Name…….. Index No. …….

School …….. Date……. …….

Sign……. …….

231/1
BIOLOGY
PAPER 1
JULY / AUGUST 2012
Time: 2 Hours

KWANZA DISTRICT JOINT EVALUATION TEST - 2012

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

231/1
BIOLOGY
PAPER 1
JULY / AUGUST 2012
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

- The Paper consists of thirty three (33) Questions
- Write your name and index number in the spaces provided above
- Sign and write the date of examination in the spaces provided above
- Answer ALL the questions in this paper in the spaces provided.

FOR EXAMINERS USE ONLY

QUESTION	Max Score	Candidate Score
1 – 33	80	

This paper consists of 12 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

1. a) Name the antigens that determines human blood groups. (2mks)

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b) State the adaptation of the red blood cells that make them move in blood capillaries. (1mk)

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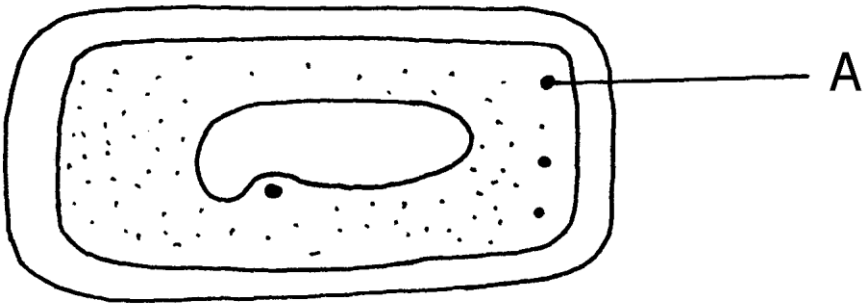
2. The figure below is a diagram of a cell as seen under the light microscope (3mks)



State <u>three</u> structures that show that these is a plant cell. (3mks)

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3. Why is it more advantageous to breath through the nose than through the mouth. (3mks)

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4. State <u>three</u> characteristics of members of Bryophyta. (3mks)

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5. State three characteristics of a population (3mks)

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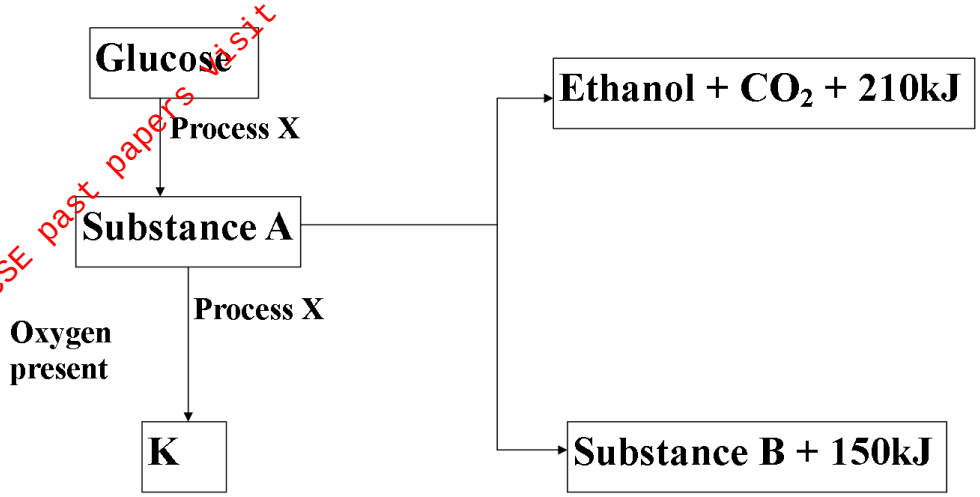
6. The diagram below represents a simple respiratory pathway in cells (2mks)



a) Name the process marked X and Y (2mks)

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b) Name substances represented by K. (1mk)

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c) State the name of substance B. (1mk)

