

Name..... Index No.....
School..... Candidate's sign.....
Date.....

231/1
BIOLOGY
PAPER 1
July/August 2010
2 HOURS

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

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BIOLOGY
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INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above
2. Sign and write the date of examination in the spaces provided above.
3. Answer ALL the Questions in this paper in the spaces provided.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 28	80	
TOTAL SCORE	80	

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

1. What is active transport? (2mks)

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2. Give three adaptations of animal dispersed fruits and seeds (3mks)

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3. State three functions of golgi apparatus (3mks)

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4. a) What is the difference between Darwinian and Lamarckian theories of evolution? (2mks)

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b) Distinguish between convergent and divergent evolution (1mk)

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5. State the characteristics that can separate the following organisms into respective classes;
Millipedes, tsetsefly and spider (3mks)

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6. Name the blood vessel that transports blood from;
- a) Heart to the lungs (1mk)
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- b) Small intestine to the liver (1mk)
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7. State three ways in which the tracheole system in insect is adapted for gaseous exchange (3mks)
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8. State the role of the following hormone in the organisms:
- a) Auxin (1mk)
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- b) Antidiuretic hormone (1mk)
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9. Name three types of gene mutations (3mks)
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-
10. Name the spore producing structures in:
- a) Bryophytes (1mk)
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b) Pteridophytes (1mk)

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11. a) During which phase of meiosis does crossing over occur? (1mk)

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b) How do identical and fraternal twins arise?

i) Identical twins (2mks)

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ii) Fraternal twins (2mks)

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12. Which one of the cell organelles would be found in large numbers in;

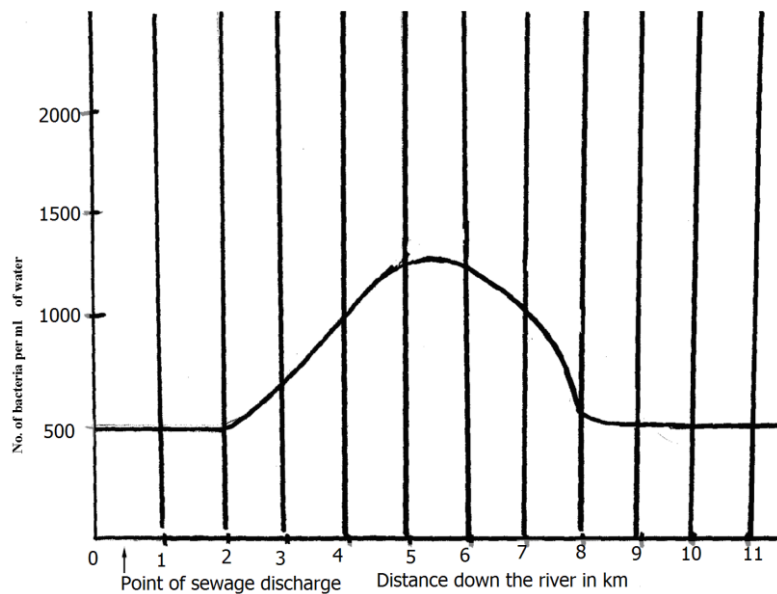
a) An enzyme secreting cell (1mk)

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b) A rapidly respiring cell in comparison to other cells in the same organism (1mk)

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13. The graph below is of sewage on the population of a species of bacteria in a certain river.



Account for the changes in population of bacteria between 2 and 10 kilometres down the river (2mks)

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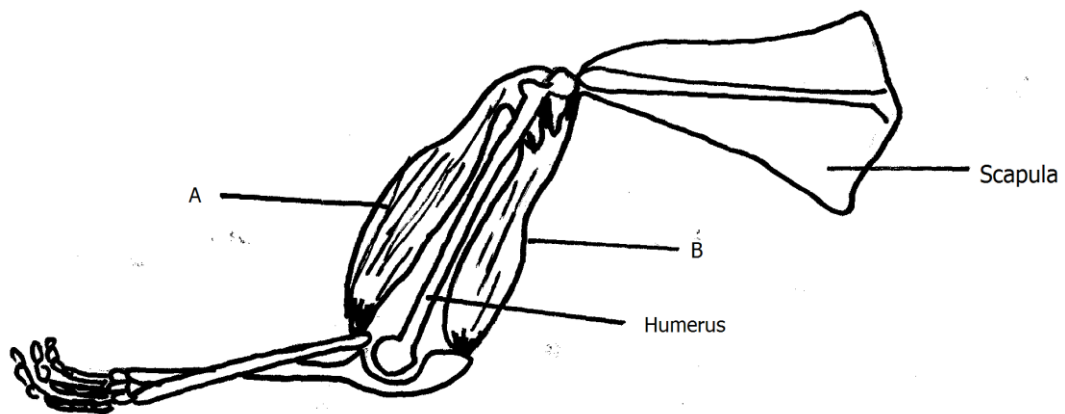
14. Differentiate between interspecific and intraspecific competition (2mks)

