NAME: ……..……ADM NO:……..……

CLASS:…….

231/1
BIOLOGY
PAPER 1
THEORY
MAY,2008
TIME: 1 ½ HOURS

KAPSABET GIRL'S HIGH SCHOOL EXAMINATION
Kenya Certificate of Secondary Education 2008.

231/1
BIOLOGY
PAPER 1

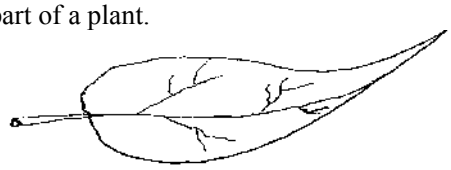
INSTRUCTIONS TO CANDIDATES

- *Answer **all** the questions in the spaces provided on the question paper.*
- *Do not insert any other additional papers.*

For Examiners Use Only.

Question	Maximum Score	Candidate's Score
1-17	50	

1. The diagram below shows part of a plant.



(a) To which class does the plant belong? (1 mark)

.....

(b) **Give a reason** for your answer. (1 mark)

.....

2. **State** the function of each of the following.

(i) Ribosomes. (1 mark)

.....

(ii) Cristae of mitochondria. (1 mark)

.....

(iii) Centrioles. (1 mark)

.....

3. **State** the role of each of the following in photosynthesis.

(a) Light. (1 mark)

.....

(b) Chlorophyll. (1 mark)

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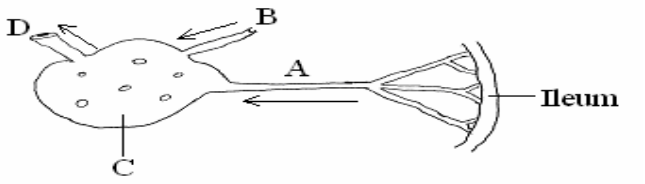
4. The diagram below shows part of a circulatory system. The arrows indicate direction of movement of blood.



(a) **Name** the blood vessels labeled A and B.

A ..... (1 mark)

B ..... (1 mark)

(b) **Explain** why it is important to transport food substances to organ C before being circulated to the rest of the body. (2 marks)

.....

.....

5. **State** the importance of the following features in gaseous exchange.

(i) Cartilage in trachea and bronchus. (1 mark)

.....

(ii) Highly vascularised. (1 mark)

.....

6. **List down two** characteristics whose genes are linked to the Y chromosomes. (2 marks)

.....

.....

7. **Explain** how auxins are utilized as selective weed killers in Agriculture. (2 marks)

.....

.....

8. (a) The equation below shows respiration for certain food substance. Study it and answer the questions that follow.

$2C_5H_{98}O_6 + 145O_2 \rightarrow 10CO_2 + 98H_2O$

(i) **Calculate** the respiratory quotient, RQ. (2 marks)

(ii) **Suggest** the possible food substance. (1 mark)

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(b) **State** the significance of the RQ values of an organism to a physiologist. (2 marks)

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9. In plants, food is manufactured in the leaves.

(a) **Name any two** mechanisms by which food is translocated in plants. (2 marks)

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.....

(b) Name the tissue concerned with translocation of food in plants. (1 mark)

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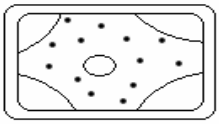
10. The diagram below represents a plant cell that had been placed in a certain solution.



(a) **What** term is used to describe the condition of the above cell? (1 mark)

.....

.....

(b) **What** term is used to describe the solution to which the cell had been placed. (1 mark)

.....

(c) **Explain** why the cell did not lose its shape after the experiment. (1 mark)

.....

11. (a) **Suggest** the role of each of the following substances present in saliva during food digestion.

(i) Mucus (1 mark)

.....

(ii) Water (1 mark)

.....

(iii) Amylase (1 mark)

.....

(b) **State one** major function of ileum. (1 mark)

.....

12. **Explain** why a person discharges urine more often when the temperatures are low than when they are high. (2 marks)

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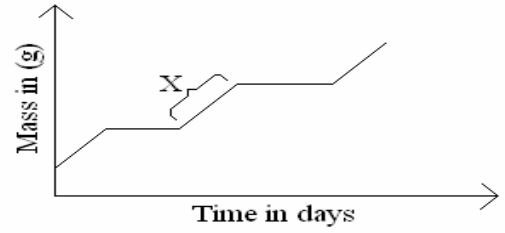
13. The graph below represents he growth of animals in a certain phylum.



(a) **Name** the type of growth pattern shown on the graph. (1 mark)

.....

(b) **Identify** the process represented by X. (1 mark)

.....

(c) **Name** the hormone responsible for the process in (b) above. (1 mark)

.....

14. The following diagram represents embryonic stage of development for various organisms.

(a) **Name** the evidence for organic evolution depicted in the diagram. (1 mark)

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(b) In Australia, the placental mammals are not indigenous, but Marsupials occupy all the available ecological Niches. Explain this observation. (3 marks)

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.....

.....

15. Small ants form colonies in the gall of some species of acacia.

(a) **What name** is given to this phenomenon? (1 mark)

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(b) **How does** each organisation benefit from the relationship above? (2 marks)

.....

.....

16. Rift Valley fever is transmitted by Aedes Mosquito.

(a) **Name** the causative agent of the disease. (1 mark)

.....

(b) **State any one** symptom of the disease. (1 mark)

.....

(c) **State any one** preventive measure. (1 mark)

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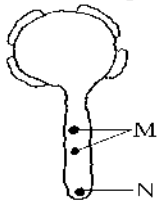
17. The diagram below shows a pollen tube as it develops down the style.



(a) **Name** the parts labelled M and N.

M..... (1 mark)

N..... (1 mark)

(b) **State** the function of part M. (1 mark)

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