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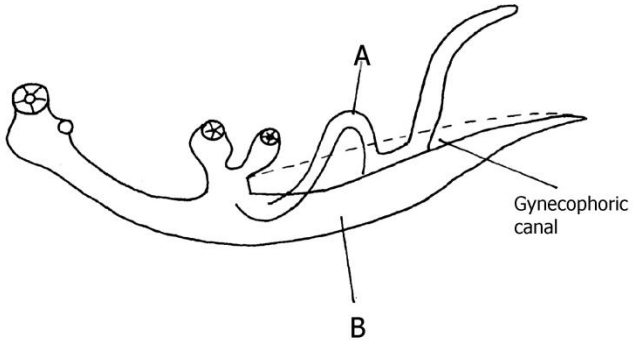
7. The diagram below shows two organisms of the same species (2mks)



a) State the sex of organism A and B. (2mks

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b) Name the disease caused by the above organism. (1mk)

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8. Identify the physiolocal process involved in the following

a) Feeding in venus fly trap(insectivorous plant) (1mk)

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b) Absorption of mineral salts by plant roots. (1mk)

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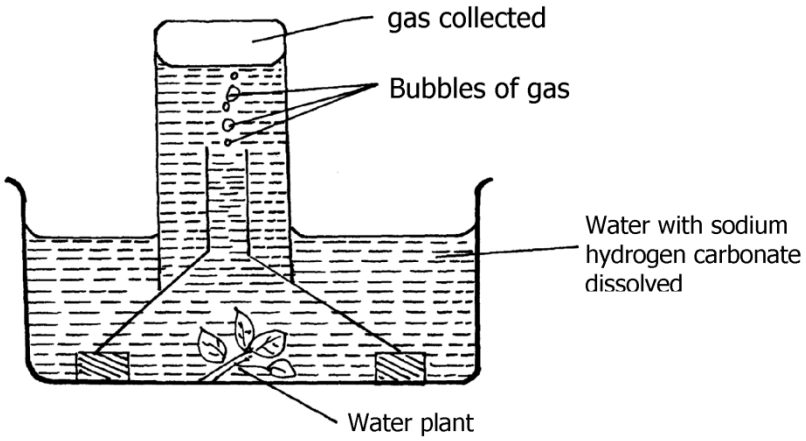
9. An experiment on photosynthesis was set up as shown below (4mks)



a) What was the aim of this experiment. (1mk)

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b) What gas is produced during this experiment. (1mk)

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c) Why was sodium hydrogen carbonate added to water during this experiment. (1mk)

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10. Distinguish between the following

a) Habitat and ecological niche. (2mks)

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b) Intraspecific and interspecific competition . (2mks)

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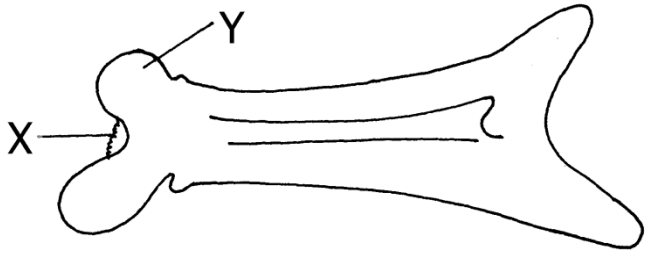
11. The diagram below represents a mammalian bone. (1mk)



i) Name the bone (1mk)

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ii) Identify the part labelled X (1mk)

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iii) Name the bone that articulates with the part labelled Y (1mk)

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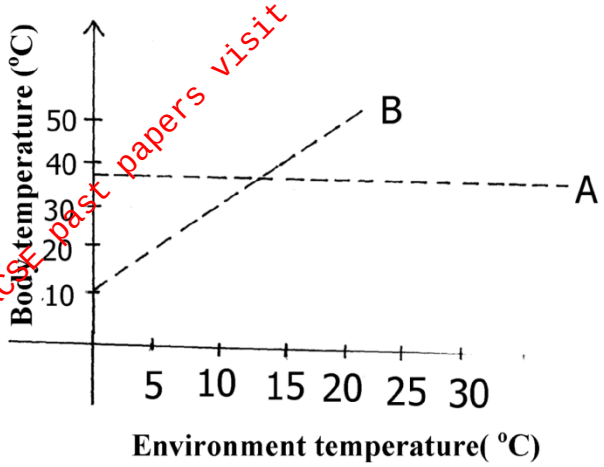
12. Body temperature of two animals A and B were taken over the increase in environmental temperature. The results are shown in the diagram below.



