

Name.....

Index No.....

School.....

Signature.....

Date.....

231/1
BIOLOGY
PAPER 1
July/August 2010
2 hrs

BORABU /MASABA NORTH DISTRICTS JOINT EVALUATION TEST – 2010
Kenya Certificate of Secondary Education (K.C.S.E)

BIOLOGY
PAPER 1
July/August 2010
2 hrs

INSTRUCTIONS

Answer ALL the Questions in this paper in the spaces provided.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1 - 33	80	

This paper consists of 8 printed pages. Candidates should check carefully to ascertain that all the pages are printed as indicated and no questions are missing.

1. a) State two functions of the centriole. (1mk)
.....
.....
- b) How is the aerenchyma tissue adapted to its functions? (2mks)
.....
.....
.....
2. Name a characteristic in humans which is controlled by multiple alleles (1mk)
.....
.....
3. To which class does an animal with two body parts and four pairs of legs belong? (1mk)
.....
.....
4. Explain why Xylem vessels do not collapse even when they do not contain water. (1mk)
.....
.....
5. State two characteristics of cells found at the apical meristems. (2 mk)
.....
.....
6. What characteristics does the mouth cavity of a frog have in common with the lungs of a mammal that enable them to be efficient in gaseous exchange? (3mks)
.....
.....
.....
.....
.....
7. Explain briefly how wind can affect the distribution and abundance of plants in a habitat (2mks)
.....
.....
.....
.....

8. Explain what happens to excess fatty acids and glycerol in the body of humans. (2mks)

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

9. List down three behavioral activities that organisms perform in condition of very low temperatures (3mks)

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

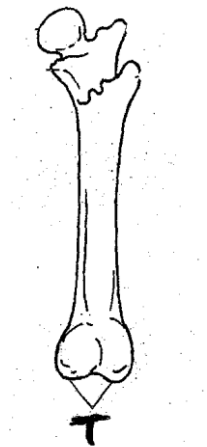
10. A student smeared Vaseline jelly on the lower epidermis of a leaf of a potted green plant which had been kept in the dark for 24 hours. She then transferred the plant to the light for six hours. Starch test on the leaf of the plants were negative. Account for the observation. (3mks)

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

11. State three evidences of organic evolution (3mk)

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

12. The diagram below represents a bone obtained from the hind limb of goats.



a) Identify the bone? (1mk)

.....
.....

b) Name the type of joint formed at the part labeled T (1mk)

.....
.....

c) State the adaptation of sclerenchyma tissue for support in plants. (1mk)

.....
.....

13. Outline two structural differences between an egg and a sperm in humans. (2mks)

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

14. Give two reasons why blood pressure is greater in the arteries than in the veins of mammals. (2mks)

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

15. State two reasons why metamorphosis is important in the life of an insect. (2mks)

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

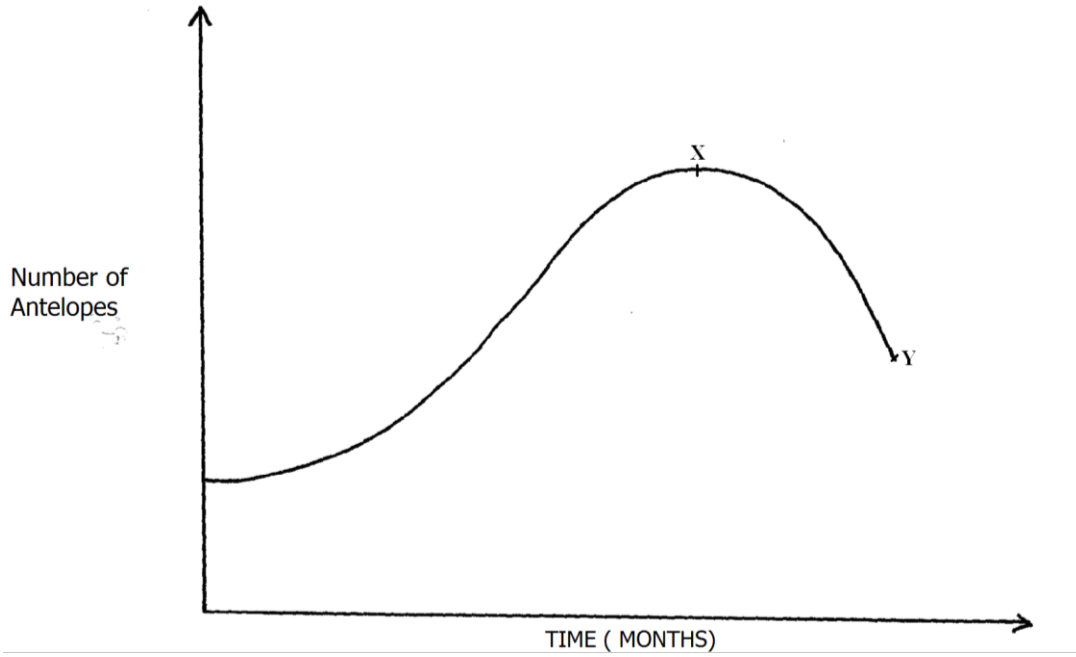
16. State the role played by the plug of mucus secreted by the ring of muscles of the cervix. (1mk)

