PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FORM FOUR MOCK- EXAMINATION

SHINYANGA REGION

BIOLOGY 1 SPECIAL PAPER

033

TIME: 3 HOURS **Friday 17th May 2024**

(For Both school and private candidates)

INSTRUCTIONS

1. This paper consists of sections A, B and C with a total of eleven (11) questions.
2. Answer all questions in section A and B and any two (2) questions from section C
3. All writing should be in blue or black ink except for diagrams which must be in pencil
4. Cellular phones and any authorized materials are not allowed in the examination room.
5. Write your examination number in very page of your answer sheet.

SECTION A (16 MARKS)

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

   i) Mrchangamoto picked up a telephone after hearing it ringing, which characteristics of living things was MrChangamoto showing by these actions
   A) Growth and respiration
   B) Irritability and movement
   C) Irritability and respiration
   D) Locomotion and movement

   ii) While observing specimens on the light microscope one student complain that the image is not clearly seen, which part is responsible
   A) Objective lens
   B) Fine adjustment knob
   C) Coarse adjustment knob
   D) Eye piece

   iii) Form two students at Mtakuja secondary school were observing various cells in Biology laboratory finally they put those cells into two groups, to which groups did they put according to two main types of cells?
   A) Plant cells and animal cells
   B) Unicellular and multicellular cells
   C) Prokaryotic and eukaryotic cells
   D) Red blood cells and white blood cells

   iv) Select the item that indicates the best match in vitamin deficiency
   A) Vitamin A dry scaly skin
   B) Vitamin K loss of appetite and yawning
   C) Vitamin C anemia and high blood pressure
   D) Vitamin D soft deformed bones

   v) Which of the following is formed immediately after fertilization
   A) Placenta
   B) A zygote
   C) An embryo
   D) A foetus

   vi) The offspring of crosses between red flowered and white flowered plants were always found to be pink. This is an example of
   A) Co- dominance
   B) Incomplete- dominance
   C) Mutation
   D) Crossing over

   vii) Which of the following conditions would cause the adrenal gland to produce adrenaline hormone?
   A)Playing a music
   B)Eating tomato
   C)Smelling lemon
   D)Seeing a snake

viii) A phylum consisting of species with jointed appendages and exoskeleton is known as:
A) Chordate
B) Anelida
C) Arthropoda
D) Nematoda

ix) Which is the following represent the organisms with homologous structures?
A) Wings of birds and butterfly
B) Tail of rat and scorpion
C) Sting of honey bee and mosquito
D) Forelimbs of bird and bat

x) A structure which controls the body balance in humans is located in the
A) Outer ear
B) Eardrum
C) Inner ear
D) Middle ear

i.	ii.	iii.	iv.	v.	vi.	vii	vii	ix.	x.

2. Match the phrase in list A with responses in list B by writing the letter of the correct response in the table provided.

LIST A	**LIST B**
i. The growth movement in plants organ in response to unilateral source of heat.	A. Chemotropism
ii. The growth of plant organ in response to unilateral source of water moisture.	B. Geotropism
iii. The growth movement of plant organ in response to unilateral source of light.	C. Thermotropism
iv. The growth movement of plant organ in response to unilateral source of gravity	D. Phototropism
v. The growth movement of plant organ in response to unilateral source of chemical	E. Hydrotropism
vi. Allows some plant species to flower – switch to reproductive mode only at certain times of year	F. Thigmotropism
	G. Photonasty
	H. Rheotropism
	I. Photoperiodism
	J. Hydrotropism

LIST A	i.	ii.	iii.	iv.	v.	vi.
LIST B						

SECTION B (54 Marks)

3. a) As biologist, how can we make observation for various situations and things in the laboratory and in the environment?
b) List two Anaerobic respiration is applied in a real life situation
c) Name two ways on why poor waste disposal at home is said to cause adverse effects.

4. a. State three differences of the class to which bean plant and maize plant belong.

b.An Athletics get dislocation on her knee and all the liquid content in her joint splashed out. She went to the hospital where the entireorgan was assembled. After recovery she continued feeling pain when she walked even a short distance.

i. What liquid splashed out from the joint?
ii. Why she continued feeling pain regardless of treatment administered from the hospital?
iii. Name the type of joint dislocated

5. An Ecologist carried out survey to estimate the number of organism in a certain dam, the result is shown in the table below

TYPE OF AN ORGANISM	ESTIMATED NUMBER OF ORGANISM
Microscopic plants	40, 000
Small fishes	120
Mosquito larvae	31,000
Crocodiles	12
Large fishes	60

(a) Which of the above organisms are called;-
i. Producers
ii. Primary consumers
(b) Define a simple ecological pyramid
(c) Give the meaning of the following terms
i. Vestigial structures
ii. Inherited characters
iii. Sex influenced characters.

6. a) Every secretion in the body has its own purposes, noses secrete mucus, a mouth secretes saliva and eyes remove tears. What do you think be a reason for
i. Noses to secrete mucus
ii. Eyes to produce tears
iii. A mouth to secrete saliva
b) Name three points why we are advised to boil the drinking water?
c) Most of the people living in Simiyu villages dispose their waste randomly without taking any precaution. State three effects of their habit to their health

7. a)Name two ways of a plant cell prevent bursting when placed in hypotonic solution
b) Give the meaning of the following terms as used in Biology
i. Blood transfusion
ii. Blood compatibility
c) If a patients of blood group O need blood transfusion, what are possible donors?

Give two reasons.

8. a) Explain the following Mendelian traits and give their effects to human beings
   i) Hemophilia
   ii) Sickle cell anemia
   b) Colour blindness is a sex linked trait controlled by a recessive gene “b”. If a mother is a carrier and the father is normal. What is the chance that their son will be colour blind?

SECTION C (30 Marks)

Answer any **two (2)** questions from this section

9. If the liver is removed from a person, is there any possibility to survive? Nametwo reasons to support your answer.

10. List four methods by which human infectious diseases are transmitted.

11. Names two causes of drug abuse to young people and advice the Tanzanian Government on the two of combating drug abuse in the country.