

Name..... Index No...../
School.....Date
Candidate's Signature.....

231/1

BILOGY

PAPER 1

(THEORY)

JULY/AUGUST 2012

Time: 2 Hours

LOITOKITOK DISTRICT JOINT EVALUATION TEST - 2012

Kenya Certificate of Secondary Education (K.C.S.E)

231/1

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PAPER 1

(THEORY)

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INSTRUCTIONS TO CANDIDATES

- (a) Write your name and Index number in the spaces provided.
- (b) Answer ALL questions in the spaces provided.
- (c) Candidates check the question paper to ascertain that all the papers are printed

This paper consists of 8 printed pages.

Candidates should check the question paper to ascertain that all pages are printed as indicated and no questions is missing.

1. Name one factor in nature that increases the process of evolution. (1mk)

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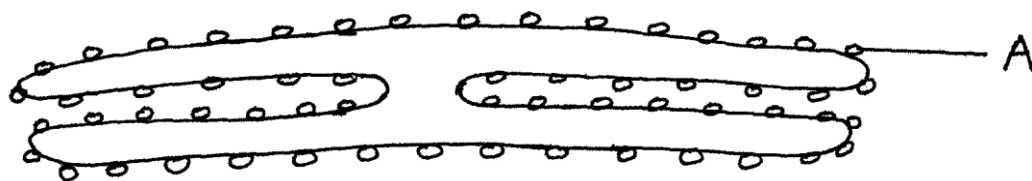
2. What is meant by the term "oxygen debt" (2mks)

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3. Differentiate between characteristics of membrane of monera and those of protocista (2mks)

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4.



(a) Name the organelle drawn above (1mk)

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(b) State function of the structure labeled A (1mk)

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5. State two functions of the substance secreted by sebaceous glands. (2mks)

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6. In an experiment, the pituitary gland of a rat was removed.

(a) State the effect this will have on the quantity of urine produced by the rat. (1mk)

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(b) Give a reason for your answer in (a) above. (2mks)

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7. The lungs and ileum are adapted for absorption. State three features they have in common which facilitate absorption. (3mks)

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8. State the function of the diaphragm in the light microscope. (1mk)

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9. Explain why food is stored in an insoluble form in the cells of living things. (1mk)

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10. Name two components of blood that are not present in the glomerular filtrate. (2mks)

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11. (a) State the importance of the following features in gaseous exchange .

(i) Cartilages in gaseous exchange (1mk)

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(ii) Moisture on the surface of alveoli (1mk)

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(b) Name two site where gaseous exchange takes place in terrestrial plants. (2mks)

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12. Explain how the following adaptains minimize the rate of transpirations.

(a) Sunken stomata (1mk)

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(b) Leaf drooping (1mk)

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(c) State two environmental factors that influence the rate of transpiration. (2mks)

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13. State the role of decomposition in an ecosystem. (2mks)

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14. An animal is found to have large glomeruli and short loop of Henles .Account for the presence of

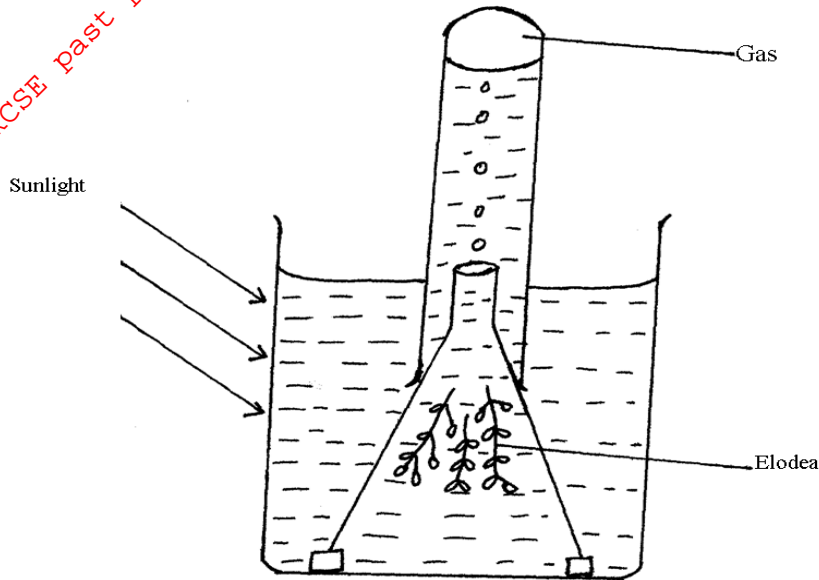
(i) Large glomeruli (1mk)