.....
.....

17. Explain the effect of increase in temperature on the rate of diffusion. (2mks)

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

18. The graph below represents the population growth of antelopes in Maasai Mara game reserve over a period of 12 months.



Suggest three factors that could have caused the population of antelopes to change between X and Y. (3mks)

.....

.....

.....

.....

.....

.....

19. Explain the changes which occur in the human eye when one moves into a darker room. (3mks)

.....

.....

.....

.....

.....

.....

20. State the importance of polyploidy in plants (3mks)

.....

.....

.....

.....

.....

.....

21. State the importance of the following tropic responses in plants.

i) Phototropism: (2mks)

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

ii) Thigmotropism: (1mk)

.....
.....

22. Nicotine is an excretory product in plants. State two economic importance of nicotine. (2mks)

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

23. a) Name the respiratory surfaces in flowering plants through which gaseous exchange occurs. (2mks)

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

b) Name one adaptation of the guard cell to its function. (1mk)

.....
.....

24. State the importance of synovial fluid present at the movable joints in mammalian skeleton. (2mks)

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

25. Explain how the following structural factors affect the rate of transpiration.

i) Hairs around the stomata: (2mks)

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

ii) More stomata on upper leaf surface than lower surface (2mks)

.....

.....

.....

26. How is self pollination prevented in some flowering plants (3mk)

.....

.....

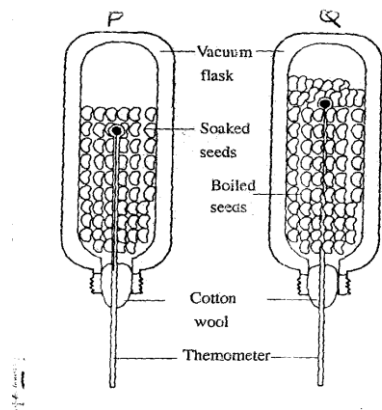
.....

.....

27. List down three differences between monocotyledonae and dicotyledonae plants. (3mks)

Monocotyledonae	Dicotyledonae

28. Diagram below shows an experiment that was set up to investigate an aspect in germinating seeds. Study it carefully and answer the questions that follow.



a) State the aim of this experiment. (1mk)

.....
.....

b) Account for the observations made after 24 hours. (3mks)

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

c) Suggest why vacuum flasks were used in the experiment. (1mk)

.....
.....

29. Name the organelle in the cell involved in packaging of synthesized proteins. (1mk)

.....
.....

30. a) Name one nitrogenous waste product in animals. (1mk)

.....
.....

b) Explain why higher animals require an efficient excretory system. (2mks)

31. State two roles played by osmosis in plants. (2mks)

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

32. Explain the meaning of the term survival for the fittest. (2mks)

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

33. State the organelle most abundant in cardiac muscles. (1mk)

.....
.....