a) What name is used to describe group of animals represented by

A..... (1mk)

B..... (1mk)

b) State <u>two</u> advantages of the group of animals represent by A over that of B. (2mks)

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13. Briefly explain how the following affect the rate of transpiration (2mks)

i) Sunken stomata (2mks)

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ii) Hairy leaves (2mks)

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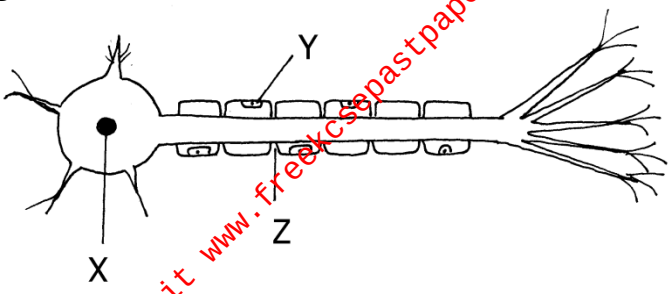
14. The diagram below shows the structure of a neurone



i) a) Identify the type of neurone drawn above (1mk)

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b) Name the parts labelled X and Y

X

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Y

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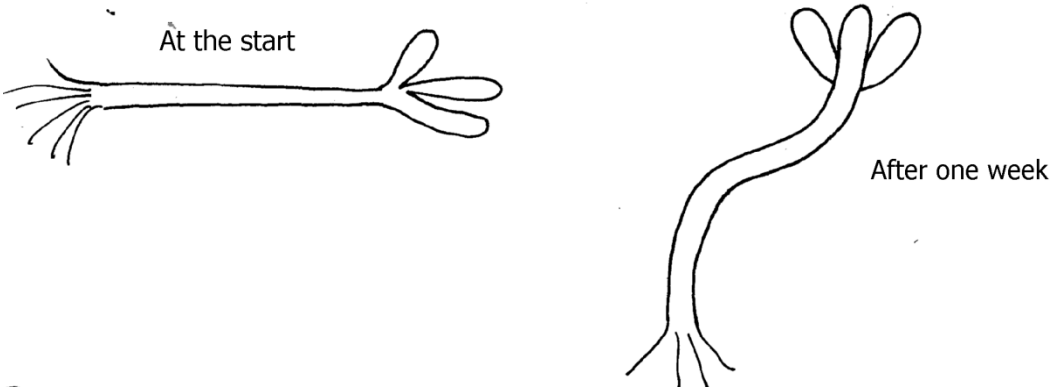
15. A form four girl uprooted a young plant and laid it horizontally on the ground. After one week it was observed that the shoot of the same plant had bend upwards while theroot downwards as shown below.



Account for the observations made. (3mks)

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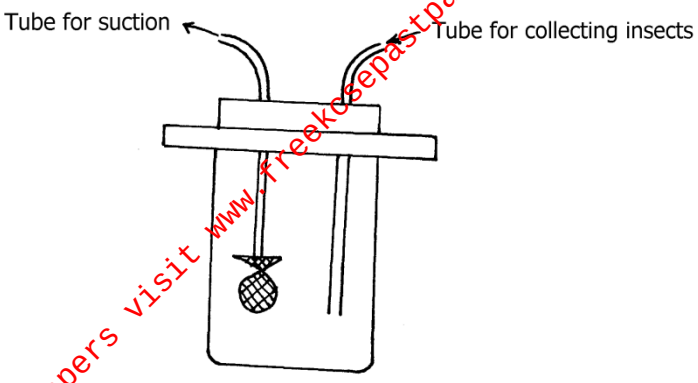
16. The diagram below shows on apparatus used in collection of specimen



c) Identify the apparatus (1mk)

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d) State its use (1mk)

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17. Give a reason why staining is necessary when preparing specimen for observation under a microscope. (1mk)

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18. The scientific name for a domestic cat is ***felis catus***. Outline the rules that were never followed in writing the name (3mks)

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19. An organelle magnified 6000 times by an electrons microscope, measured 3mm in diameter. Calculate its real diameter in micro metres.

