

Name .....

Index No.....

School .....

Candidate's Signature .....

Date .....

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

**KITUI WEST DISTRICT JOINT EVALUATION TEST - 2011**  
*Kenya Certificate of Secondary Education*

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

**INSTRUCTIONS TO CANDIDATES**

- Write your name and Index number in the space provided.
- Answer **ALL** questions in the spaces provide.

**FOR EXAMINER'S USE ONLY**

| QUESTION | MAXIMUM SCORE | CANDIDATE SCORE |
|----------|---------------|-----------------|
| 1 - 28   | 80            |                 |

*This paper consists of 9 printed pages.*

*Candidates should check to ensure that all pages are printed as indicated and no questions are missing*

1. State three characteristics of members of monera that are not found in other kingdoms.

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2. Name the tissue in plants responsible for

a) Transport of water and mineral salts. (1Mark)

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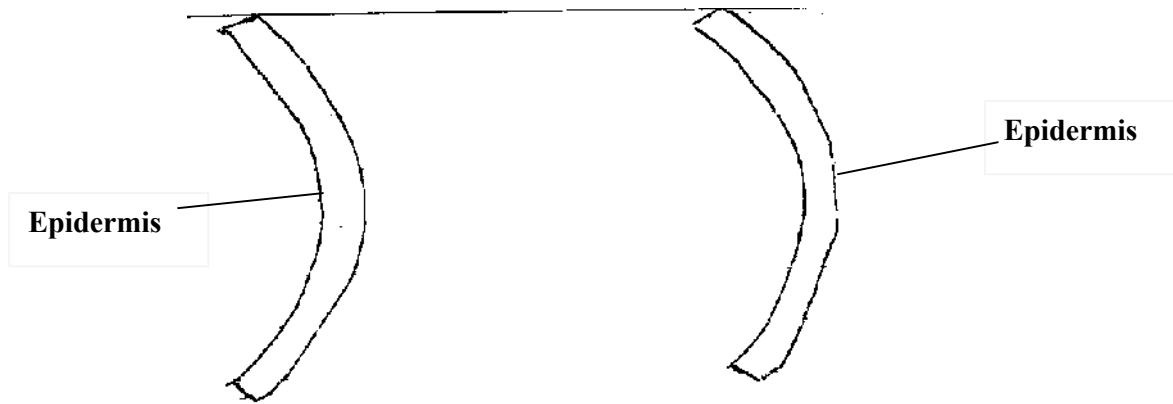
b) Transport carbohydrates. (1Mark)

.....

c) Primary growth. (1Mark)

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3. A freshly obtained dandelion stem measuring 5cm long was split lengthwise to obtain two similar pieces. The pieces were placed in solutions of different concentrations in Petri dishes for 20minutes. The appearance after 20 minutes is as shown.



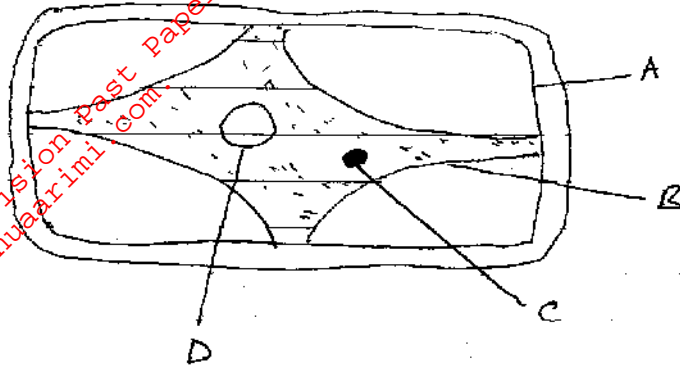
State the significance of the biological process involved in the experiment. (2Marks)

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4. What is an allele? (1Mark)

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5. The diagram below shows a plant cell placed in a certain treatment.



a) In which treatment was it placed into? (1Mark)

.....

b) Name the parts.

A - .....

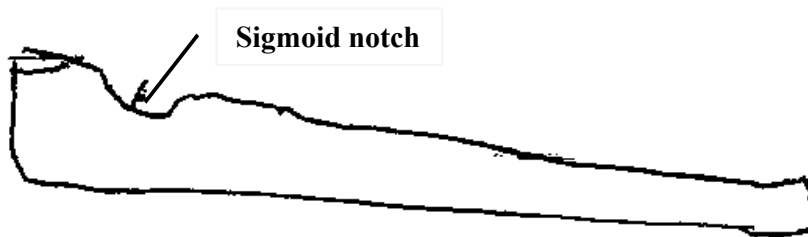
B - .....

C - .....

D - .....

