

231/1

BIOLOGY

PAPER 1

Time: 2 hours

**KCSE 2023 TOP PREDICTION MASTER
CYCLE 1**

NAME.....CLASS.....

SCHOOL.....SIGNATURE.....

INSTRUCTIONS

- a. Write your name, school and class in the spaces provided
- b. Answer **all** the questions in the spaces provided.
- c. This paper consists of **9** printed pages
- d. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1-31	80	

SECTION A

1. Name **two** branches of microbiology (2marks)

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2. Give **two** important functions of a fruit with regard to a plant (2marks)

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3. Construct a food chain with the following: (1mark)

Orange fruit, large bird, fruit fly, small bird

4. A student wrote the scientific name of Baobab tree as *adansonia Digitata*.

(a) Identify two mistakes made by the student (2marks)

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(b) Identify the species name (1mark)

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5. State the differences between light and electron microscopes in terms of the following:
(2marks)

(a) way of illumination

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(b) Source of illumination

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.....

(c) State two factors to consider the type of microscope to be used in a given biological investigation (2marks)

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6. Explain how parasitism differ from predation (2marks)

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7. (a) Explain how papain is used as a meat tenderizer in food processing industries (2marks)

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(b) Name a plant excretory product that is toxic to plasmodium (1mark)

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8. Distinguish between ilium and ilium (1mark)

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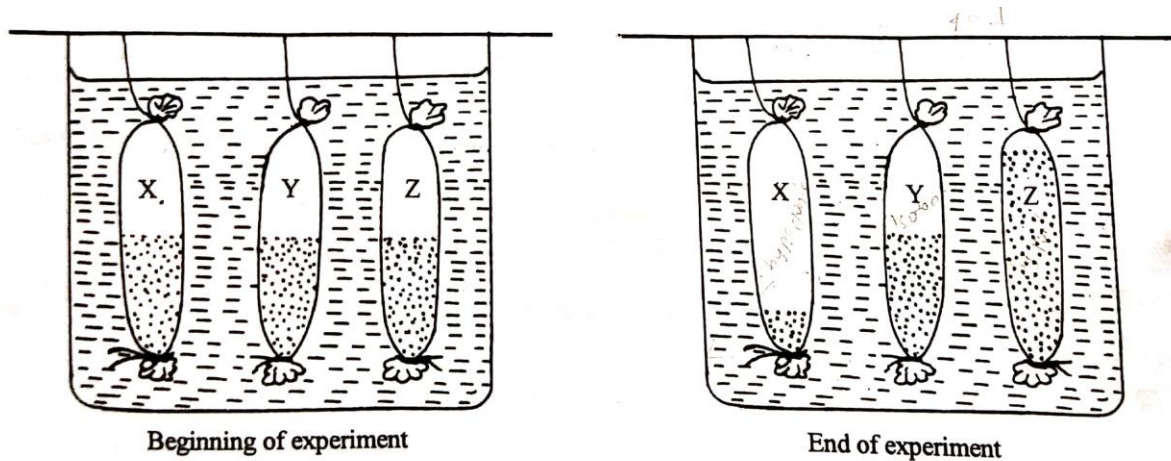
9. Explain why Egyptian mummies are not regarded as fossils (1mark)

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10. Explain what would happen to digestion and blood sugar regulation if the pancreatic duct of a mammal was blocked. (3marks)

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11. Equal amounts of three different sugar solutions were placed in the visking tubings X, Y and Z. the tubings were placed in a beaker of water containing 5% sugar solution. The set up was left for two hours. The results were as shown below.



