

Name.....

Index No. ....

School .....

**231/1**  
**BIOLOGY**  
(THEORY)  
**PAPER 1**  
**JULY / AUG. 2007**  
**2 HRS**

**BUTERE-MUMIAS DISTRICT MOCK EXAMINATION-2007**  
Kenya Certificate of Secondary Education (K.C.S.E)

**231/1**  
**BIOLOGY**  
(THEORY)  
**PAPER 1**  
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**INSTRUCTIONS TO CANDIDATES**

- Write your name and Index number in the spaces provided.
- Answer ALL the questions in the spaces provided.

*For Examiner's Use Only.*

Question	Maximum Score	Candidate's score
1 – 27	80	

*This paper consists of 12 printed pages.  
Candidates should check the question paper to ensure that all pages are printed as indicated  
and no questions are missing*

1. a) Other than through sexual intercourse state two other ways one can contract HIV and AIDS.

( 2mks)

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b) State one control measure that can be taken to reduce the spread of HIV \ AIDS ( 1mk )

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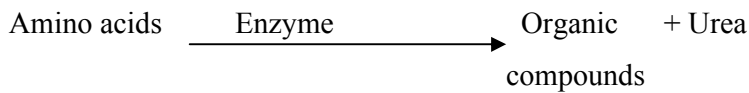
2. Explain why blood clotting does not occur inside the blood vessels. ( 1 mk)

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3. Why is wilting important to plants on a hot sunny afternoon. ( 2mks )

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4. The equation below represents a metabolic process that occurs in a mammalian liver.



a) Name the process represented by the equation above ( 1 mk )

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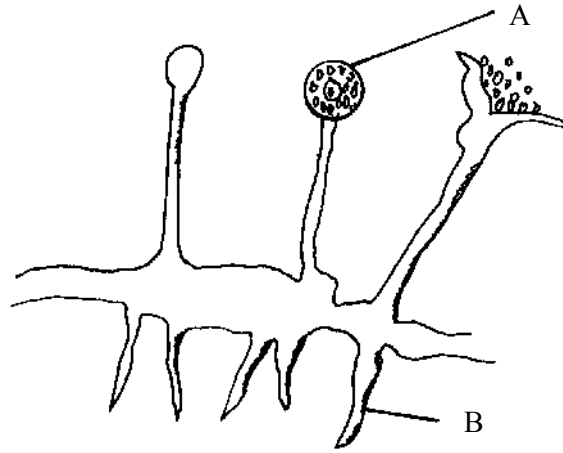
b) What is the importance of the above process in mammals? ( 2mks )

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c) What is the source of amino acids in this process? ( 1mk )

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5. The diagram below represents an organism that commonly grows on damp rotting matter.



a) Identify the part labeled A ( 1mk )

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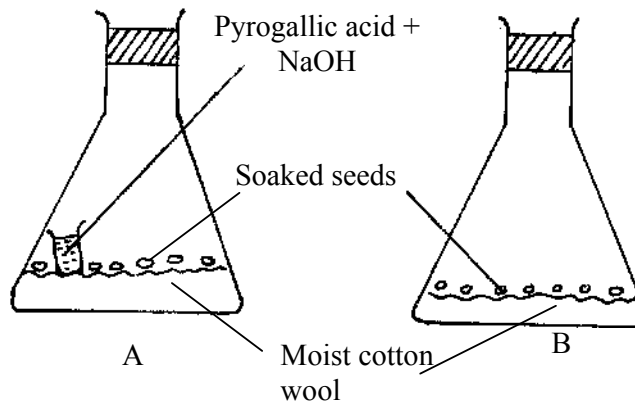
b) Give two functions of the part labelled B. ( 2mks )

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6 Explain why plants growing in low attitude areas grow faster than those in high attitudes ( 2mks )

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7 A student set up an experiment as shown in the figure below.



The set-up was left at room temperature for six days.