(5Marks)

6. A bone obtained from a mammal is represented by the diagram below.



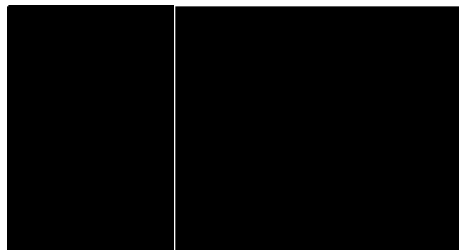
a) Name the bone (1Mark)

.....

b) Which bone articulate with the bone shown in the diagram at the sigmoid notch. (1Mark)

.....

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



a) i) Name the defect.

.....

ii) Name the cause of the defect.

(1Mark)

b) Explain how the defect named above can be corrected?

(2Marks)

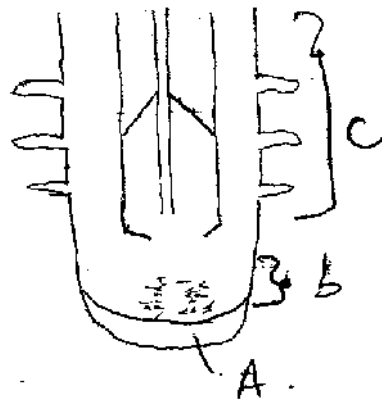
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8. In an accident a victim suffered brain injury. Consequently he had lost memory. Which part of brain was damaged? (1Mark)

9. Distinguish between homologous and analogous structures. (2Marks)

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10. The diagram below shows regions of a root tip.



a) What is the function of the part labeled A?

(1Mark)

.....  
.....

b) State the regions labeled b and C.

b .....

c .....

(2Marks)

11. Name the structures used in locomotion in each of the following organisms. (3Marks)

a) Euglena.

.....

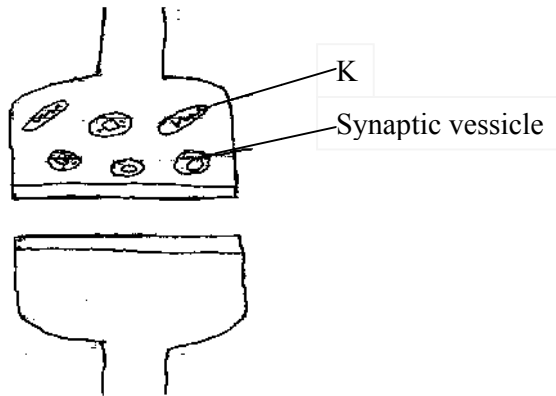
b) Paramecium.

.....

c) Amoeba.

.....

12. Study the diagram below representing a neuro junction of a mammal.



a) On the diagram, indicate the direction of impulse transmission using an arrow. (1Mark)

b) State the name of the chemical that is contained in the synaptic vesicle. (1Mark)

.....

c) State the functions of the part labeled K. (1Mark)

.....

.....

13. State the causative agent for the following diseases:-

a) Syphilis (1Mark)

.....

b) Malaria (1Mark)

.....

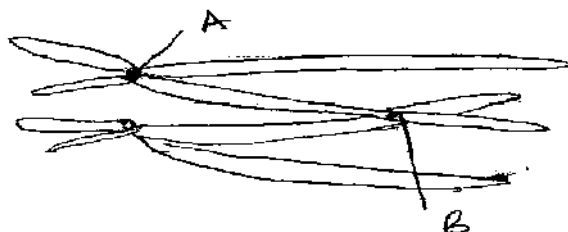
14. What are the functions of the Golgi apparatus? (3Marks)

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.....

.....

15. A phenomena which occurs during cell division is shown in the diagram.



a) Name the parts labeled A and B

A.....

B.....

b) Which stage of cell division does the process occur?

(1Mark)

.....

16. Give a reason why primary productivity in an aquatic ecosystem decreases with depth. (2Marks)

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17. Give two classes of the phylum chordata whose all members are poikilothermic.

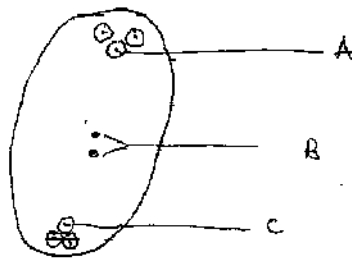
(2Marks)

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18. The illustration below shows part of the ovary of an angiosperm.

(3Marks)



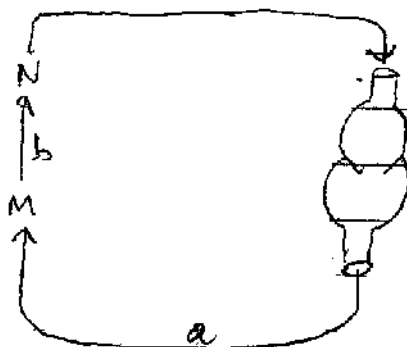
State the names of the parts labeled A, B and C.

