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INDEX NO:.....

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232/1  
BIOLOGY  
PAPER I  
THEORY  
JULY / AUGUST 2012  
TIME: 2 HOURS

**KERICHO DISTRICT JOINT KCSE TRIAL EXAMINATION-2012**  
*Kenya Certificate of Secondary Education (K.C.S.E)*

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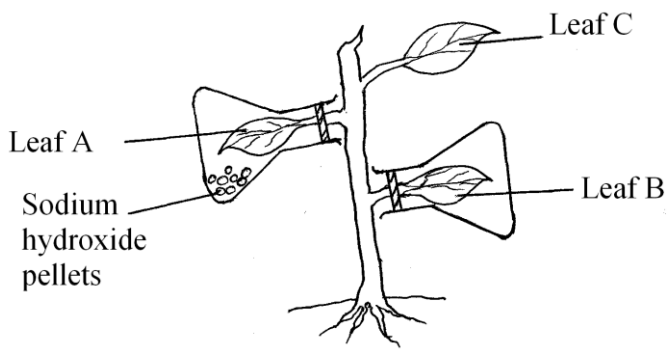
**INSTRUCTION TO CANDIDATES**

Answer ALL the question

You are required to spend the first 15 minutes of allowed hours to read the whole paper carefully before commencing your work.

Answers must be written in the spaces provided

1. In which part of the cell does respiration occur. (1mk)
- .....
- .....
2. Distinguish between plasmolysis and Haemolysis. (2mks)
- .....
- .....
- .....
3. Explain the role of water in photosynthesis (2mk)
- .....
- .....
- .....
4. Name two components of Mammalian blood that play a role in blood clotting. (2mks)
- .....
- .....
- .....
5. Name two similarities between endocrine and nervous system. (2mks)
- .....
- .....
- .....
6. The diagram below represents an experimental set up to investigate a certain scientific concept. The potted plant was first destarched by placing it in dark for 48 hours



The set up was then placed in sunlight for five hours. The leaves were then detached and then tested for starch using Iodine solution.

- a) What scientific concept was being investigated? (1mk)
- .....
- .....
- b) i) Give the results likely to be obtained after starch test for A,B and C (2mks)

ii) Account for the results in b(i) above (2mks)

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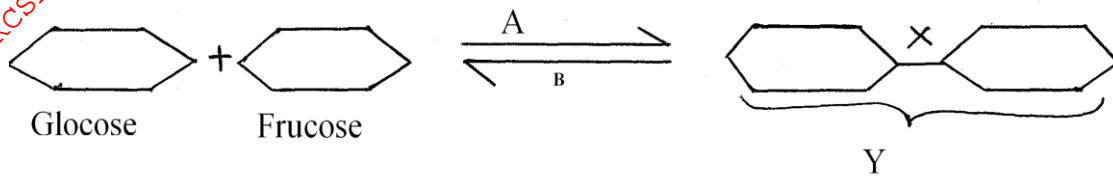
7. Explain why a pregnant woman excretes less urea compared to a woman who is non- pregnant.( 2mks)

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8. Study the reaction below and answer the questions that follow.



i) State the biological process that takes place represented by A (1mk)

.....

.....

ii) What Biological process is represented by B (1mk)

.....

.....

iii) State the product Y (1mk)

.....

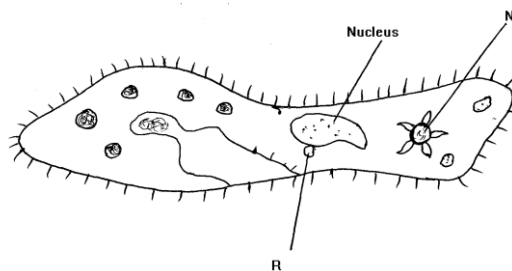
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iv) State the bond represented by X (1mk)

.....

.....

9. The diagram below represents an organism.



a) State the kingdom to which the organism belongs. Give a reason for your answer. ( 2mks)

Kingdom

.....

Reason.

b) Name the structure labeled

N and R

(2mk)

N

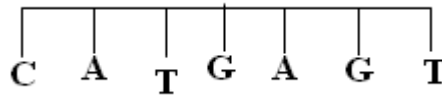
R

10. Explain why water logging favour denitrification in swampy areas.

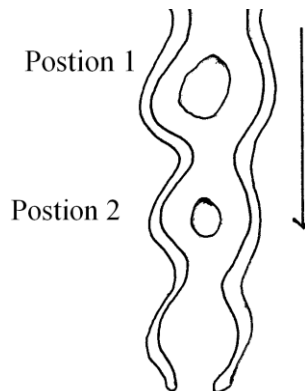
(2mks)

11. a) Write the complimentary base sequence of the messenger RNA ( MRNA) that would be coded for using the DNA strand shown below

DNA strand



12. The diagram below show how food bolus moves along the human oesophagus and the intestines.



a) Identify the process illustrated above

(1mk)

b) Briefly state how the movement of the bolus from position 1 to position 2 is achieved.

