

PRESIDENT'S OFFICE.
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT.
SINGIDA MUNICIPAL COUNCIL.
FORM FOUR PRE NATIONAL EXAMINATION.

CODE: O33

BIOLOGY 1

TIME: 3:00 HRS

AUGUST 2023

INSTRUCTIONS

1. This paper consists of section A, B and C with a total of eleven (11) questions.
2. Answer all question in section A B and two (2) questions from section C
3. Section A contain sixteen(16) marks, section B fifty four(54) marks and section C contains thirty(30) marks.
4. All writings must be in blue or black pen except diagrams that must be in pencils
5. Cellular phone and any other unauthorized material s are not allowed in the examination room.
6. Write your examination number on every page of your answer sheets.

SECTION A (16 MARKS)

Answer all questions in this section

1. For each of item (I)-(x), choose the correct answer from among the given alternatives and write its letters beside the item number in the box provided.
 - i. John wanted to estimate population of a certain species of grasses at a particular place, will you advise him to use which of the following apparatus so as to simplify work.
A. Quadratic B. Hand lens C. Potter D. Sweep net E. Microscope
 - ii. Which of the following process occur when plants absorbs water from the soil
A. Diffusion B. Osmosis C. Mass flow D. Active transport E. Translocation
 - iii. During tour a form four student of Nianjema secondary school observed a large trees without flower. The trees can be placed in which of the following group
A. Angiospermophyta B. Coniferophyta C. Filicinophyta D. Bryophyta E. Non vascular plant
 - iv. Mr Joachim made a cut on his finger accidentary .But blood failed to clot, which of the following was probably a problem to him.
A. Production of white blood cell B. Production of red blood cell C. Production of blood platelets
D. Production of lymphocytes E. Production of phagocytes
 - v. The genotype of a red flowered plant was unknown it was assumed to be either RR or Rr, which of the following should be done so as to determine the genotype of red flower
A. Test cross B. Back cross C. Reciprocal cross D. Reverse cross E. Crossing over
 - vi. Mr. Mwambatata family usually eat sweet potatoes only as their main food. The children from this family are at high risk of suffering from which of the following

(a) Marasmus (b) kwashiorkor (c) constipation (d) obesity (e) anorexia nervosa
 - vii. Which of the following process occurs during germination of maize seed
A. Epicotyls elongate and leaving cotyledon down the ground (b) Epicotyls elongate pushing cotyledon above the ground (c) hypocotyls elongate leaving cotyledon

down the ground(d) hypocotyls elongate pushing cotyledon above the ground e (e) both epicotyls and hypocotyls elongate leaving cotyledon under the ground

viii. A person of blood group O can donate blood to a person with blood group AB, but he cannot receive blood from a person with blood group AB, Why?

- (a) Because blood group O has both antigen (c) Because blood group AB has both antigen
- (b) Because blood group O has both antibody (d) Because blood group AB has both antibodies
- (e) Because blood group O is only universal donor and not recipient

ix. Asha got an accident of being hited by blunt object, after accident she was unable to withdraw her hand touches hot object. Which part of the nervous system could probably affected

- (a) Cerebrum (b) medulla oblongata (c) cerebellum (d) spinal cord (e) hypothalamus

x. The organism that reproduce sexually show variation among member of the same species because of which of the following process

- a) Plasmolysis B .Hydrolysis C. Meiosis D. Mitosis E. Copulation

2 .Match the item in list A with the response in list B by writing the letter of the correct response besides the item number

LIST A	LIST B
i. All living and nonliving things that occur naturally on the earth	A. food web
ii. The position occupied by a group of organism in a food chain or food web through which energy is passed in form of food	B. food chain
iii. The living component of the environment	C. predation
iv. Organism that rely on other organism for food	D. natural environment
v. Organism that make organic food molecules from carbon dioxide, water and inorganic raw materials	E. biotic component
vi. Interaction in which one capture kill and feed on another	F. abiotic component
	G. community
	H. consumer
	I. predator
	J. commensalism
	K .apex predator
	L. producer
	M. trophic level

SECTION B (54 MARKS)

Answer all question in this section

3 (a)During practical session form four student observed a unicellular organism on a microscope, when the internal cellular structure observed it showed that it had cell wall and circular DNA at its Centre with no nuclear membrane

- i. What is the common name of the observed organism
- ii. Identify the kingdom on which the observed organism should be placed during classifying it.
- iii .Draw a well labeled diagram of the observed organism

(b) Explain three important things to consider in order to prevent unpleasant odour and disease during puberty

(c) Why a person living with HIV/AIDS always dies for the diseases like tuberculosis, which are not usually fatal?

4. (a) Explain each of the following biological phenomena

- i. A fish can live in water where there is low amount of oxygen gas but it tend to die when placed on land where there is high amount oxygen gas.
- ii. Your breathing rate does not go back normal as soon as you stop exercising

(b) The digestion of food could be useless if there could be no absorption but the absorption of food does not occur all over the alimentally canal, it occur in a specific region.

- i. Identify the part of digestive system specialized for absorption
- ii. How the part identified in b(i) above adapted to ensure most all nutrient are absorbed. (4 points)

(c) A plant with yellowish leaves produces poor yield than a plant with green leaves. Comment for this observation.

5(a) You are confronted with an angry lion.

- i. How your endocrine system respond to this situation
- ii. What effect will be produced on your body as whole (3 point)

(b) In spite of the fact that people tend to eat a lot of sugar, but the level of sugar in the blood tend to remain fairly constant. Explain mechanism that occur in their body to maintain the level of sugar in the blood.

(c) What are the advantages of human being to excrete urea than ammonia?

6(a) (i) Why do certain drug become ineffective in curing diseases after many years of using it

(ii) Once living things created does not remain the same, use three points to support your statement

(b) The growth and development differs from one person to another. Explain any four factor that causes difference in growth and development between one person to another.

7. (a) Is hemophilia common to male or female? Give reason to your answer?

(b) A women with blood group A married with a husband who has blood group B. What probability that one of her children will have blood group O.

(c.) How RNA differs from DNA. (Three points)

8.(a) Various human activities tend to produce carbon dioxide in the atmosphere ,but the amount of carbon dioxide in air tend to remain less or more constant .Explain how is this possible?

(b) Why breast feeding is more important than bottle feeding (give any three points)

(c) With the aid of diagram explain the state of your upper arm while bending your arm

SECTION C (30 MARKS)

Answer only two (2) questions in this section.

9. One of the features of living things is the ability to exchange oxygen and carbon dioxide across the respiratory surface. Explain six factors that affect the rate of gaseous exchange in human being
10. The process of transpiration occur under the control of both plant and environmental feature, use six point to validate this statement (3 points from each feature).
11. Assume you are invited to participate on world AIDS day in your village or street and you asked to talk about the theme 'Ending the HIV pandemic Equitable access, everyone's favorite voice'. Write essay to show points that you will talk