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

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b) Explain the expected results after six days. ( 3mks )

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8. a) What are:

i) mutations? ( 1mk )

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.....

ii) mutagens? ( 1mk )

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b) Name two disorders of human blood caused by mutations. ( 2mks )

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9. State two ways in which tracheoles in insects are adapted to their functions. ( 2mks )

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10. The diagram below represents a mature fruit



a) To what group of fruits does the specimen drawn above belong? ( 1mk )

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b) With a reason name the agent of dispersal. ( 2mks )

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11. A certain plant was found to have 22 chromosomes in it's calyx cells. State the number of chromosomes present in the plants.

a) Ovule

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b) Endosperm ( 2mks )

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12. Name the organelles that performs the following functions.

a) synthesis of RNA.

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b) Formation of spindle fibres.

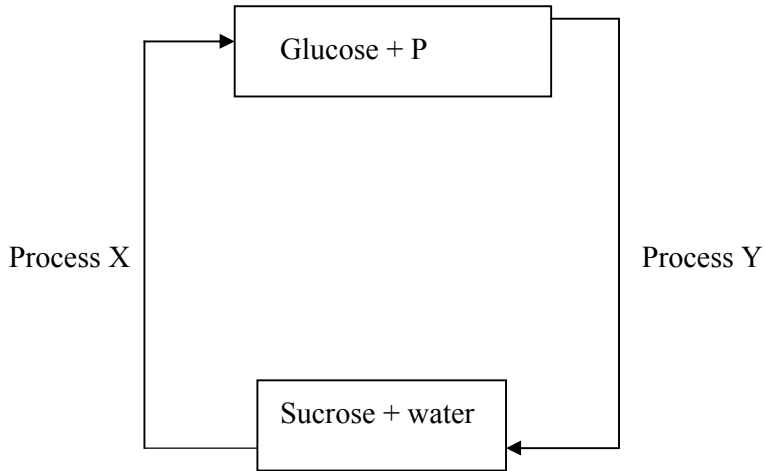
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c) Synthesis of lysosomes

.....  
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(3mks)

13. Below is a diagrammatic representation of various processes in animals.



i) Name substance P (1mk)

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ii) Name processes

X

.....  
.....

Y

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.....

(2mks)

iii) Name the enzyme involved in process X.

(1mk)

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14. Name the organism that causes;

a) malaria

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b) cholera.

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15. a) State the origin of corpus luteum.

(1mk)

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b) Name the hormone produced by the structure in (a) above and state its role during pregnancy.

( 2 mks )

Hormone

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Role

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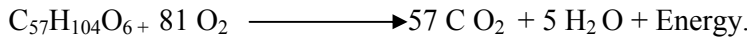
16. Explain four ways in which the skin is adapted to its protective functions. ( 4mks )

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17. a) Distinguish between respiration and gaseous exchange. ( 2mks )

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b) The oxidation of a certain fat is represented by the chemical equation shown below.



i) Calculate the respiratory quotient ( RQ ) of the fat molecule above. ( 2mks )

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18. Name the hormones that promote growth and maturation during

a) Moulting in insects

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b) Metamorphosis in frog tadpoles. ( 2mks )

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19. a) Name the type of joint that articulates the pelvic girdle and femur. ( 1mk )

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b) state the importance of the joint named in (a) above ( 1 mk )

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c) Name the structure that attaches muscles to bones. ( 1mk )

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.....

20. a) state two adaptations of a RBC to it's function. ( 2mks )

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b) Name two ways in which carbon ( iv ) oxide is transported in a human's blood. ( 2mks )

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21. a) Differentiate between the following terms.

i) Plasmolysis

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ii) Haemolysis. ( 2mks )

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b) state one role of osmosis in living organisms ( 1mk )

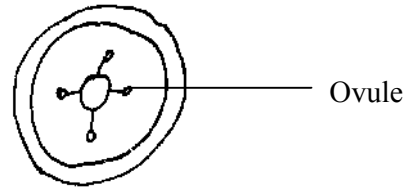
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22. a) Define placentation. ( 1mk )

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b) Name the type of placentation shown in the diagram below. ( 1mk )