A.....

B.....

C.....

19. Observe the diagram of the circulatory system below and answer the questions that follow.



a) Name the type of circulation shown in the diagram.

(1Mark)

.....

b) Identify the parts labeled M and N.

M.....

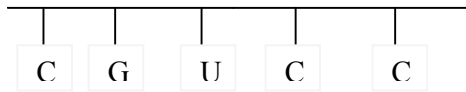
N.....

c) Identify which part carries oxygenated blood.

(1Mark)

.....

20. The diagram below represents a portion of a nucleic acid.



With a reason, identify the nucleic acid to which the portion belongs.

(2Marks)

Type of the nucleic acid

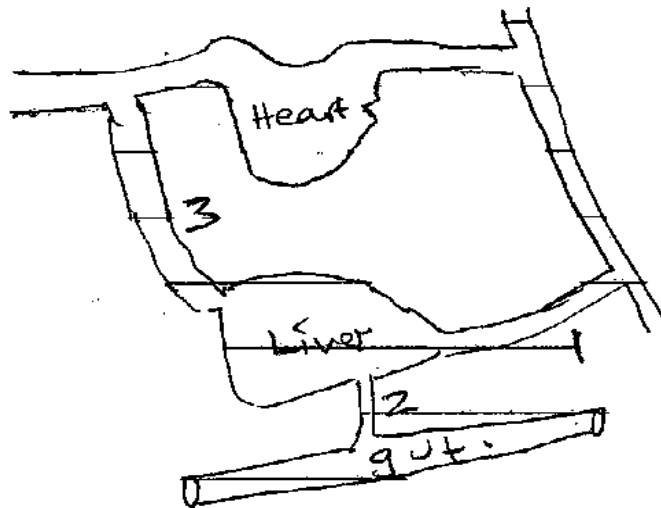
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Reason

.....

.....

21. The diagram below is a sketch showing the parts of a mammalian circulatory system.



a) Which blood vessel will have the highest concentration of glucose for a person who is fasting?

(1Mark)

.....

b) State the name of the blood vessel labeled.

(2Marks)

1.....

2.....

22. What is the function of the various parts of the mammalian ear?

(3Marks)

a) Semicircular canals.

.....

b) Cochlea.

.....

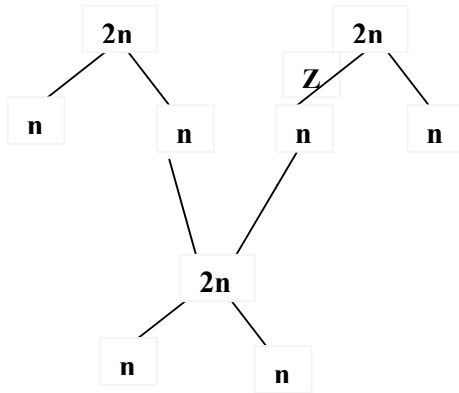
c) Eustachean tube.

.....

23. State **three** differences between endocrine and nervous system. (3Marks)

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24. The chart below shows the number of chromosome before and after cell division and fertilizations in a mammal.



a) What type of cell division take place at Z? (1Mark)

.....

b) Where in the body of a female does process Z occur? (1Mark)

.....

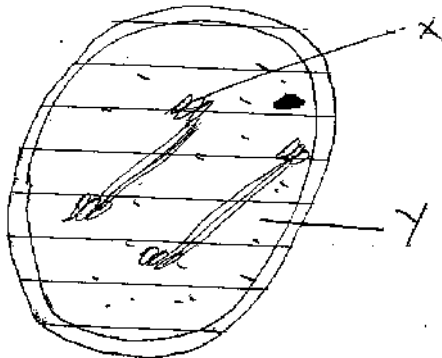
c) i) Name the process that leads to addition or less of one or more chromosome. (1Mark)

.....

ii) Name two conditions in man due to the process named in (i) above. (2Marks)

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25. The diagram below represents a cell organelle.





a) Name the organelle.

.....

b) i) Name the part labeled Y.

(1Mark)

.....

ii) State the function of the part labeled X.

(1Mark)

.....

26. a) State the name given to the growth curve in insects.

(1Mark)

.....

b) State the advantages of metamorphosis to the life of the insect.

(2Marks)

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c) What are the functions of the exoskeleton in the arthropods?

(2Marks)

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27. Distinguish between population and community.

(2Marks)

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28. State the features that increase the surface area of the small intestines.

(3Marks)

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