

Name.....

Index No.

School

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231/1
BIOLOGY
PAPER 1
JULY / AUGUST 2010
Time: 2 Hours

BUTERE DISTRICT JOINT EVALUATION TEST - 2010
Kenya Certificate of Secondary Education (K.C.S.E)

BIOLOGY
PAPER 1
JULY / AUGUST 2010
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

- Answer ALL the question.

FOR EXAMINERS USE ONLY

QUESTION	Max Score	Candidate Score
1 – 32	80	

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

1. The scientific name for French bean is *Phaseolus Vulgaris*

(a) What taxon does the term phaseolus represent? (1mk)

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(b) State two rules that are followed when giving a scientific name to an organism. (2 mks)

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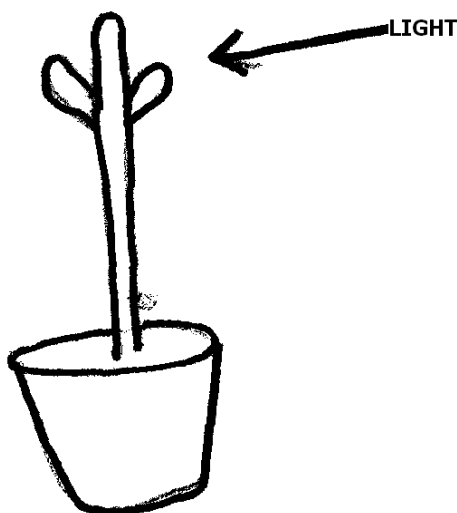
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2. What is the function of the mirror in the microscope? (1 mk)

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3. A seedling shoot was exposed to unidirectional light as shown below. The set up was left in the dark room for three days.



(i) Make a drawing of the expected results at the end of the experiment. (2mks)

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(ii) Explain the expected results at the end of the experiment. (2mks)

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4. The diagram below represents a specialized cell of a certain tissue.



(i) Identify the cell (1mk)

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(ii) Name two structures in the human body where the cells are found (2mks)

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5. State two characteristics of a meristematic cell. (2mks)

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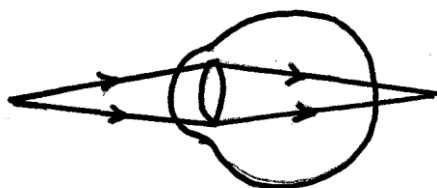
6. State three functions of water in a germinating seed. (3mks)

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7. Name the hormone that controls the osmotic pressure of the body fluids. (1mk)

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8. The diagram below represents an eye defect.



(i) Name the eye defect represented. (1 mk)

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(ii) How can the defect be corrected. (1 mk)

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9. Give the function of melanin pigment produced in the skin of man. (1 mk)

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10. What is the importance of saprophytic bacteria in an ecosystem? (1 mk)

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11. A student while carrying out an experiment observed 8 cells across the field of view of a light microscope. If the diameter of the field of view is 5 mm, calculate the average length of each cell in micrometers. (2mks)

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12. State one feature present in flowers that can be used to distinguish between a monocotyledonous flower and a Dicotyledonous flower. (1mk)

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13. State the function of the following structures in the human male reproductive system.

(i) Prostate glands. (1 mk)

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(ii) Seminiferous tubules. (1 mk)

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(iii) Glans penis (1 mk)

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14. State three limitations of using fossil records as evidence for organic evolution. (3mks)

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15. State three characteristics of skeletal muscles. (3mks)

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16. A student observed that there were fewer lions than antelopes in Lake Nakuru national park. Explain this ecological observation. (3mks)

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17. Colour blindness is a sex linked characteristic in man .A couple who had normal colour vision got a colour blind son.

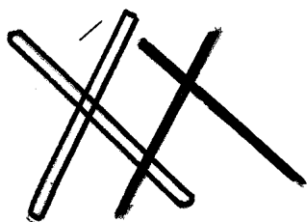
(i) What is sex linkage? (1mk)

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(ii) Name two other sex linked traits in humans (2mks)

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18. The diagram below shows a stage in cell division



(i) Name the stage of cell division that exhibits the process above. (1mk)

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(ii) What is the significance of the phenomenon shown to a species? (1mk)

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19 . Differentiate between respiration and respiratory surface. (2mks)

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20 State three adaptations of the skin of the frog to gaseous exchange. (3mks)

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21. Give the advantages of binocular vision over monocular vision (3mks)

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22 . A student collected an organism in the school compound and noted that it had a segmented body and two pairs of legs per body segment.

(i) Name the class to which the organism belongs. (1mk)

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(ii) State two other features the student may have observed. (2mks)

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23. Describe the changes that occur to the rib cage and the diaphragm during expiration. (4mks)

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24. State the functions of the following parts of the human brain

(i) Medulla oblongata (1mk)

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(ii) Pituitary gland (1mk)

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(iii) Cerebellum (1mk)

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25. A student made equidistant marks on a radical of a dicotyledonous seedling. After three days the distance between the marks was measured.

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

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b) Predict the results that were likely to be obtained by the student (2mks)

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26. Explain how sunken stomata lower the rate of transpiration (2mks)

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27. Plants of a particular species growing in certain habitat flower at the same time. What is the importance of this adaptation (1mk)

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28. State three roles played by the bark in plants (3mks)

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29. State three adaptations of the thoracic vertebrae to its function (3mks)

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30. In an ecological study, four students wanted to estimate the population of fish in a school fish pond.
a) Apart from a fish net and gloves name two other requirements they would need in their study (2mks)

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b) State the most appropriate method they would use to estimate the fish population. (1mk)

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31. Industrial wastes may contain metallic pollutants. Explain how the pollutants may indirectly reach and accumulate in the human body when the wastes are dumped into rivers. (3mks)

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32. Differentiate between tropisms and tactic responses. (3mks)

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