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15. Other than energy, name the other products of anaerobic respiration in plants (2mks)

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16. a) Study the diagram below and answer the questions that follow.



i) Name the muscles labeled A and B (2mks)

A

B

ii) What happens to each muscle as the arm is stretched. (2mks)

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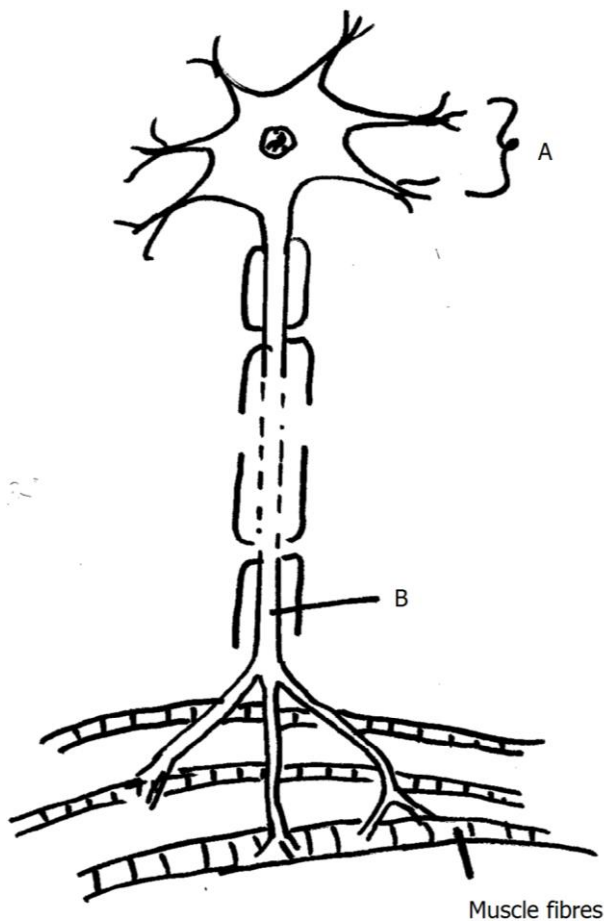
17. In an accident, a victim suffered brain injury. Consequently he had loss of memory.
Which part of the brain was damaged? (1mk)

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18. Name three membranes that surround the central nervous system (3mks)

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19. The diagram below represents a neurone



i) Name the neurone (1mk)

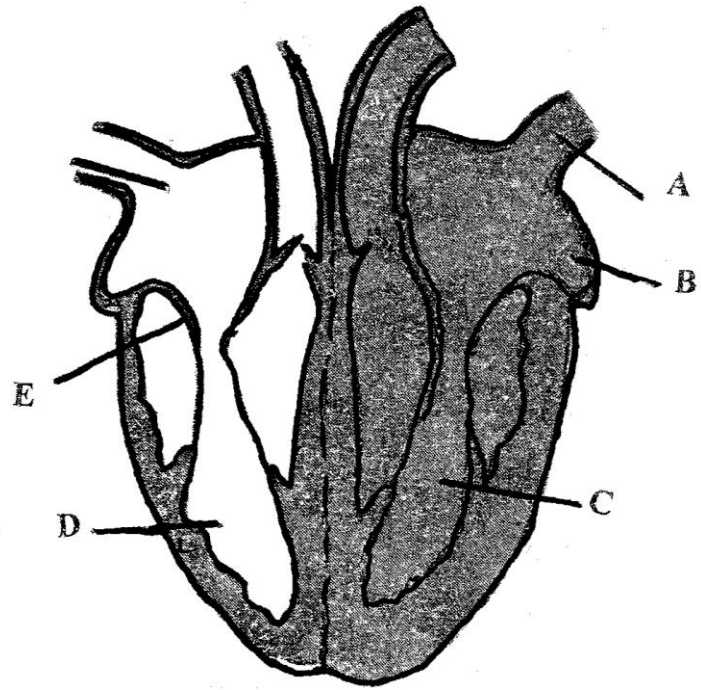
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ii) Name the parts labeled A and B (2mks)

A

B.....

