NAME:…… **INDEX NO:**……

SCHOOL:…….. **DATE:**……

SIGN:……..

231/1
BIOLOGY
PAPER I
(THEORY)
JUNE / JULY - 2012
TIME: 2 HOURS

BUTERE DISTRICT JOINT EVALUATION – 2012

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

231/1
BIOLOGY
PAPER I
(THEORY)
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TIME: 2 HOURS

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

FOR EXAMINERS USE ONLY.

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1 – 32	80	

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

1. What components of blood are absent in the tissue fluid (2mks)

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……..

2. (a) What is a cell. (1mk)

……..

……..

(b) Define the meaning of the following terms

(i) Entomology (1mk)

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……..

(ii) Genetics (2mks)

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3. (a) Name the association between leguminous plant and rhizobium bacteria (1mk)

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(b) (i) State the population estimation method of grasshoppers in your school compound. (1mk)

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(ii) Suggest the name of the formula used to calculate population of the grasshoppers.

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……..

4. State the organelles that would be abundant in

(a) Palisade cell (2mks)

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……..

(b) Skeletal muscle cell

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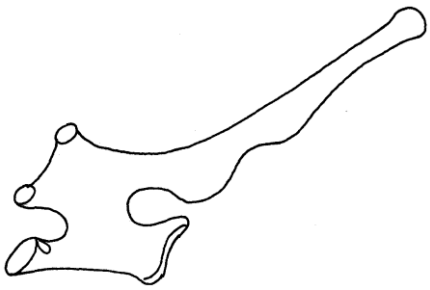
……..

5. The diagram below represents a mammalian vertebra.



(a) Identify the vertebra represented above. (1mk)

……..

……..

(b) Give a reason for your answer. (1mk)

……..

……..

6. State the functions of;

(a) Rough Endoplasmic Reticulum (1mk)

……..

……..

(b) Centrioles (1mk)

……..

……..

7. State any three theories that explain the mechanism of opening and closing of stomata. (3mks)

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……..

……..

8. The following are characteristics of a certain animal dentition; large curved and sharply Pointed canines, small closely fitting incisors, narrow molars and premolars with cusps

(i) Identify the likely mode of feeding in this animal (lmk)

……..

……..

(ii) State three adaptations of the three types of teeth to the mode of feeding identified in (i) above (3mks)

……..

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9. A student visiting a game park observed that an adult elephant flapping its ears twice as much as its calf in order to cool its body when it is hot. Explain (2mks)

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……..

……..

10. Name one function of,

(a) Progesterone (1mk)

……

……

(b) Luteinizing hormone (1mk)

……

……

11. (a) Distinguish between the terms transpiration and Guttation (2mks)

……

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……

(b) State the structures through which each of the process named in (a) above occurs (2mks)

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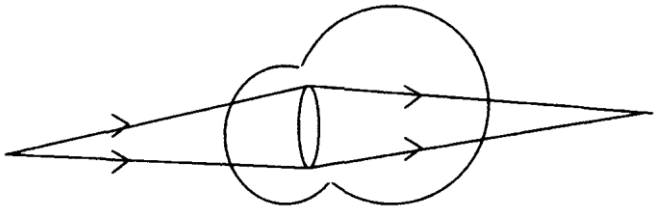
12. The diagram below shows the position of an image formed in a defective eye.



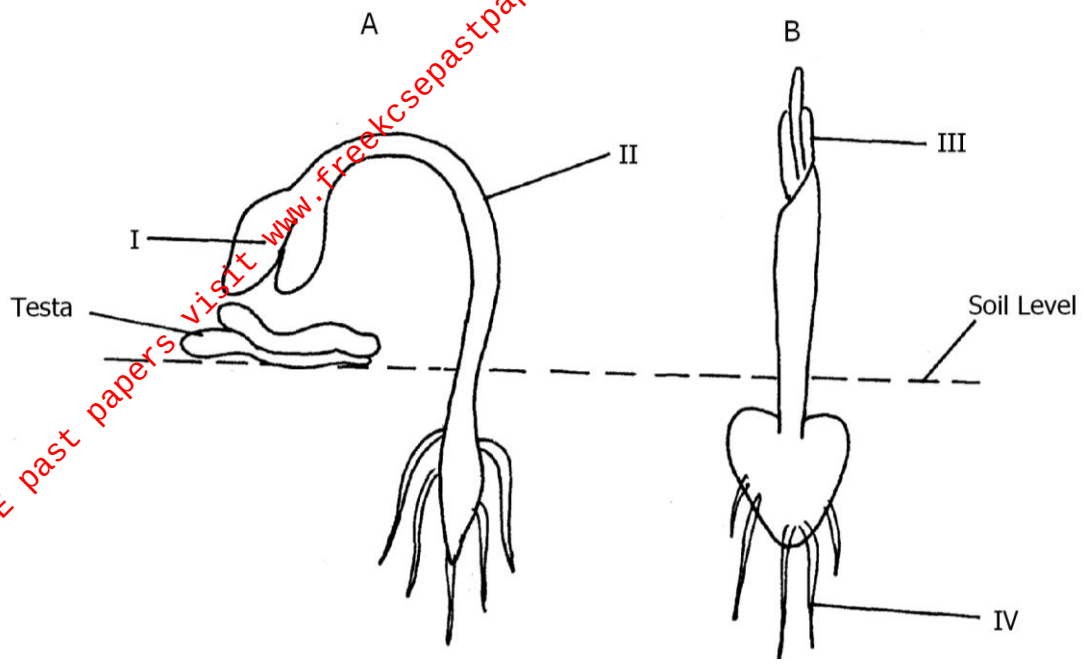
(a) Name the defect…… (1mk)

Explain how the defect name in (a) above can be corrected (1mk)

……

……

13. The diagram below represents a stage of growth in two different seedlings.



(a) Identify the type of germination exhibited B. (1mk)

……..