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.....
(ii) Short loop of Henle. (1mk)

.....
(iii) State the possible aquatic habitat (1mk)

15. The diagram below represent a set up that was used to investigate a certain process in a plant.



(a) State the process that was being investigated (1mk)

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

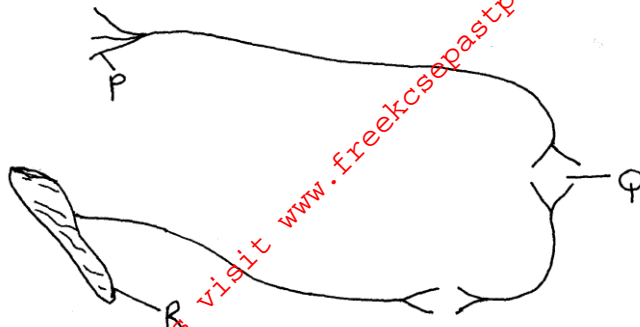
(c) State the factor that would affect the process (1mk)

16. Name the sites where light and dark reactions of photosynthesis take place. (2mks)

(i) Light reaction

(ii) Dark reaction

17. The diagram below represents a reflex arc in human beings



(a) Name the parts labeled Q and R. (2mks)

Q

R

(b) What is the function of part labeled P? (1mk)

(c) Using arrows indicate the direction of impulse transmission on the diagram (1mk)

18. (a) What is the meaning of the following terms (2mks)

(i) Autecology

(ii) Synecology

(b) The number and distribution of stomata on three different leaves are shown in the table below.

Leaf	Number of stomata	
	Upper epidermis	Lower epidermis
A	450	0
B	185	270
C	03	15

Suggest the possible habitats of the plants from which the leaves were obtained (3mks)

A

B

.....

C

.....

19. A bone obtained from a mammal is represented by the diagram below



(a) (i) Name the bone shown above? (1mk)

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(ii) State one reason for your answers in (a)(i) above (1mk)

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(b) Which bones articulate with bone shown in the diagram above at the notch (1mk)

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20. (a) Explain why pepsin in stomach of man is secreted in inactive form. (1mk)

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(b) Which gland secretes pepsinogen. (1mk)

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21. Name the regions in plants where the following take place (2mks)

(i) Primary growth

.....

(ii) Secondary growth

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22. The figure below illustrate a portion of chromosome with genes E,G,H,P,Q and R



Using diagrams similar to the one above, illustrate the changes that the above chromosome would Undergo .If the following mutations occurred on gene H and P.

- (a) Deletion (1mk)
- (b) Inversion (1mk)
- (c) Duplication (1mk)

23. (a) Name the type of skeleton that arthropods have. (1mk)

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(b) What substance is the arthropods skeleton made of? (1mk)

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24. In view of modern genetics, explain why Lamarks theory is unacceptable. (2mks)

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25. State two ways in which genetic engineering is applied in the field of medicine. (2mks)

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26. What is the functional difference between a tendon and ligament. (1mk)

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27. (a) How is fovea centrails adapted for its function in the human eye. (2mks)

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(b) A person was not able to see far objects clearly but could not view near objects clearly. Name the eye – defect the person had. (1mk)

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.....
(c) How can the defect be corrected. (1mk)

28. State two functions of a chloroplast. (2mks)

29. State three differences between osmosis and active transport. (3mks)

Osmosis

Active transport

30. (a) State two functions of an ovary in a human female. (2mks)

(b) State two advantages of internal fertilization in mammals. (2mks)

31. State two features of petals that enhances insect pollination. (2mks)

32. How are halophytes adapted for survival in their habitats. (2mks)