

NAME:

INDEX NUMBER:

SCHOOL:

CANDIDATES SIGNATURE:

DATE:

231/1
BIOLOGY
THEORY
PAPER 1
JULY/AUGUST 2009
2 Hours

MANGA JOINT EVALUATION TEST - 2009
Kenya Certificate of Secondary Education (K.C.S.E)

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BIOLOGY
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INSTRUCTIONS TO CANDIDATES

- Write your name and Index Number in the spaces provided above.
- Answer **ALL** the questions in the spaces provided

For Examiners use only.

| Question | Maximum Score | Candidates Score |
|----------|---------------|------------------|
| 1 - 29 | 80 | |

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

1. Define;
 - a) Inter-specific competition (1mk)

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.....
 - b) Intra-specific competition (1mk)

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.....

2. The diagram below is of a stage in cell division



With a reason identify the stage. (2mks)

Stage

Reason

3. Name two mutagenic agents. (2mks)

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4. The scientific name of the housefly is musca domestica. Classify the fly into; (2mk)

i) Genus

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ii) Species

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5. Cyanide is classified as one of the non-competitive inhibitors of enzymes. What is the meaning of the term non-competitive inhibitor? (2mks)

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6. Name two Vitamins of which their absence in the diet may cause a dental disease called gingivitis (2mks)

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7. State three factors that maintain the transpiration stream. (3mks)

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8. State the economic importance of each of the following plant excretory products.
- i) Cocaine (1mk)
 - ii) Caffeine (1mk)
 - iii) Nicotine (1mk)

9. a) Why is Lamarck's theory on mechanism of evolution not scientifically Acceptable? (1mk)

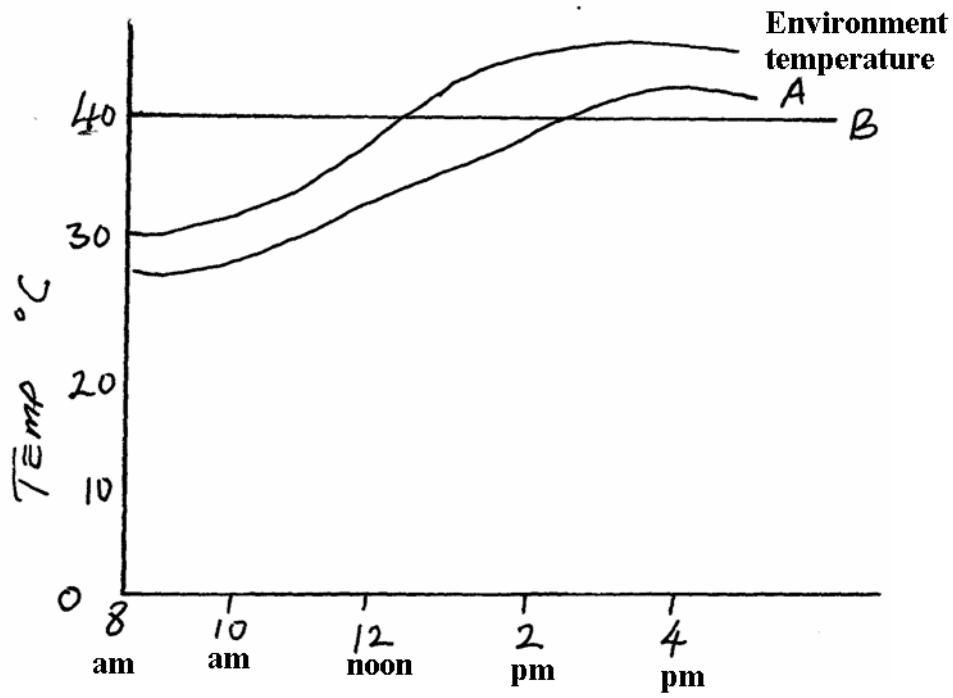
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- b) What name is given to;
- i) Structures in animals that have become reduced in size until they are functionless(1mk)
 - ii) Evolution of structures that have undergone modifier to adapt the organism to similar ecological niches. (1mk)
-