……..

(b) State the functions of part labeled I and IV. (2mks)

I ……..

IV ……...

14. (a) State the part of the brain that controls breathing movements in man (1mk)

……..

……..

(b) Explain how the aquatic plants are adapted to gaseous exchange (4mks)

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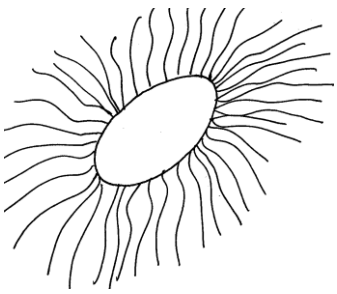
……..

15. The diagram below shows a seed of a certain plant.



(a) Name the likely agent of dispersal. (1mk)

……..

(b) Give a reason for your answer. (1mk)

……..

16. (a) Distinguish between taxon and taxonomy (2mks)

……..

……..

(b) Name two classes of the phylum Arthropoda that have cephalothorax (2mks)

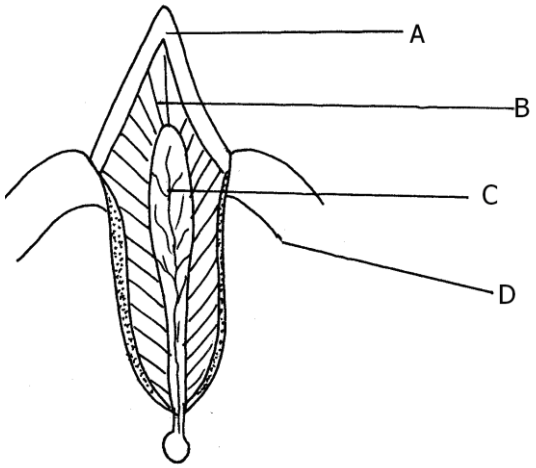
……..

……..

17. (a) Name the source of hydrochloric acid in the mammalian stomach. (1mk)

……..

(b) The diagram below represents internal structure of a mammalian tooth.



(c) Name part labeled B and D (2mks)

B……..

D……

18. Distinguish between gene and chromosomal mutation. (2mks)

……..

……..

19. Differentiate between intracellular and extracellular enzymes. (2mks)

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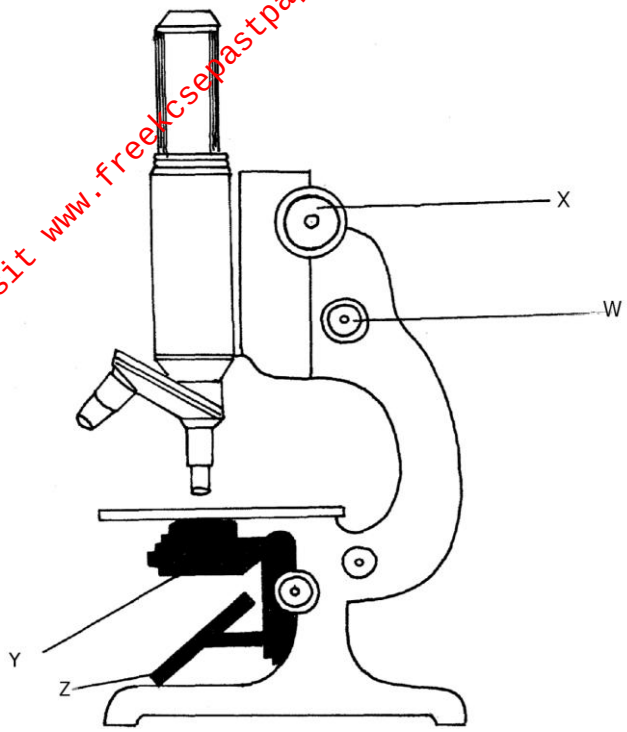
……..

……..

20. The diagram below represents a common laboratory equipment.



(i) Label the parts labeled X and Y. (2mks)

X ……..

Y…….

(ii) Using arrows show how the object is illuminated. (2mks)

21. What is the main functions of vascular bundles. (2mks)

……..

……..

……..

……..

22. State the stage in meiosis where the following take place

(a) Disappearing of nucleolus (1mk)

……..

(b) Formation of new spindle fibres (1mk)

……..

(c) Formation of separate cells each with haploid number of chromosomes (1mk)

……..

23. Explain the following genetic terms

(a) Turner's syndrome (2mks)

……..

……..

……..

(b) Deletion (2mks)

……..

……..

(c) Name one sex-linked trait carried in they chromosome (1mk)

……..

24. (a) What is meant by organic evolution (1mk)

……..

(b) State three limitations in use of fossil records in retracting the evolutionary history of all modern day organisms (3mks)

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……..

……..

25. Differentiate between monoecious and dioecious plants (2mks)

……..

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26. State three advantages of metamorphosis to the life of insects (2mks)

……..

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……..

27. State the function of the following apparatus

(a) a pooter (1mk)

……..

……..

(b) a pit fall trap (1mk).

……..

……..

28. (a) Distinguish between Natural and acquired immunity (1mk)

……..

(b) (i) Define the term Allergy (1mk)

……..

(ii) List two causes of allergy in humans (2mks)

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