(a) Name the process being tested in this experiment (1mark)

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(b) Account for the observation (3marks)

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12. (a) Define the term allergy (1mark)

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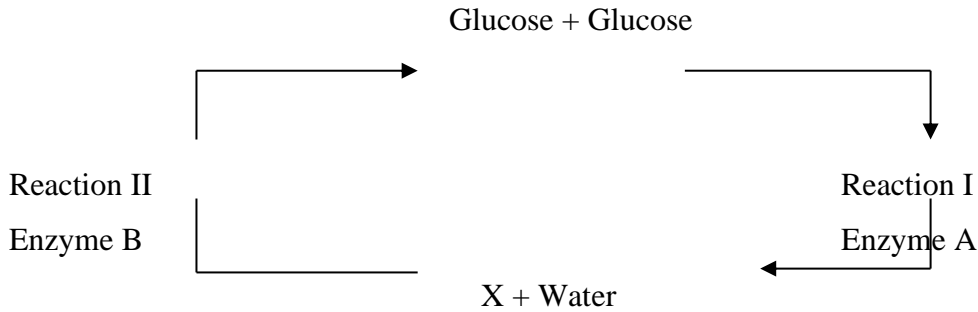
(b) Distinguish between allograft and isograft (2marks)

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13. State **two** adaptations of the placenta to its function (2marks)

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14. The diagram below shows chemical reactions I and II which are controlled by enzymes.



(i) Into which class of carbohydrates is X? (1mark)

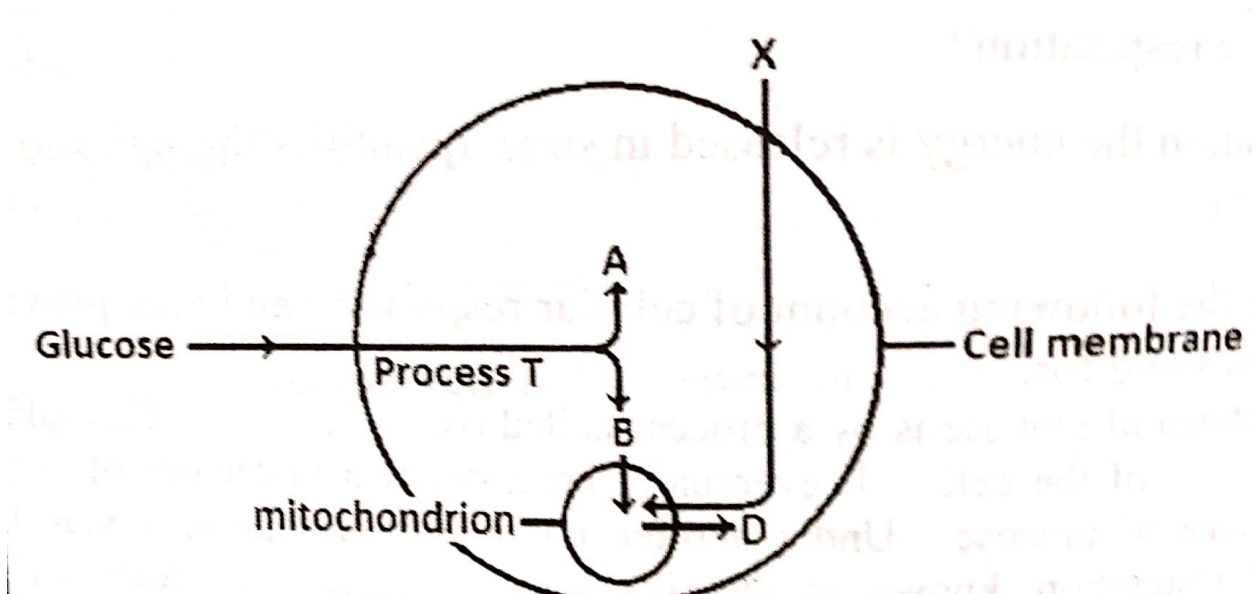
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(ii) Name reaction I and enzyme A (2marks)

Reaction I.....

Enzyme A.....

