

BIOLOGY 2
0510

GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination

JUNE 2024

ORDINARY LEVEL

Subject Title	BIOLOGY
Subject Code No.	0510
Paper No.	2

Duration: Two and Half Hours

Answer FIVE questions, ALL THREE (3) from SECTION A and any TWO (2) from SECTION B

All questions carry 20 marks each. For your guidance, the approximate mark for each part of a question is indicated in brackets.

Begin each question on a new page.

Give labelled diagrams where these will make the answers clearer.

You are advised to read carefully through the question paper before you begin your answers.

You are reminded of the necessity for good English and orderly presentation in your answers.

In calculations, you are advised to show all the steps in your working, giving your answer at each stage.

Turn Over

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SECTION A
Answer ALL 3 questions

1. (a) Define the following terms.
 i) Excretion.
 ii) Homeostasis. (4,5 marks)
 (b) Describe the role of the kidney in osmoregulation. (6 marks)
 (c) Explain how the human body regulates the amount of sugar level in blood. (5 marks)
(Total = 20 marks)

2. (a) Draw a large labelled diagram or describe the structure of:
 i) A mould fungus.
 ii) An Amoeba. (5, 4marks)
 (b) How does a mould fungus carry out asexual reproduction? (6 marks)
 (c) Account for the various ways by which Fungi are beneficial to man. (5 marks)
(Total = 20 marks)

3. (a) State the biological importance of:
 i) Nitrogen to plants,
 ii) Nitrogen fixation in nature. (4, 5 marks)
 (b) Describe the role of the following processes in the circulation of carbon in nature;
 i) Photosynthesis.
 ii) Respiration. (4,2 marks)
 (c) How does deforestation affect the carbon cycle? (5 marks)
(Total =20 marks)

SECTION B
Answer any 2 questions

4. (a) State the differences between aerobic and anaerobic respiration. (5 marks)
 (b) Describe an experiment to show that carbon dioxide is produced by a potted plant during respiration. (13 marks)
 (c) What is the disadvantage of putting a potted plant inside a living room at night? (2 marks)
(Total =20 marks)

5. (a) Draw a large labelled diagram of the mammalian skin. (9 marks)
 (b) What are the differences between the epidermis of the mammalian skin and that of a leaf? (6 marks)
 (c) How is temperature regulation carried out in the mammalian skin during over heating? (5 marks)
(Total =20 marks)

6. (a) Define the following terms as used in genetics,
 i) Homozygous.
 ii) Heterozygous.
 iii) Recessive.
 iv) Dominance. (2,2,2,1 marks)
 (b) A farmer grows plants with rose flowers that are either red in colour or white. He realized that there was a quest for pink coloured roses. In an attempt to get the pink coloured roses, he crossed the pure breed rose flowered plant with the pure breed white flowered plant.
 Using genetic symbols and diagrams explain the results of this cross. (7 marks)
 (c) What would be the outcome of a cross between the pink flowers and the red parent? (6 marks)
(Total =20 marks)

7. (a) Define the following terms:
 i) Stimulus.
 ii) Tropism.
 iii) Reflex action.
 iv) Effector. (4, 4, 4, 3 marks)
 (b) Draw a well labelled diagram of the mammalian brain. (5 marks)
(Total =20 marks)

STOP GO BACK AND CHECK YOUR WORK