

Name

Index Number /

Candidate's Signature

Date

231/1

BIOLOGY

PAPER 1 (THEORY)

JULY/ AUGUST 2013

TIME: 2HOURS

LENOCET EVALUATION TEST
KENYA CERTIFICATE OF SECONDARY EDUCATION

231/1

BIOLOGY

PAPER 1 (THEORY)

TIME: 2HOURS

Instructions to candidates

- (1) Write your Name and Index Number in the space provided above.
- (2) Sign and write the date of examination in the spaces provided above.
- (3) Answer all the questions in the space provided.
- (4) Additional pages must not be inserted.
- (5) Answers must be written in the spaces provided.
- (6) This paper consist of 8 printed pages
- (7) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

For Examiner's use only

Question	Maximum Score	Candidate's Score
1 - 29	80	

1. What is taxonomy? (1mark)

2. (a) Name the structure in which fertilisation occurs in human female? (1mark)

(b) State two adaptations of the structure you have named in (a) above to its functions. (2 marks)

3. (a) State two limitations of the fossils as evidence of evolution. (2marks)

(b) Why is Lamarck's theory of evolution not scientifically acceptable? (1mark)

4. Blowfly maggot (larvae) quickly burrow into decaying faecal matter as soon as they are exposed to sunlight.

(a) Name the type of response exhibited by the maggots. (1mark)

(b) Of what value is such a response? (2marks)

5. Explain what happens to excess amino-acids in the liver of humans. (3mark)

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6. Name the functions of the Thrombokinase in blood clotting process. (2marks)

7. Give four factors that determine energy requirement in human body (4marks)

8. State the use of the following apparatus . (2marks)

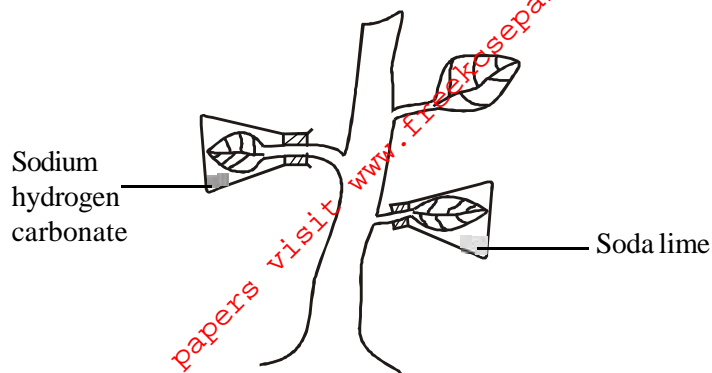
(a) Bait trap

(b) Sweep net

9. Give two reasons why classification is important in biology. (2marks)

10. In an experiment a student determined the field of view to be 3mm. On observing onion epidermal cell he counted 11 cells across the field of view. Determine the size of each cell. (2marks)

11. The experiment set up below was used to investigate a certain aspect of photosynthesis.



(a) What aspect of photosynthesis was being investigated? (1mark)

(b) What is the role of soda lime in the set up? (1mark)

(c) How would you test whether photosynthesis had occurred? (1mark)

12. (a) Distinguish between continuous and discontinuous variations. (2marks)

(b) Identify the type of gene mutation represented by the following pair of words. (2marks)

(i) shirt instead of skirt.

(ii) hopping instead of shopping

13. Explain why it's difficult to calculate Respiratory Quotient (RQ) in plants. (2 marks)

14. State the causative agent of (2marks)

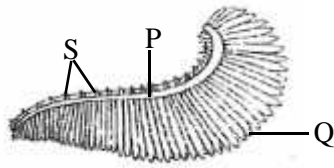
(i) Cholera

(ii) Amoebic dysentery

15. (a) Distinguish between growth and development. (2marks)

(b) State the importance of growth in living organisms. (1mark)

16. The diagram below represents an organ from a bony fish.



(a) Identify the organ (1mark)

(b) State the function of part labelled S (1mark)

(c) State two features that enable part Q to carry out its functions. (2marks)

17. Explain what happens when a wilting young plant is well watered. (3marks)

18. Describe continental drift as an evidence of evolution. (3 marks)

19. A male student hammered a nail far from the ground surface in a stem of a 5m tall tree. Two years later, the tree had grown taller and thicker. Explain where you would expect to find the nail. (4marks)

20. State three mechanisms that hinder self pollination in flowering plants. (3marks)

21. It was found that during germination of pea seeds 9.0cm^3 of oxygen was used while 9.2cm^3 of carbon (iv) oxide was produced.

(a) Calculate the respiratory quotient of the reaction that took place. (2marks)

(b) Identify the type of food substance that was metabolised. (1 marks)

22. Using photosynthetic theory explain the opening of stomata. (4marks)

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23. (a) Explain why tracheids are not efficient in transporting water up the plant. (1mark)

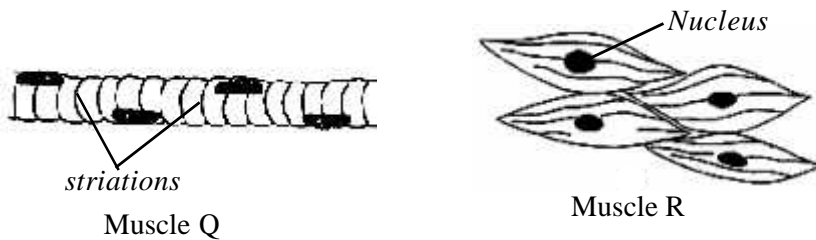
(b) What is the significance of xylem vessels being dead? (1mark)

24. State three methods that would be used to determine the diet of a wild animal in an ecosystem. (3marks)

25. What is the role of Antidiuretic hormone in osmoregulation? (2marks)

26. In an investigation, the pancreatic duct of a mice was blocked by tying it with a string. Explain how this affected the digestion of food. (2marks)

27. Below are diagrams of muscles found in mammals. Study them carefully and answer the questions that follow.



(a) Name the muscles. (2marks)

Q

R

(b) Give the function of muscle Q. (1mark)

(c) Name one organ in which muscle R is found. (1mark)

28. Name two organelles that you would expect to be abundant in glandular organs. (2marks)

29. Name the structures in which spores are formed in ferns and state where they are found. (2marks)

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