Show your working (2mks)

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20. What happens when a young herbaceous plant is well watered with strong salt solution. (2mks)

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21. Name the cell organelles that would be found in abundance in

a) Skeletal muscus (1mk)

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b) Palisade cells (1mk)

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22. State one role of the following elements in the human body. (1mk)

a) Iron (1mk)

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b) Chlorine (1mk)

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23. a) What is mean by the term assimilation. (1mk)

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b) State <u>two</u> ways in which end products of lipids digestion are assimilated. (2mks)

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24. Enzyme + substrate ⇌ enzyme + products from the above equation name <u>two</u> properties of enzymes exhibited in the equation. (2mks)

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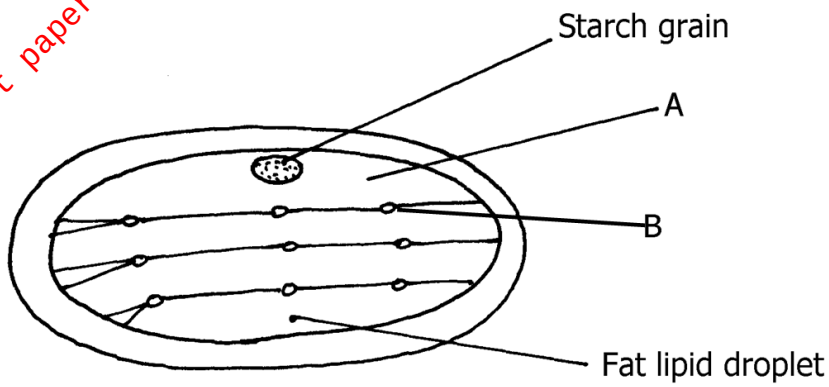
25. Study the diagram below and answer the questions that follow (2mks)



What process takes places in A and B. (2mks)

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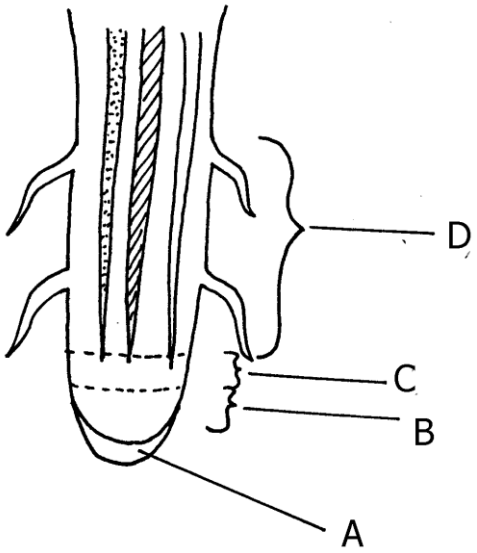
26. The diagram below represents a section of the dicot root apex. (2mks)



a) State the role of the part marked A (1mk)

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b) State three characteristics of the cells found in region B. (3mks)

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27. Give two adaptations of spiracles to their functions. (2mks)

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28. Differentiate between lactic acid fermentation and alcoholic fermentation. (2mks)

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29. State two importance of the placenta during pregnancy (2mks)

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30. State one function of water in a germinating seed. (1mk)

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31. Explain the following terms

a) Test cross (1mk)

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b) Phenotype (1mk)

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32. Haemophilia is a sex – linked disorder caused by a recessive gene located on the X – chromosome. Give the genotype of a make haemophiliac individual. (1mk)

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33. Distinguish between divergent and convergent evolution. (2mks)

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END