Candidate's Examination Number _____

SMZ

ZANZIBAR EXAMINATIONS COUNCIL

FORM THREE ENTRANCE EXAMINATION

044 BIOLOGY

TIME : 2.30 HOURS THURSDAY 6TH DECEMBER 2018 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 in each page.
4. Use blue or black pen in writing. The diagrams must be drawn in pencil.
5. Write your answers in the spaces provided.
6. Cellular phones are not allowed in the examination room.

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

This paper consists of 14 printed pages

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

SECTION A: (30 Marks)

Answer ALL questions in this section

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

   i. The first step in the scientific method

   A: Practicing assertiveness B: Asking questions

   C: Formulating hypothesis D: Identifying the problems

   ii. It is used to clean wounds so as to kill germs

   A: Antiseptic B: Painkiller C: Plaster D: Gauze

   iii. The container which contains the dangerous substance that may cause death, is labelled as

   A: Corrosive B: Flammable C: Radioactive D: Toxic

   iv. The ability of the human body to resist infections by disease causing organisms

   A: Vaccination B: Immunity C: Infection D: Sterilization

   v. The organism which is a decomposer

   A: Grass B: Fungi C: Algae D: Spirogyra

   vi. Planting trees to replace those that have been cut

   A: Desertification B: Afforestation C: Reafforestation D: Deforestation

   vii. The structure which is used for movement in Amoeba

   A : Cilia B : Pseudopodia C : Flagellum D : Fimbriae

   viii. A type of malnutrition which is caused by protein deficiency

   A: Rickets B: Marasmus C: Constipation D: Kwashiorkor

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

ix. Part of the leaf which maximizes absorption of sunlight and carbon dioxide

A: Lamina B: Midrib C: Petiole D: Apex

x. The organ for gaseous exchange in fish

A: Lung B: Trachea C: Skin D: Gills

ANSWERS

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the items from **LIST A** with the response in **LIST B** by writing the letter in the table below.

LIST A	**LIST B**
i. A basic principle of waste disposal	A. Solid wastes
ii. Materials that are no longer needed	B. Land fill
iii. Home garbage, used plastic bottles, broken glasses	C. Incinerator
iv. Equipment used in burning waste materials	D. Pit latrine
v. Handling containers used so as to reduce waste	E. Wastes
vi. A toilet made by digging a hole in the ground	F. Woven bags
vii. Old clothes, old furniture, leftover food and sewage	G. Recycling
viii. Wastes that can be decomposed by bacteria	H. Gaseous wastes
ix. Medical wastes that can transmit infections and diseases	I. Incubator
x. Regular collection of wastes by trucks to the dumping sites	J. Plastic bags
	K. Household wastes
	L. Biodegradable
	M. Tipping
	N. Compost heaps
	O. Biohazards
	P. Tissue paper

ANSWERS

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

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

3. Read the sentences below very carefully, and then fill the blank spaces. Use one word for each space.

a) In 1665 Robert Hooke designed a _____.

b) The two basic types of cells are _____and_____.

c) The cell organelles are suspended in the _____.

d) The nucleus is made of a fluid called _____.

e) Smooth endoplasmic reticulum is the site for the manufacture of _____.

f) The inner folds of mitochondria are called _____and these are the sites of _____.

g) The green pigment in plants is _____.It is found in the cell organelle called_____.

SECTION B: (50 Marks)