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23. Distinguish between  
a) Ecology and ecosystem. ( 2mks )

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b) Habitat and niche. ( 2mks )

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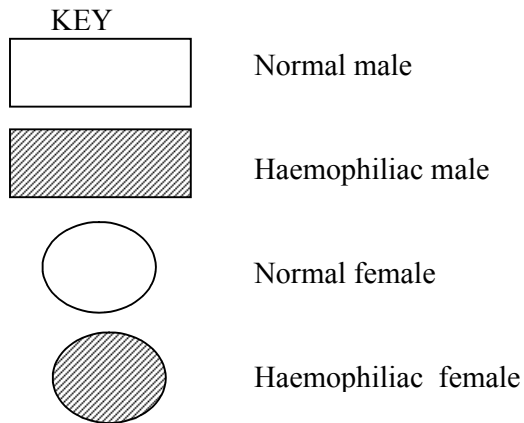
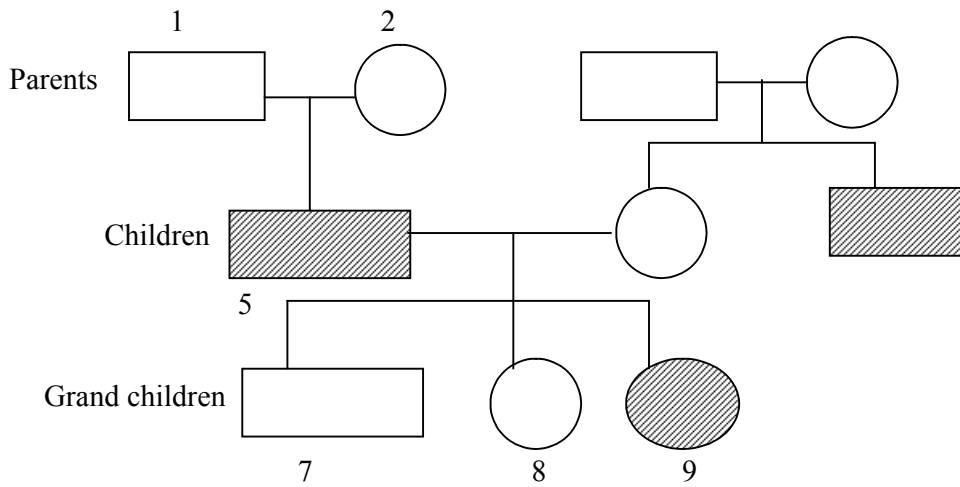
24. a) List two differences between simple and conditioned reflex actions. ( 2mks )

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b) Give one example of a simple reflex action. ( 1mk )

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25. The following is a human pedigree showing the transmission of haemophilia. Study the diagram and answer the questions that follow. Let H represents normal conditions and h allele for haemophilia.



a) Write the genotypes of  
 i) Parents 1 and 2 ( 2mks )

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.....

ii) Grand child member 9 ( 2mks)

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iii) Child number 5

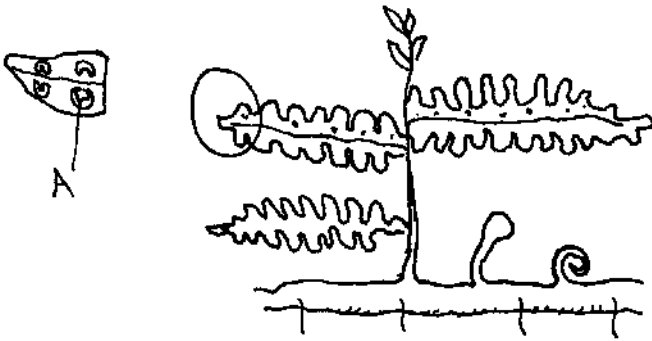
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26. The diagram below shows a certain plant. Study it and answer the questions that follow..



a) i) Name the kingdom to which the plant belongs. ( 1mks )

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

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b) Name the part labelled A. ( 1mk)

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27. Explain comparative embryology as evidence of evolution. ( 2mks )

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