Name: …… **Index no ……..….....**

School: ……...…. **Candidate's sign ……....**

Date: ……

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

BUSIA DISTRICT JOINT EVALUATION TEST

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.*
- *Sign and write **date** of examination in the spaces provided above*
- *Answer **all** the questions in section **A** and **B***

For Examiner's Use Only:

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1- 29	80	

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

1. State the branch of Biology that would be used in solving the problem of disputed parentage. (1mk)

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……..

2. Why would carboxyhaemoglobin lead to death? (2mks)

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……

……

3. State the functions of each of the following parts of male reproductive system. (3mks)
(a) Sertoli Cells.

……

……

(b) Epididymis

……

……

(c) Seminiferons tubules.

……

……

4. The Biological name of housefly is MUSCA DOMESTICA.
(i) State **two** mistakes in the way the biological (scientific) name is written. (2mks)

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(ii) Write the name in the correct manner following the rules of binomial nomenclature. (1mk)

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5. What is the role of the xylem tissue in plant nutrition (1mk)

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6. Identify the type of muscles found in:
a) Sweat duct (1mk)

……..

……..

b)Heart (1mk)

……

……

7. A certain species of flowering plant relies entirely on sexual reproduction for propagation. The chromosome number of the cell in the ovarian wall is 16.

a) the pollen tube nucleus. (1mk)

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……

b) A cell of the endosperm. (1mk)

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……

8. a) What are fossils? (1mk)

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……

……

b) State **two** limitations of the use of fossils as an evidence of evolution. (2mks)

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……..

9. When are the following hormones secreted?

(a) Insulin hormone. (1mk)

……

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(b) Anti –diunetic hormone (ADH) (2mks)

……

……

10. The schematic diagram below shows main stages in blood clotting.

Blood platelets ⟶ L

Prothrombin ⟶ M

N ⟶ Fibrin

(a) (i) Identify each of the substances **L** and **N** (2mks)

L……..……

N……..……

(ii) Name the enzyme involved in the formation of substance **M.** (1mk)

……

(b) (i) State **one** difference between **N** and fibrin. (1mk)

……

……..

(ii) Which substance in blood prevents the ordinary conversation of N to fibrin within blood. (1mk)

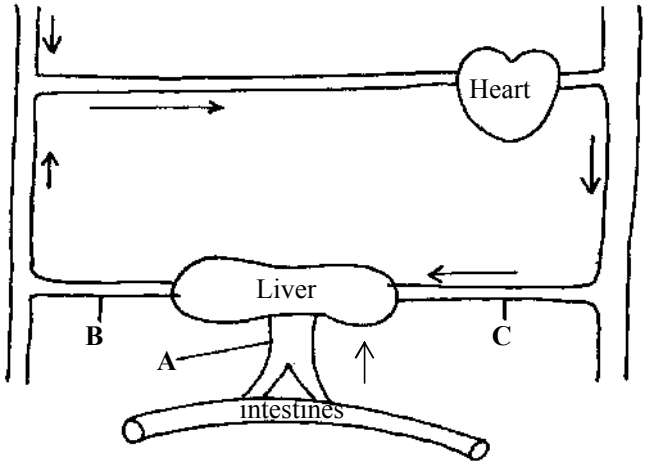
……

11. State **two** functions of large intestines in man. (2mks)

……

……

12. The diagram below represents part of the mammalian blood circulatory system and some associated glands.



(a) Name the blood vessels **A** and **B**. (2mks)

……

……

(b) State **two** structural differences between the blood vessels labeled **A** and **C** (2mks)

……

……

……

……

13. State **two** methods of preventing malaria. (2mks)

……

……

14. a) Name **two** photo chemical cells in the human retina. (2mks)

……

……

b) Name **one** chemical substances and **two** mineral ions involved in impulse transmission in mammals. (2mks)

……

……

15. During oxidation of certain food substances the respiratory quotient was found to be 0.718.

(i) Name the type of food substance being oxidized. (2mks)

……

……

(ii) State **two** advantages of using the food substances named. (2mks)

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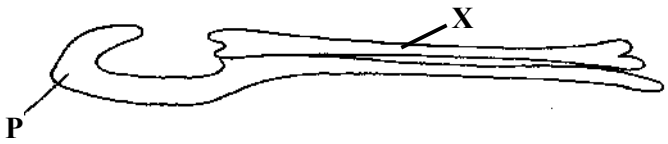
16. The diagram below represents a bone obtained from a mammal.



i) Name bone labeled **X** (1mk)