(2mks)

13. Name two processes by which flowering plants excrete waste products? (2mks)

14. Explain how the following structures in.

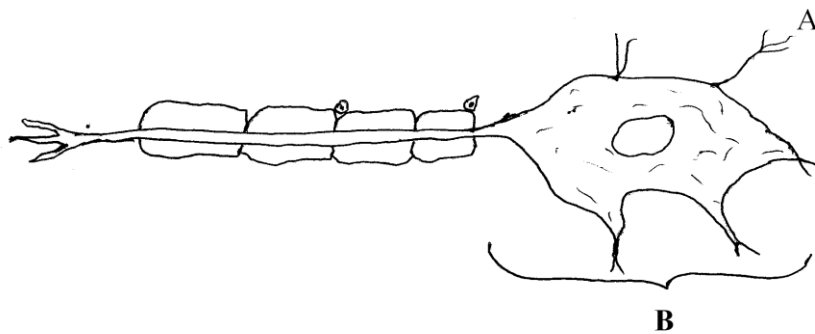
i) Hairy leaf (1mk)

ii) Broad leaf lamina (1mk)

15. a) Name the cartilage found between the bones of the vertebral column. (1mk)

b) State the function of the cartilage named in (a) above (1mk)

16. The diagram below represents a sensory neurons.



a) Name the parts labeled (2mks)

A .....

B .....

b) State two adaptation of a nerve cell to its function (2mks)

17. Shoots tips are observed to bend and grow towards light coming from one direction unilateral light.

a) Name the type of response. (1mk)

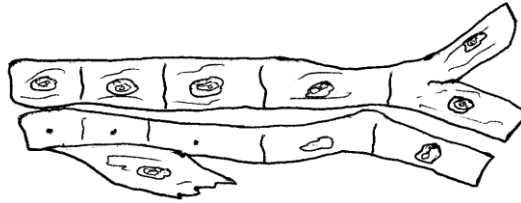
b) Explain how the bending towards the source of light occurs. (3mks)

18. Name two types of fluids formed as a result of ultra filtration process in a mammalian body. (2mks)

19. The fur of temperate fox turns white in winter. Explain the biological significance of this (1mk)

20. State the structures that make the axial skeleton. (3mks)

21. Study the diagram below and answer the questions that follow.



i) What is the identity of the muscle tissue shown. (1mk)

ii) Where is the tissue found (1mk)

iii) Give one special property of the muscle which is not common to other muscle. (1mk)

22. a) Draw and label the structure of a gill. (3mk)

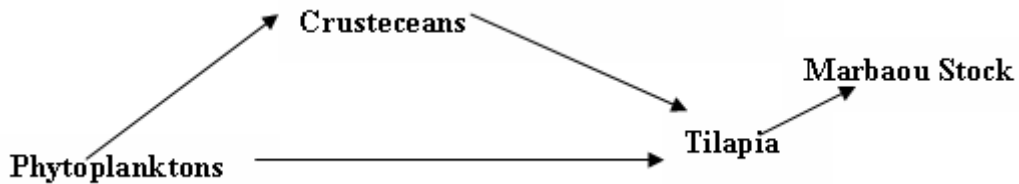
b) State three adaptations of gills to gaseous exchange (3mks)

23. When a red eye coloured Drosophila fly of unknown heritage is crossed with a double recessive white eyed fly what name is given to such a cross. (1mk)

24. A girl could clearly read a book placed 10 cm away but could not identify her friend 10 meters away.  
a) What eye defect was she suffering from (1mk)

b) State how the defect can be corrected (1mk)

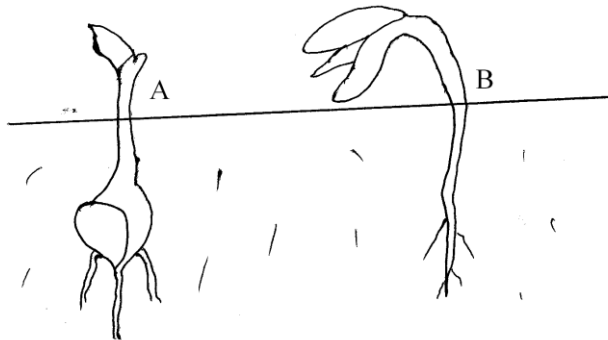
25. Below is an illustration of food relationship in a certain ecosystem.



a) Name the producers (1mk)

b) In which organism would the concentration of pollutants such as heavy metals have a great impact on the life of the organism. Explain your answer. (2mks)

26. The diagram below represents a stage of growth and development of two different plants.



With reasons identify the type of germination by plant A and B

Plant A:

Reason:

.....  
.....

Plant B

Reason

.....  
.....

27. Apart from fossil records state two other evidence of organic evolution. (2mks)

.....  
.....  
.....

28. Explain the biological principle behind the following Malarial control method. (2mks)

i) Keeping of fish in a pond.

.....  
.....  
.....

ii) Spraying oil on stagnant water.

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29. a) An epidemic out break may occur as a result of water pollution.  
State two source of water pollutants. (2mks)

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b) State two ways on how to prevent Bilharzia. (2mks)

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30. Name the three gaseous exchange structures in plants. (3mks)

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