Answer ALL questions in this section

4. a) List down any three (3) disorders of the digestive system

i) _____

ii)_____

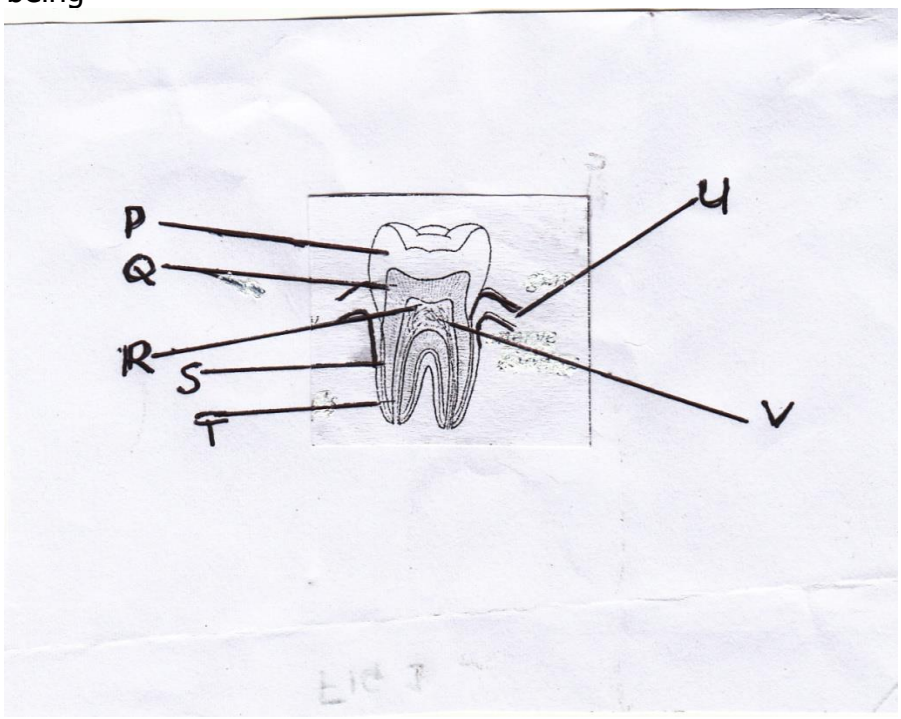
iii)_____

Find this and other free resources at:
dadisi.co.tz

b) Write any three (3) differences between the human digestive system and the ruminant digestive system

Human digestive system	Ruminant digestive system
i)	
ii)	
iii)	

c) i) Label the parts shown on the cross section of the tooth of the human being



P_____ Q_____

R_____ S_____

T_____ U_____

V _____

Find this and other free resources at:
dadisi.co.tz

ii) Identify the type of the tooth above

_____

_____

5. a) Mention two (2) ways in which food nutrients and energy flow within the organisms

i)_____ ii) _____

b) Show diagrammatically the representation of the different trophic levels

c) State two (2) forms of the close association between organisms in symbiosis

i) _____ ii) _____

d) Contrast between predation and competition

_____

_____

_____

_____

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

6. a) Define blood transfusion. _____

_____

b) List any two (2) precautions taken during blood transfusion

i) _____

ii) _____

c) Mention any two (2) reasons for a patient to have blood transfusion.

i) _____

ii) _____

d) In a table below put a tick (√) where the blood is compatible and a star (∗) where the blood is incompatible to the donor and recipient.

Donor's blood group	Recipient's Blood group		
	A	AB	O
A			
AB			
O			

7.a) i) Mention any four (4) items that are found in the first aid kit

_____ _____

_____ _____

ii) State the use of each item you mentioned above in (7a)(i)

_____

_____

_____

_____

Find this and other free resources at:
dadisi.co.tz

b) Study the list of the following insects

mosquitoes, bees, tse tse flies, wasps, hornets, ants

Identify the stinging insects and the biting insects by filling in the table

Biting insect	Stinging insect

c) When you were playing football, your friend fell down and had a bruise on his arm. Outline three steps on how to give him first aid.

i) _____

ii) _____

iii) _____

8. a) Draw the labelled basic structure of a bacterium

b) Name the structure that is used for

i) Movement _____.

ii) Attachment_____.

Find this and other free resources at:
dadisi.co.tz

c) Name the kingdom whereby the bacteria belongs _____.

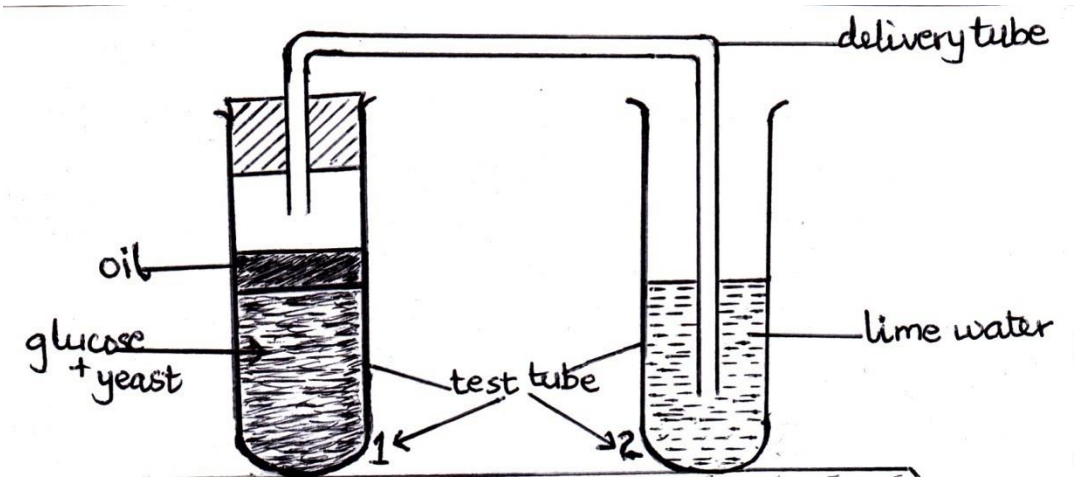
d) i. Mention the bacteria that cause Cholera _____.

ii. What is the shape of that bacteria causing Cholera? _____.

iii. What is the name of scientific study of bacteria? _____.

