

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

SCHOOL:.....CANDIDATE'S SIGN:.....

DATE:.....

**231/1
BIOLOGY
PAPER 1
JUNE-2016
TIME: 2 HOURS**

CENTRAL YEARLY MEETING OF FRIENDS (CYMF) -2016
Kenya certificate of Secondary Education

**231/1
BIOLOGY
PAPER 1**

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. Answer **all** the questions in the spaces provided.
4. Mathematical tables and silent electronic calculators may be used.
5. All working must be clearly shown where necessary.
6. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no question is missing.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1-24	80	

This paper consists of 9 printed pages Check the Question paper to ensure that all pages are printed as indicated and no question are missing.

SECTION A

(Answer all questions in this question paper in the spaces provided)

1. (a) What is meant by the term taxonomy? (1mk)

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

- (b) When are two organisms considered to belong to the same species. (2mks)

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

2. State three activities of the cell that are control by the nucleus (3mks)

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

3. Distinguish between haemolysis and plasmolysis . (2mks)

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

4. State two adaptation of leaves that maximize efficiency in trapping sunlight for photosynthesis. (2mks)

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

5. State two roles of hydrochloric acid in the digestion of food. (2mks)

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

6. (a) Name the blood vessel that link arterioles with venues. (1mk)

.....
.....

(b) How are the blood vessels above situated to carry out their function. (2mks)

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

7. Explain how the following adaptations will reduce the rate of respiration. (2mks)

(a) Sunken stomata

.....
.....

(b) Leaf folding

.....
.....

8. (a) Name two structures for gaseous exchange in amphibians. (2mks)

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

(b) What is the effect of relaxation of diaphragm muscles during breathing in mammals. (3mks)

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

9. The equation below represents a process that occurs in plants



(a) Name the process (1mk)

.....

Name the product B (1mk)

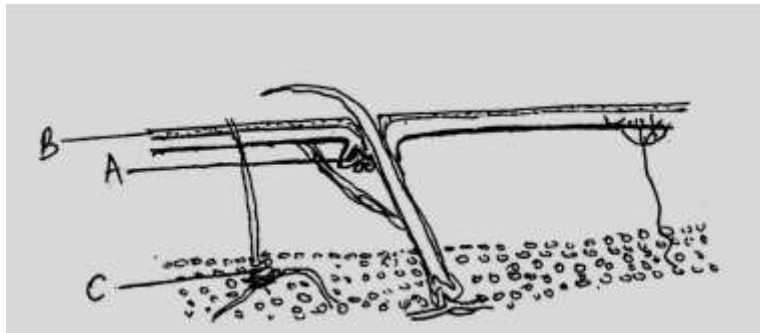
.....

(b) State the economic importance of this process

(2mks)

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

10. The diagram below represents a transverse section through human skin



(a) Name the structure labeled A and B

(2mks)

A.....

B.....

(b) State the function of the parts labeled C

(1mk)

.....
.....

(c) State two physiological changes that take place in a human skin in order to facilitate heat loss from the body.

(2mks)

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

11. (a) In what ways are fungal and plant cells similar.

(2mks)

.....
.....

(b)List two external features that distinguish members of class Mammalia from other classes. (2mks)

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

12. Name the disease caused by each of the following micro-organism. (2mks)

(a)Plasmodium falciparum

.....
.....

(b)Entamoeba histolytica

.....
.....

13. State how excessive use of agrochemicals affects large water bodies. (2mks)

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

14. (a)Distinguish between ecological niche and habitat. (2mks)

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

(b)Explain why the ecosystem is said to be a self sustaining natural unit. (2mks)

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

15. (a)Define the following terms in human reproduction. (2mks)

(i)Parturition

.....
.....

(ii) Inplantation

.....
.....

(b) Name the hormone involved in the development in the female secondary sexual characteristics. (1mk)

.....
.....

(c) Give one function of amniotic fluid during pregnancy. (1mk)

.....
.....

16. (a) State two factors within the seed that causes seed dormancy. (2mks)

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

(b) Distinguish between epigeal and hypogeal germination. (2mks)

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

17. (a) Define the following terms. (2mks)

(i) Mutation

.....
.....

(ii) Discontinuous variation

.....
.....

(b) Hemophilia is more common in men than in women. Suggest reasons to account for this. (2mks)

.....
.....