15. The figure below illustrates aerobic respiration in a cell



(a) Name the raw material named X and products A and B (3marks)

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(b) Identify process T (1mark)

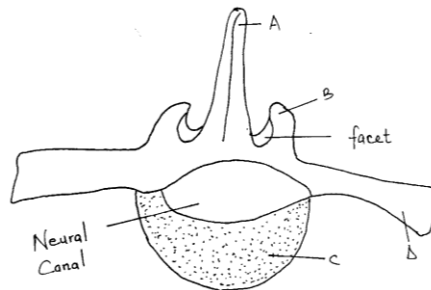
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16. Name a characteristic in man controlled by multiple alleles (1mark)

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17. Some scientists argue that Lamarck's theory is false and not valid. What is your scientific view on this? (3marks)

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18. State **two** natural ways in which in which seed dormancy can be terminated (2marks)

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19. Explain why the temperate bears have thick adipose tissues (2marks)

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20. Study the diagram shown below of the anterior view of a lumbar vertebra of a mammal.



(a) Name the parts labelled: A, and B, (2 marks)

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(b) State the adaptation of the part labelled D. (1 mark)

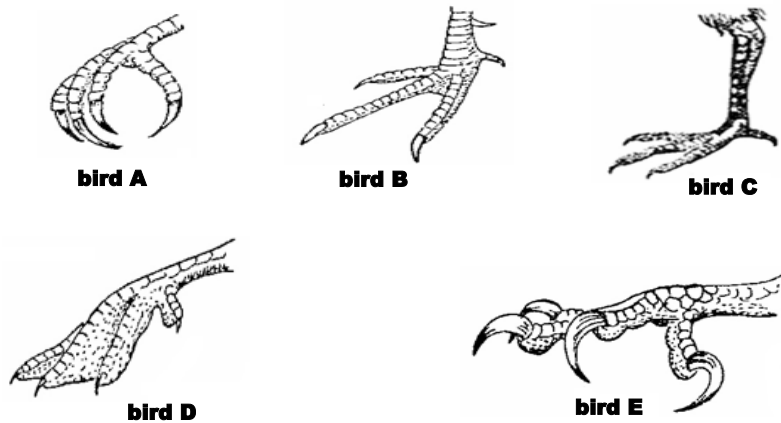
21. Distinguish between parthenocarpy and parthenogenesis (2marks)

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22. State **three** symptoms of menopause (3marks)

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23. The figure below shows feet of various birds. Study the diagram and answer the questions that follow.



(i) Name the type of evolution represented by the diagrams. (1 mark)

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(i) Using Darwin's theory of evolution, explain how the feet of **bird E** would have evolved. (3 marks)

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24. Describe how contraction of the diaphragm muscles leads to inhalation (4marks)

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25. Explain the effect of burning of fossil fuels on the health of humans (3marks)

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26. State **two** distinguishing characteristics of members of the kingdom Monera (2marks)

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27. State **two** structural differences between the xylem and the phloem (2marks)

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28. Explain why seeds buried deep in the soil fail to germinate (2marks)

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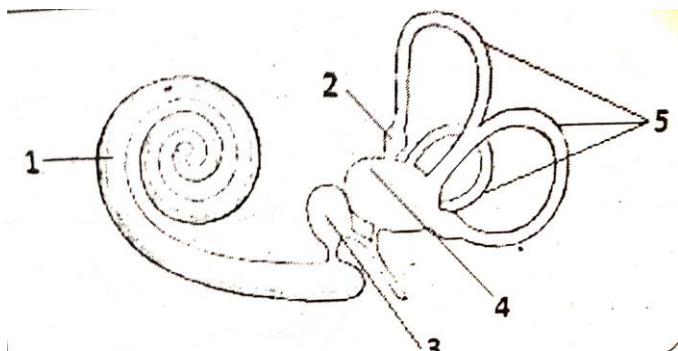
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29. Explain how starch provides energy for living organisms (2marks)

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30. The diagram below shows part of the inner ear



(a) Name the apparatus

(1mark)

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(b) State the function of the apparatus (1mark)

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(c) Name the parts labeled 1 and 5 (2marks)

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31. (a) state the role of the following hormones during lactation (2marks)

(i) Prolactin

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(ii) Oxytocin

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(b) Other than the role mentioned above, give another role of oxytocin in the body of a female (1mark)

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