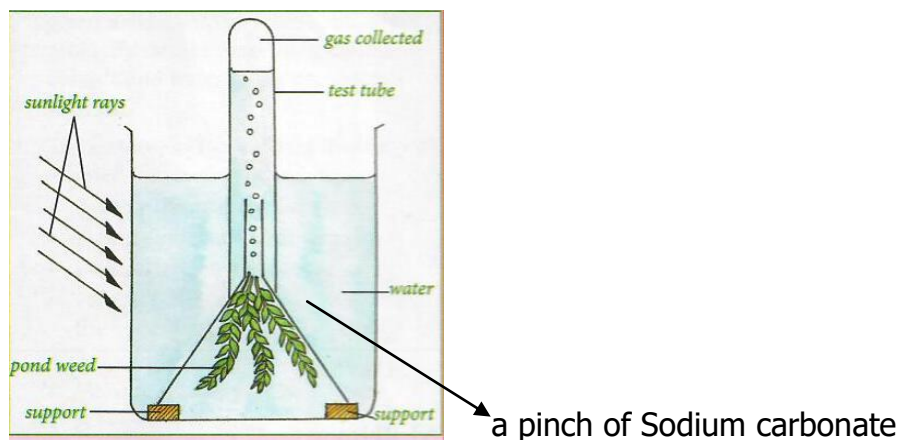
**SECTION C: (20 Marks)**Answer any **TWO (2)** questions in this section**Question NINE (9) is compulsory. Answer either 9a or 9b**

9. a) Select the structures that are either found in the external or internal parts of a leaf and write them in the table below.

Cytoplasm , lamina, stomata, vacuole , veins , cuticle , membrane ,xylem, apex, centrioles, guard cell , reticulum ,phloem , mitochondria, petiole , ribosome , midrib, nucleus.

External parts	Internal parts

9. b) Study the set-up of the experiment of the photosynthesis , then answer the questions that follows



i. What is the aim of the experiment?

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ii. How to identify the gas produced?

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iii. Write the balanced equation showing the process.

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iv. Write two (2) importance of the process.

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v. What is the aim of adding a pinch of Sodium carbonate in the water?

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10. 'Asthma and Lung cancer are infectious diseases of the respiratory system.'

Write a short essay on Asthma or Lung cancer, choose only one.

Your essay should include

- a) Cause of the disease
- b) Symptoms of the disease



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