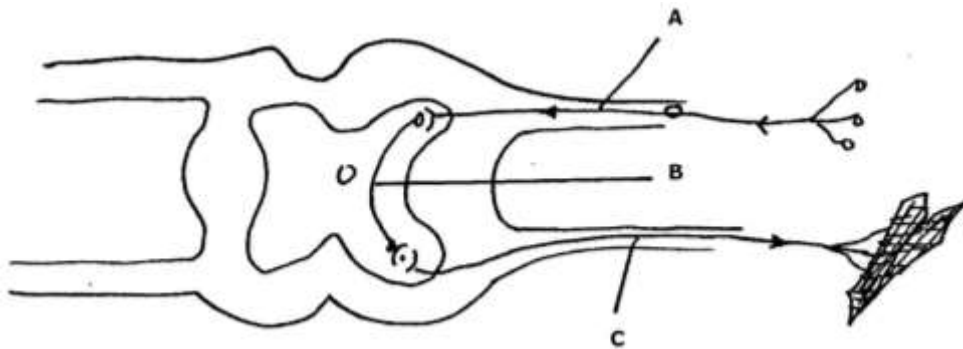
18. (a) State two evidences of evolution. (2mks)

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

(b) Explain the concept adaptive radiation. (2mks)

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

19. The diagram below represents a simple reflex ark



(a) Name the parts labeled A, B and C (3mks)

A.....
B.....
C.....

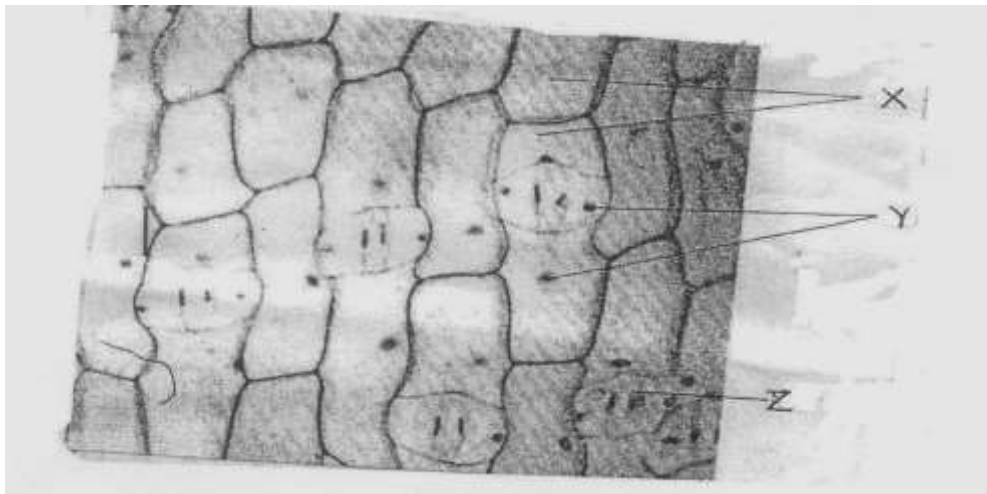
(b) What is the role of part A (1mk)

.....
.....

20. Give three structural differences between the skeletal muscles and smooth muscles. (3mks)

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

21. Below is a photomicrograph of the surface view of the lower epidermis of a monocotyledonous leaf



(a) Name the cells labeled X and Y. (2mks)

X.....

Y.....

(b) State two roles of the part labeled Z in plants. (2mks)

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

22. State three structural adaptations of the proximal convoluted tubules to their functions. (2mks)

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

23. (a)What is parthenocarpy. (1mk)

.....
.....

(b)Which hormone can be used to induce parthenocarpy in unpollinated flowers. (1mk)

.....
.....

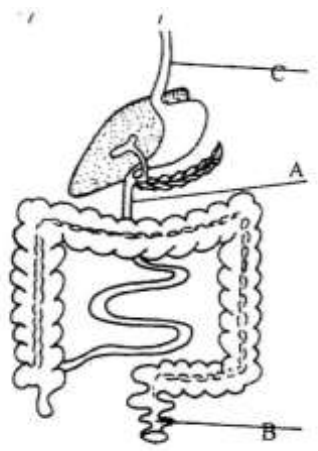
(c)What is the significance of slippery seeds in tomatoes during dispersal? (1mk)

.....
.....

(d)Why is a maize grain considered as a fruit? (1mk)

.....
.....

24. The diagram below shows part of alimentary canal of a mammal



(i)Name the parts labeled A and C (2mks)

A.....

C.....

(ii)State the function of the part labeled B (1mk)

.....
.....