10. The body temperatures of two animals A and B varied as below with environmental Temperature



- a) Which of the animals is;
- i) Endothermic (1mk)
- ii) Ectothermic (1mk)
- b) With a reason, state which of the animals is likely to be widely distributed (2mks)
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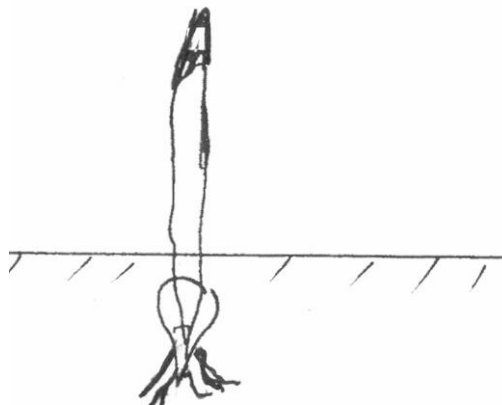
11. a) State a structural difference between a sensory and motor neurone (2mks)
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-
-
- b) What is a reflex arc? (2mks)
-
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-

12. Identify the type of gene mutations represented by the following pairs of words.
- i) Shirt instead of skirt (1mk)
- ii) Hopping instead of shopping (1mk)
- iii) Eat instead of tea (1mk)

13. State three adaptations of halophytes to their habitat (3mks)
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-
-

14. State three roles of oestrogen during the menstrual cycle (3mks)
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-
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15. A form IV student observed a seedling germinate as below



With a reason identify the type of germination above. (2mks)

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16. A man of blood group heterozygous **A** married a woman of heterozygous **B**; work out the blood groups of their children (3mks)

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17. a) How is the stigma of a wind pollinated flower adapted to its function? (1mk)

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b) Define the term double fertilization in plants? (2mks)

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18. State three characteristics of cells at the zone of cell division in an apical meristem (3mks)

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19. Explain the importance of the label “CFC FREE” on modern refrigerators (3mks)

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20. Name three biotic factors of an ecosystem (3mks)

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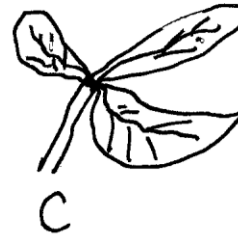
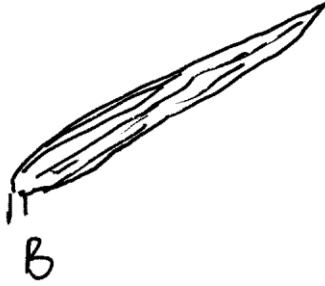
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21. Below are diagrams of three leaves A, B and C. Construct a two step dichotomous

key which can be used to identify each of them.

(4mks)



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22. A Form IV student observed an heterotrophic organism with jointed appendages and whose body was divided into head, thorax and abdomen. Classify the organism into;

- i) Kingdom..... (1mk)
- ii) Phylum (1mk)
- iii) Class (1mk)

23. Define;

- i) Pulmonary circulation (1mk)
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- ii) Systemic circulation (1mk)
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24. Name three diseases against which children are immunized (3mks)

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25. Name the site for gaseous exchange in the following animals

- i) Insects (1mk)
- ii) Fish (1mk)
- iii) Mammals (1mk)

26. Students estimating the number of grasshoppers in a field captured 72 grasshoppers which they marked and released. After two days the students captured 90 grasshoppers of which 8 were marked.

a) Why did the second capture take place after two days? (1mk)

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b) Calculate the total number of grasshopper in the field (3mks)

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27. Name the contractive agent of typhoid and state two symptoms of the disease (3mks)

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28. Name two neurotransmitter substances across neurons (2mks)

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29. What type of variation is exhibited by the ability of man to roll or not roll the tongue? (1mk)

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