20. The diagram below shows a vertical section through a mammalian heart



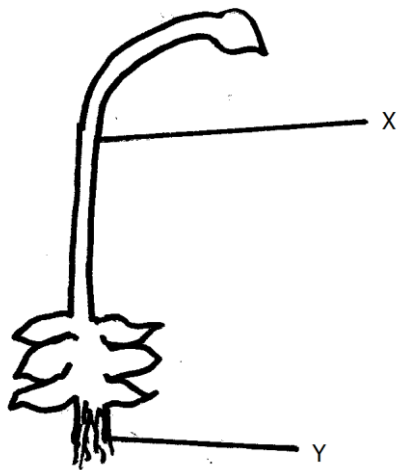
a) Name the parts labeled A and E (2mks)

A.....
 B.....

b) Give a reason why the wall of chamber C is thicker than chamber D. (2mks)

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21. The figure below represents a plant.



a) State the division it belong to? (1mk)

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b) Label the parts X and Y (2mks)

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22. State two ways in which xylem vessels are adapted to their function (2mks)

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23. a) List two differences between simple reflex action and conditioned reflex action (2mks)

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b) State any two functions of cerebellum (2mks)

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24. a) What is seed dormancy? (1mk)

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b) Account for the following phases of a sigmoid curve of growth of an organism.

i) Lag phase (1mk)

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ii) Plateau phase

(1mk)

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25. State two characteristics of aerenchyma tissue

(2mks)

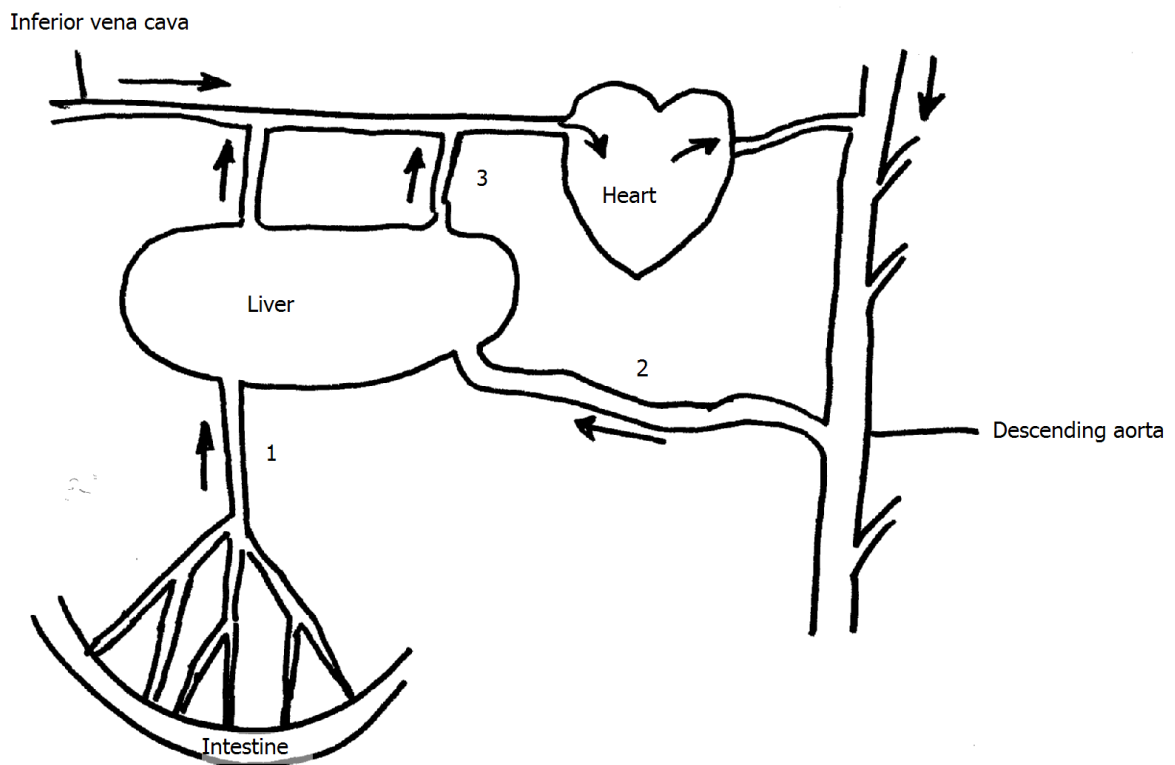
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26. What is the significance of transpiration to plants?

(4mks)

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27. The figure below illustrates the blood supply and drainage of the liver.



a) In which of the blood vessels labeled 1, 2 and 3 would you expect the highest concentration of glucose two hours after eating a starchy meal? Give a reason (2mk)

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b) Name one nutrient that is only transported in small quantities in vessel 1 following absorption. (1mk)

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28. a) Name two classes of animals that excrete their nitrogenous waste products mainly in Form of uric acid. (2mks)

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b) State how excretion is achieved in plants (2mks)

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