

Name: Adm no Class.....

231

BIOLOGY

FORM ONE

FEB/MARCH 2022

TIME: 2HRS

MWALIMU OGEKE EXAMINATION 2022 MARCH

INSTRUCTIONS TO CANDIDATES:

- Answer ALL the questions
- Answers should be written in the spaces provided

1. Name the elements that form

a) Carbohydrates.....(1mk)

b) Proteins..... (1mk)

2. Define the following terms

a)Osmosis (2mks)

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b) Cell physiology (2mks)

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3. Explain the following terms

a) Plasmolysis (2mks)

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b) Crenation (2mks)

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 4. A drawing of 5cm in length was made of a beetle whose actual length was one centimeter.
 Calculate the magnification of the drawing (3mks)

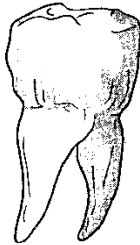
5. An organism was found to have the dental formula $i \frac{0}{3}, c \frac{0}{1}, pm \frac{3}{2}, m \frac{3}{3}$
 i) Calculate the total number of teeth in the organism (1mk)

ii) With a reason suggest the mode of feeding of the organism from which the dental formula was obtained. Mode of feeding.....(2mks)
 Reason

iii) What is the role of diastema in herbivorous mammals (1mk)

6. a) Distinguish between heterodont and homodont dentition (2mks)

b) Study the diagram of the mammalian tooth **below** and answer the questions that follow.



i) Identify the tooth. (1mk)

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ii) Give a reason for your answer in (a) above. (1mk)

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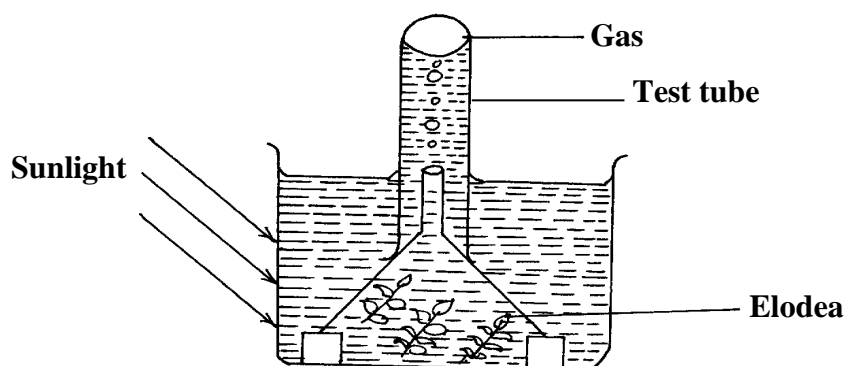
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iii) State **one** adaptation of the tooth to its function. (1mk)

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7. The diagram below represents a set-up that was used to investigate a certain process in a plant.



a) What was the aim of the experiment? (1mk)

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b) Name the gas collected in the gas jar. (1mk)

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c) What is the confirmation test for the gas in (b) above? (1mk)

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d) State **two** factors that would affect the process. (2mks)

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8. Name **one** example of the specialized cells in plants and one example in animals.

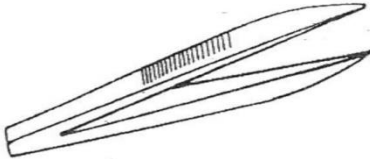
(i) Plants

(1mk)

(ii) Animals

(1mk)

9. Identify the following apparatus and state its functions.



i) Name.....(1mk)

ii) Function (1mk)

10. a) Identify **one** characteristics of living organisms shown in the diagram below

(3mks)



(b) Name two other characteristics of the shown organisms.

(2mks)

(c) Name the kingdoms shown in the above diagram:

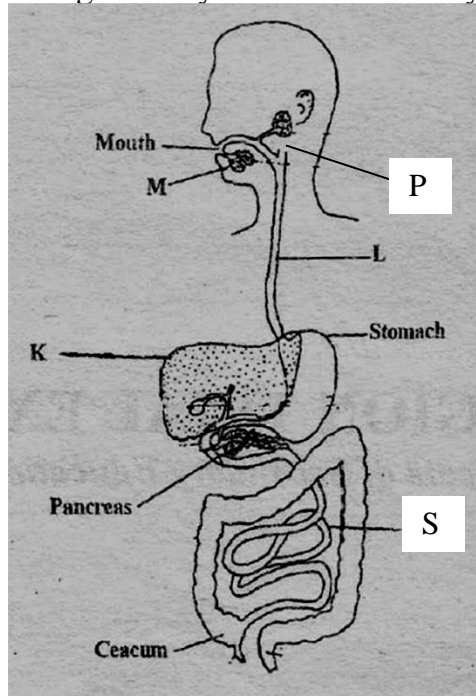
(2mks)

11. List down **four** differences between a light microscope and an electron microscope

(4mks)

Light Microscope	Electron Microscope

12. The diagram below represents the digestive system in man. Study the diagram and answer the questions that follow



a) Label the part K ,L, S and salivary glands M and P (5rnks)

K

L.....

S.....

M.....

P.....

b) Name **three** hormones which are secreted along the alimentary canal (3mks)

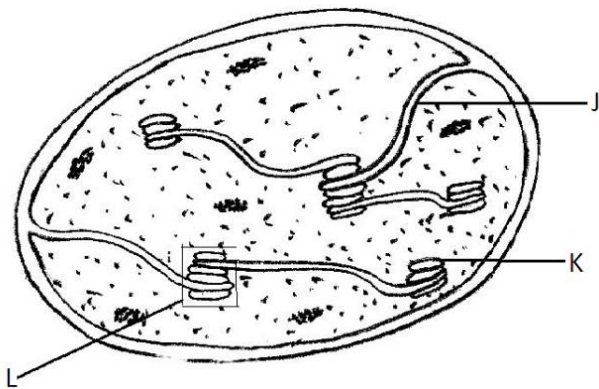
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13. Below is a structure found in plants.



a) Name the organelle. (1mk)

b) What is the role of the organelle you have named in (a) above. (1 mk)

c) Name the parts labeled **J** and **L**. (2mks)

J.....

L.....

14. Name the branch of biology that deals with the study of;

a). Cells.....(1mk)

b). Parasites.....(1mk)

15. The Biological name of housefly is *MUSCA DOMESTICA*.

(i) State **two** mistakes in the way the biological (scientific) name is written. (2mks)

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(ii) Write the name in the correct manner following the rules of binomial nomenclature. (1mk)

16. State **three** characteristics of the cell membrane. (3mks)

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17. The enzymes pepsin and trypsin are secreted in their inactive forms. Give the names of these inactive forms. (2mks)

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18. List down **six** differences between a plant and an animal cell

(6mks)

Plant cell	Animal cell

19. Draw a well labeled diagram of a simple leaf

(7mks)