……

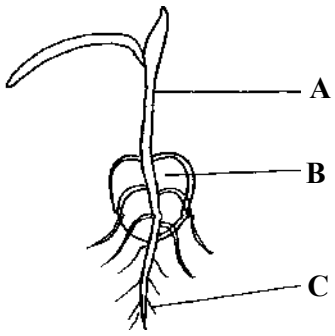
ii) Name structure **P**. (1mk)

……

iii) Which bones articulate with the bone shown at the notch. (1mk)

……

17. The diagram below represents a maize seedling.



a) Name the structure labeled **A** and **C** (2mks)

A……

C……

b) (i) State the functions of parts labeled **B** and **C** (2mks)

B……

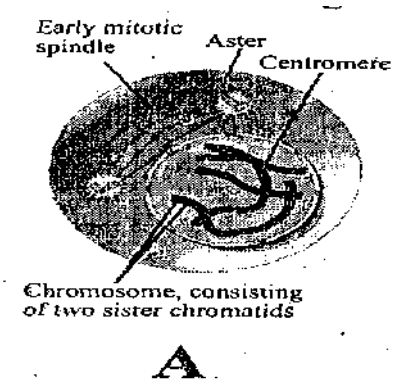
C……

(ii) Name the type of germination exhibited by maize. (1mk)

……

……

18. Below are different cell divisions stages. Study the diagram and answer the questions that follow.



A

B

a) Name the stages labelled **A** and **B**. (2mks)

A……..

B……

b) Give major changes that occur in the cell in the stage **B** (1mk)

……

……..

19. Explain any **three** adaptations of root hair cells to their functions. (3mks)

……

……

……

……

20. Give **three** reasons as to why biological control is preferred to chemical control in the control of pests. (3mks)

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……

……

21. State the type of solution that makes the plant cell. (2mks)

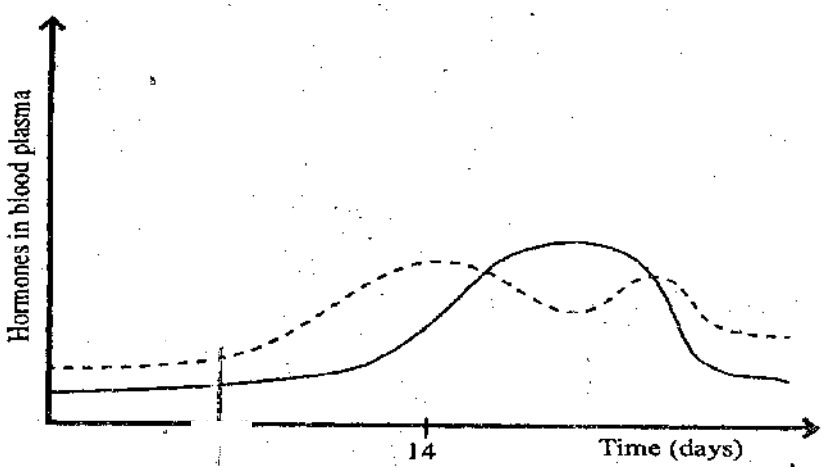
i) Flaccid

……

ii) Turgid

……

22. The graph below shows relative levels of oestrogens and progesterone during the human menstrual cycle.



a) Mark on the graph the curves tnat represents (2mks)

i) Progesterone

……

ii) Oestrogen

……

b) Which is the most likely day of ovulation from the graph? (1mk)

……

……

23. State the roles of gibberellin hormone in growth and development of plants. (3mks)

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……

……

24. Name the organisms that cause each of the following diseases.

i) Amoebic dysentery. (1mk)

……

ii) Birlhazia (1mk)

……

25. Explain how marine fish regulate their osmotic pressure. (3mks)

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……

……

……

26. Name the carbohydrate stored in:

i) Cell wall. (1mk)

……

ii) Mammalian liver. (1mk)

……

27. a) Give an example of a sex-linked trait on x-chromosome. (1mk)

……

b) Below is a nucleotide strand

A	A	G	T	C

(i) Identify the type of nucleoic acid strand. (1mk)

……

(ii) Give a reason for your answer in (b) (i) above. (1mk)

……

(iii) Write down the complimentary base sequence in the other strand. (1mk)

……

28. a) Name the body covering found in members of phylum Arthropoda. (1mk)

……

b) State **three** uses of the structure identified in (a) above for the survival of Arthopodas. (3mks)

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……

……

29 A rhinocerous in a national park was found to be infected with ticks. State the trophic level occupied by the :

(i) Rhinocerous. (1mk)

……

(ii) Ticks (1mk)

……