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

9. a) The diagram below shows the process of anaerobic respiration in yeast. Study it then answer the questions



i) Point out the use of oil in the experiment in the test tube number **1**

_____

ii) Predict what will happen to the lime water at the end of the experiment in the test tube number **2** _____

Find this and other free resources at:
dadisi.co.tz

iii) The process of anaerobic respiration in plants is also called _____.

iv) Write the word equation showing what happen in the test tube number **1**

_____

v) An anaerobic respiration in animals occur during

_____

vi) The compound formed during anaerobic respiration in animal is _____.

vii) Write the word equation that represents the anaerobic respiration in animals

_____

9. b) In the process of osmosis a solution which has the:

i) Greater volume of water and a lesser quantity of solute is said to be

_____.

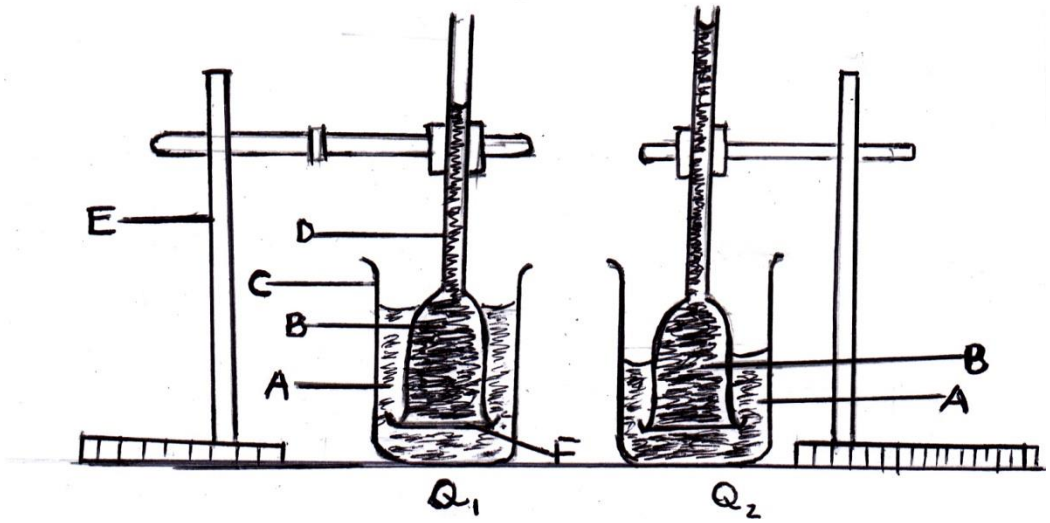
ii) Lower volume of water and greater quantity of solute is said to be

_____.

iii) Same potential it is said to be _____

iv) The diagram below shows the demonstration of the process of osmosis using the Visking tubing, label the letters in the apparatus as shown.

Find this and other free resources at:
dadisi.co.tz



C _____ D _____

E _____ F_____

v) Compare the levels of solutions A and B in fig Q1 and in fig Q2.

In fig Q1 the level of solution A is _____

and in fig Q2 the level of solution A is _____.

In fig Q1 the level of solution B is _____

and in fig Q2 the level of solution B is _____.

vi) The function of the labelled item F is _____.

10. a) Name any two (2) types of water-borne disease.

b) Tuberculosis is an air-borne communicable disease. Write a short essay about it, using the following sub-headings as a guidelines

i) The cause and the transmission of the disease

ii) The signs or symptoms of the disease

Find this and other free resources at:
dadisi.co.tz

iii) The effects of the disease

iv) Prevention and treatment of the disease

11. a) Define ecosystem.

b) Write a short description on

i) Biotic component of the environment and their characteristics

ii) Abiotic component of the environment and their characteristics

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

Find this and other free resources at:
dadisi.co.tz

Candidate's Examination Number _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Find this and other free resources at:
dadisi.co.tz