

Name: Index no

School: Candidate's sign

Date:

231/1
BIOLOGY
PAPER 1
THEORY
JULY/AUGUST 2011
TIME: 2 HOURS

MUMIAS DISTRICT JOINT EVALUATION EXAM

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

**Biology
Paper 1**

INSTRUCTIONS TO CANDIDATES:

- Write your **name** and **index number** in the spaces provided above.
- Answer **all** the questions in the spaces provided.

For Examiner's Use Only:

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1- 30	80	

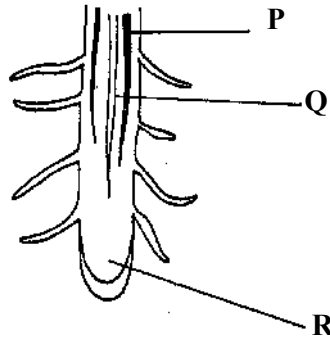
This paper consists of 7 printed pages. Candidates should check to ascertain that all papers are printed as indicated and that no questions are missing

1. Name the organelles that contain:

(a) Lytic enzymes (1mk)

.....
(b) Grana (1mk)

2. The diagram below shows a transverse section of a plant organ.



(a) Name the plant organ from which the section was obtained. (1mk)

(b) Name the parts labelled **P** and **Q**. (2mks)

P.....

Q.....

(c) State the function of **R**. (1mk)

3. State **three** ways in which the mammalian trachea is adapted to its function. (3mks)

4. State one function for each of the following:

(a) Choroid (1mk)

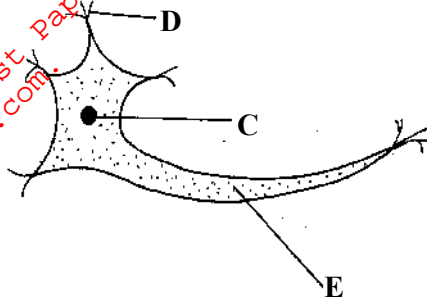
(b) Iris (1mk)

5. What is meant by the following terms?

(a) Carbon (IV) oxide fixation (1mk)

(b) Compensation point (1mk)

6. The diagram below shows a specialized animal cell.



(a) (i) Name the cell (1mk)

.....

(ii) Name the parts labelled C and D. (2mks)

C.....

D.....

(b) State the function of the part labelled E. (1mk)

7. State **three** external differences between Arachnida and insecta (3mks)

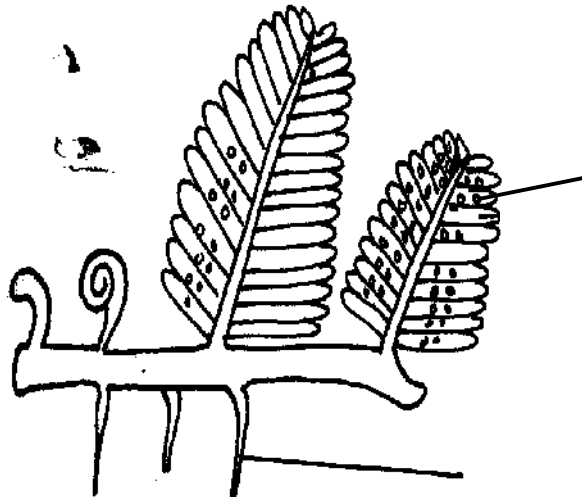
.....
.....
.....

8. State **two** ways in which palisade cells are adapted to their function. (2mks)

.....
.....

9. Distinguish between monoecious and dioecious plants. (2mks)

.....



.....

10. The diagram below illustrates a fern

J

K

(a) Name the part labeled **J**.

(1mk)

.....

(b) State the functions of the structure labeled **K**.

(2mks)

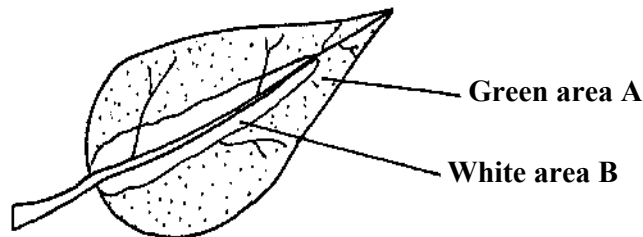
.....
.....

11. Explain why athletes practicing at high altitude have a higher number of red blood cells than those practicing at sea level.

(3mks)

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

12. A potted plant with variegated leaves was kept in the dark for 48 hours. One of the leaves is shown below.



The experimental set-up was then kept in sunlight for 6 hours after which a starch test was carried out on one of the leaves.

(a) What were the results of the starch test on parts **A** and **B**

(2mks)

Part **A**

.....

