

NAME ..... INDEX NO.....

SCHOOL .....

231/1  
BIOLOGY  
PAPER 1  
THEORY  
JULY / AUGUST 2007  
1 ½ HOURS

## KAKAMEGA DISTRICT MOCK EXAMINATION Kenya Certificate of Secondary Education 2007

231/1  
BIOLOGY  
PAPER 1  
JULY / AUGUST 2007  
TIME 1 ½ HOURS

### INSTRUCTIONS TO CANDIDATES

- ❖ Answer **ALL** questions in this paper in the spaces provided.
- ❖ Additive pages must not be inserted.
- ❖ Candidates may be penalized for false information.

1. Account for the differences in thickness of cell walls of a guard cell. (2mks)

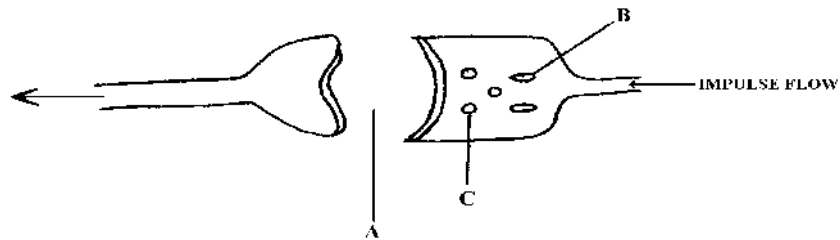
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2. Below is a diagram showing parts of a synapse observe and other the questions that follow.



- (a) Name the parts labeled: (2mks)

A.....

B.....

- (b) What is the role of part labeled C. (1mk)

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3. State four ways by which the structure of phloem is adapted to its function. (4mks)

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4. Name the two nucleic found in a mature pollen grain. (2mks)

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5. (a) What is a food web? (2mks)

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- (b) **State two** methods that you could use to approximate a population of grass in a field. (2mks)

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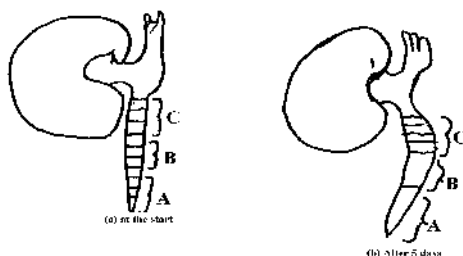
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6. (a) **State** the name of a graph showing growth in an insect. (1mk)

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- (b) The diagrams below shows the results obtained in an experiment on growth of a bean seedling.



- (i) **State** the aim of the experiment. (1mk)

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- (ii) **State** the process that takes place at each of the regions labeled A, B and C. (3mks)

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7. **Define** the term Sex-linked characteristics and name one characteristic that is Sex-linked in Man.

(3mks)

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8. (a) **State** the function of the ear ossicles. (1mk)

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- (b) **What** is the name of the fluid found in the cochlea? (1mk)

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9. **What name** is given to the tissue that joins? (2mks)

(a) Bone to bone?

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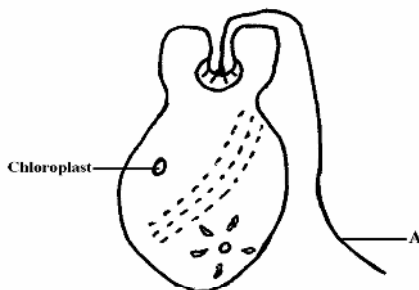
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(b) Muscle to bone?

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10. **The diagram** below represents an organism in the lower levels.



(a) **In which** Kingdom does the organism belong? (1mk)

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(b) **Name** the structure labeled **A** and state its function. (1mk)

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11. Bony fishes have streamlined body and have a lateral line. **Give** a reason why they have these characteristic Features. (2mks)

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12. **Briefly explain** why active transport rate increases when oxygen concentration is increased in water plants. (2mks)

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13. A man had an accident and he lost balance and memory. **Name** the part of the brain that might have been damaged. (2mks)

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14. In cold weather Kittens feed frequently than adult cats. **Give** a reason for this observation. (2mks)

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15. (a) The tracheal have a liquid at the endings. **State one** reason for this. (2mks)

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(b) **Why** is the skin of amphibians like frogs highly folded? (2mks)

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16. **Distinguish** between diabetes insipid us and diabetes mellitus. (2mks)

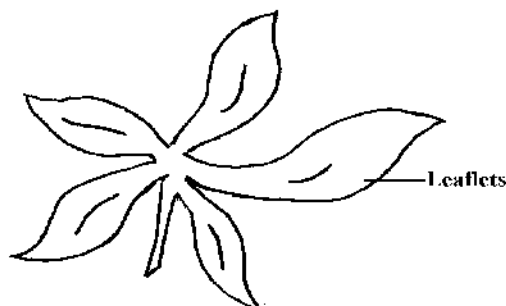
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17. The diagram below represents the structure of a leaf.



**Identify** the leaf represented in the diagram. (1mk)

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18. When raw sea wage is disposed in a river the population of mobile aquatic animals reduce down the river. **Briefly explain** the effect of raw sea wage on the population of aquatic animals in the river. (2mks)

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19. When a mammal feeds on a heavy protein meal, the liver starts being overworked immediately the soluble products of protein digestion are absorbed.

(a) **Name** the process that takes place in the liver. (1mk)

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(b) **Explain** the process in Q 19 (a) above and name the products formed. (2mks)

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20. **Name** the organelles that would be present in large numbers in the following tissues.

(a) Actively photosynthetic tissue. (1mk)

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(b) A secreting tissue. (1mk)

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21. **Explain** how the rate of transpiration is affected by the following factors.

(a) Size of leaf. (2mks)

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(b) Relative humidity. (1mk)

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22. **Identify two** features that adapt the stomach of man to its functions. (2mks)

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23. **State two** advantages of a closed circulatory system over an open circulatory system. (2mks)

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24. A hemophiliac man married a carrier woman and had four offspring. **What** is the probability the fifth born shall be a hemophiliac son. (1mk)
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- .....
25. The diagram below is a structure of a unicellular organism Y and X are arrows showing direction of movement of soluble materials.



Name the substances represented by X and Y. (2mks)

X

Y

26. **Briefly describe** how water moves to the root xylem from the root hair cells. (2mks)
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- .....
- .....
27. An athlete who was preparing for a marathon decided to prepare on a high altitude Zone. He chose to climb up a mountain where he stayed practicing for a month. Name the changes that occurred in the circulatory and gaseous exchange systems of the athlete. (3mks)
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- .....
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28. The first HIV/ AIDS patient was discovered in Kakamega general hospital in 1982. Since then the number of victims has risen to thousands. Name the ways that HIV/ AIDS has been spread. (3mks)
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29. **Give three** events that follow a flower after fertilization. (3mks)

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30. A DNA strand with the following base sequence was used in the formation of RNA.

G- A- T- C- A- G.

- (a) **Give** the base sequence on the **RNA**. (1mk)

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- (b) **Give two** differences between **DNA** and **RNA**. (2mks)

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31. (a) **Define** the term Binomial nomenclature. (1mk)

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- (b) **Name two** rules used in Binomial nominative. (2mks)

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32. **State three** adaptations of erythrocytes that make them to fulfill the functions. (3mks)

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33. **State** the functions of human lungs. (2mks)

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