THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

IRAMBA DISTRICT COUNCIL

FORM FOUR SERIES TWO EXAMINATION – JULY 2026

033/1 BIOLOGY 1

(For Both School and Private Candidates)

Time: 3 Hours **Year: 2026**

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 two (2) questions from section C.
3. Section A carries **sixteen (16)** marks, section B **fifty-four (54)** marks and section C carries thirty (30) marks.
4. All writing should be in **blue** or **black** pen, except for diagrams that must be drawn in pencil.
5. Communication devices and any unauthorized materials are **not** allowed in the examination room.
6. Remember to write your **Examination Number** on every page of your answer sheet/booklet.

SECTION A: (16 MARKS)

Answer **all** questions in this section.

1. For each of the items (i) – (x) choose the correct answer form among the given alternatives and write its letter beside the item number.

(i) Which theory proposed the idea that the ancestral terrestrial dweller ducks arose to develop webbed feet when moved to aquatic environment and the trait was inherited in successful generations?

A. Darwinism theory.
B. Lamarckism theory.
C. Cosmozoic theory.
D. Naturalistic theory.
E. Neo Darwinism theory.

(ii) A farmer, who wants to study the effect of fertilizers on plants, set up an experiment. Plant A get no fertilizers, plant B get 5mg of fertilizes each day and plant C gets 10mg of fertilizers each day; which one is the control group?

A. Plant B
B. Plant A
C. Plant C
D. All of them
E. None of the above

(iii) Lucy was diagnosed with the following symptoms: delirium, stiff neck, seizures or fits and fever. Which organism caused her body to develop such symptoms?

A. Yersinia pestis.
B. Schistosoma sp.
C. Meningococcus sp.
D. Vibrio cholerae.
E. Plasmodium sp.

(iv) Which of the following makes the difference between the types of gametogenesis in animals?

A. Mitosis.
B. Formation of haploid cells.
C. Meiosis II.
D. Formation of gametes.
E. Maturation stage.

(v) What is the type of cross-used to determine the unknown genotype when it results to all the offspring with dominant trait indicating that the unknown genotype is homozygous dominant?

A. Back cross.
B. Complete dominance cross.
C. Codominance cross.
D. Test cross.
E. Incomplete dominance cross.

(vi) Why transfusion of blood from a person of blood group O to another person of blood group AB is successful?

A. Recipient blood group has no antibody.
B. Recipients have no antigens.
C. Donor's blood has no antibodies.
D. Donor's blood has many antigens.
E. Recipient's blood has antigen O.

(vii) What is the name of the cell organelle that is responsible for synthesis of protein in the cell?

A. Cytoplasm.
B. Ribosome.
C. Nucleus.
D. Vacuole.
E. Mitochondria.

(viii) The body of an organism has different systems through which different material is transported by mass flow within the body. Which system among of the following does this process occur?

A. Lymphatic system
B. Reproductive system
C. Respiratory system
D. Digestive system
E. Blood circulatory system

(ix) Lag phase in terms of growth it means that;

A. Growth is slow
B. Growth has stopped
C. Constant growth
D. Rapid growth
E. No growth

(x) Many biological processes in the body are controlled by negative feedback mechanisms. Which of the following is an example of body process that apply this type of feedback loops?

A. Ovulation.
B. Lactation.
C. Blood clotting.
D. Childbirth.
E. Blood glucose regulation.

2. Match the functions in list A with reproductive parts in list B by writing the letter of the correct response from list B beside the item number of list A in your answer booklet

LIST A	LIST B
(i) Site where spermatogenesis occurs under stimulation of FSHS	A. Ovary
(ii) Structure where sperms acquire motility before ejaculation	B. Epididymis
(iii) Site for fertilization	C. Fallopian tube
(iv) Organ that responds to LH producing testosterone	D. Seminal vesicle
(v) Structure whose blockage prevents ovulation	E. Uterus
(vi) Gland that adds fructose-rich fluid to nourish sperms	F. Seminiferous tubules
	G. Testis
	H. Prostate gland

SECTION B: (54 MARKS)

3. (a) Kijicho is a form one student who hasn't learned about the merits of classification. As a form four student Use **four** points to educate him on the matter.

(b) Why is artificial system of classification not preferred by taxonomists? Give five points only.

4. Animal cells were placed in three different solutions namely **I, II** and **III**. After some time, the cell in solution **I** busted, the cell in solution **II** shrank and shrivelled and the cell in solution **III** did not change.
   (a) Identify the type of solution **I, II** and **III**.
   (b) Explain the reason for each observation.
   (c) Identify and give the meaning of the physiological process studied above.

5. (a) Briefly explain why plant do not need an elaborate excretory system like that of animals? (Five (5) points).
   (b) Explain how plants excrete their excretory waste product (four points)

6. (a) The end product of carbohydrate is glucose, despite of consuming a lot of carbohydrate foods but the blood sugar level is relatively constant. Comment.
   (b) Describe any four factors that can affect the content, amount, smell and odour of urine
7. (a) Explain four (4) similarities of the types of genetic materials in terms of their chemical composition.
   (b) State five (5) properties of the materials in 7(a) above.

8. (a) Growth in animals is influenced by both internal and external factors. Explain how cell division, hormones, and nutrition contribute to growth.
   (b) What is the meaning of the following terms used in growth;
      (i) Seed viability
      (ii) Seed dormancy
      (iii) Epigeal germination

SECTION C: (30 MARKS)

Answer only **two** questions from this section

9. Recently the Government of Tanzania abolished the uses of plastic bags for carrying various utilities an insisting appropriate approach of disposing wastes. With six points, analyse the effects of poor waste disposal.
10. Insects are said to be the most successive group of living organisms in kingdom Animalia. Why? (Give six points)
11. Evolution explains how living organisms change over time.
   (a) Explain the meaning of the following concepts in relation to evolution:
      - Adaptation
      - Speciation
      - Survival of the fittest
   (b) Discuss how Darwin's theory of natural selection explains organic evolution.
   (c) Give two examples of natural selection observed in plants or animals.