Part **B**

.....

(b) Give reasons for your answer in (a) above.

(2mks)

.....
.....

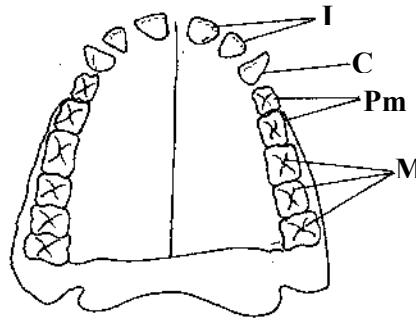
13. State the roles of the following hormones in digestion in humans?

(a) Secretin (1mk)

(b) **Cholecystokinin** (1mk)

14. State **three** characteristics of *Ascaris lumbricoides* to its parasitic mode of life. (3mks)

15. The diagram below represents human dentition. The letters represents I, incisors, C canines, Pm, premolars and M , molars.



(a) Write the dental formula of the human and use to calculate the total number of teeth. (2mks)

(b) How are incisors adapted to their function? (1mk)

16. Distinguish between Osmotic pressure and turgor pressure. (2mks)

17. Name the processes responsible for the following

(a) Formation of glomerular filtrate. (1mk)

For More Free KCSE Revision past Papers and Answers
Visit <http://www.joshuaarimi.com>.

.....
(b) Absence of glucose and amino acids in urine. (1mk)

.....
18. Explain how hair on the mammalian skin prevents heat loss. (2mks)

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

.....
19. State **two** differences between internal and external fertilization. (2mks)

.....
.....

20. The diagram below represents the hind limb of a mammal.

DIAGRAM

(a) Name the parts labeled **J** and **K**. (2mks)

J.....

K.....

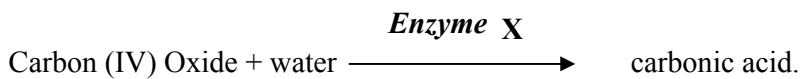
(b) State the function of **L**. (1mk)

.....

21. What aids the movement of the zygote down the mammalian oviduct. (2mks)

.....
.....

22. The process represented by equation below takes place in the mammalian body in specialized cells.



(a) In which cells does the process occur? (1mk)

.....

(b) Identify the enzyme X. (1mk)

.....

(c) What is the significance of the process? (1mk)

.....

23. (a) Name **two** structures in humans that have ceased to be functional and therefore reduced in size. (2mks)

.....

.....

(b) What term describes such structures? (1mk)

.....

.....

24. State **three** aspects for growth to take place. (3mks)

.....

.....

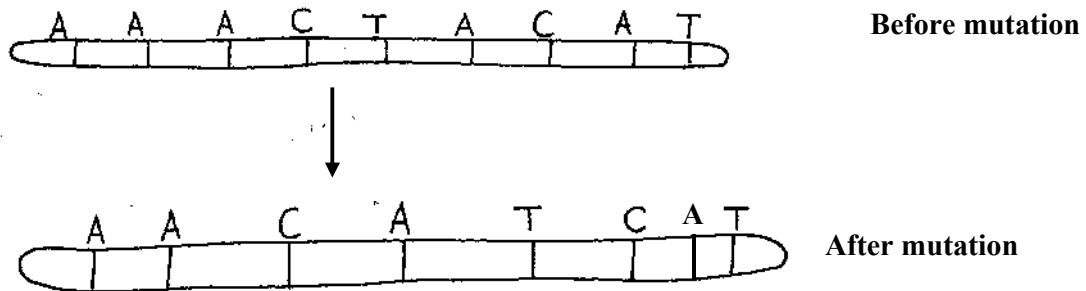
25. Distinguish between tactic and tropic responses in organisms. (2mks)

.....

.....

.....

26. Study the illustration below showing a type of mutation.



(a) Identify **two** types of mutations that have taken place. (2mks)

.....

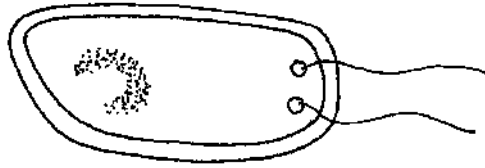
.....

(b) (i) How does a tetraploid zygote form? (1mk)

.....
.....
(ii) What name is given to the phenomenon in b (i) above (1mk)

27. State **three** adaptations of veins to their functions. (3mks)

28. The diagram below represents a diagram of a bacterium cell.



(a) Name the kingdom of the bacterium. (1mk)

.....
(b) Name **two** features that identify the cell into the kingdom named in (a) above. (2mks)

29. State **two** functions of Abscisic acid. (2mks)

30. State **three** ways in which gill lamellae of fish are adapted to their function. (3mks)