

Name _____ Index No. _____

Candidate's signature _____

Date _____

**231/1
BIOLOGY
PAPER 1
THEORY
JULY/AUGUST 2014
2 HOURS**

**MAKUENI DISTRICT JOINT FORM 4 EXAMINATION 2014
Kenya Certificate of Secondary Education
BIOLOGY
PAPER 1
2 HOURS**

INSTRUCTIONS TO CANDIDATES

- Answer all the questions in the spaces provided.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

Questions	Maximum score	Candidates score
1 – 29	80 mks	

This paper consists of 8 printed pages

Turn Over

1. State the function of the following cell organelles:-

(a) Golgi apparatus

(2mks)

(b) Ribosomes

(1mk)

2. Give a reason for each of the following actions when preparing temporary slides in microscopy work;

(a) Cutting thin sections

(1mk)

(b) Staining the sections

(1mk)

(c) Keeping the sections wet during preparation

(1mk)

3. What are the functions of a cell sap vacuole in a cell?

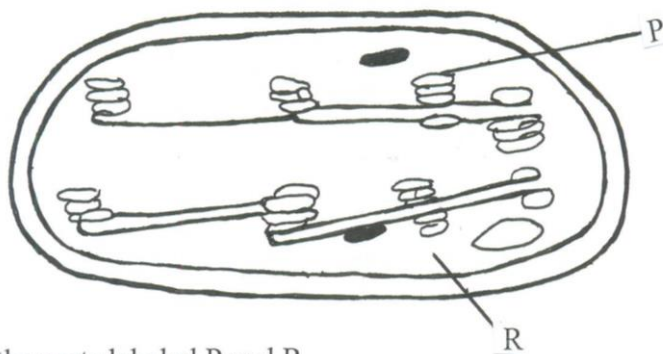
(3mks)

4. In actively photosynthesising cells, the sugars formed are quickly converted to starch. What is the biological advantage of it happening?

(2mks)

5. Why is osmosis regarded as a special kind of diffusion? (2mks)

6. The diagram below shows an organelle in a plant cell.

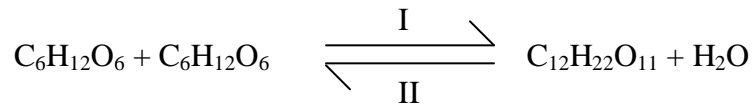


(a) Name the parts labeled P and R (2mks)

P _____
 R _____

(b) Write a word equation of the reaction taking place in R (1mk)

7. The following equation represents a biochemical reaction carried out in a laboratory



(a) Identify process I and II (2mks)

I _____
 II _____

(b) Briefly explain how the process is carried out in a laboratory. (1mk)

8. What are the primary functions of a stem? (2mks)

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9. State four adaptations of the xylem to its function (4mks)

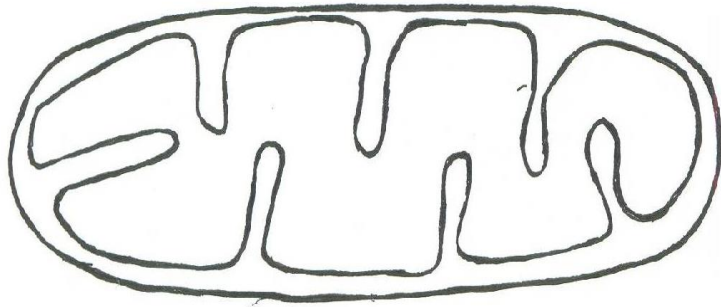
10. How is it possible that organisms in kingdom monera and protocista survive without a circulatory system? (2mks)

11. How does haemophilia lead to death of an individual? (3mks)

12. State two ways in which stomata are adapted to their function (2mks)

13. Counter current flow in fish is advantageous rather than parallel flow. Explain. (2mks)

14. Study the diagram below



(a) Identify the organelle

(1mk)

(b) How is the organelle shown above suited to its function?

(2mks)

15. Give three main reasons why plants do not require an elaborate excretory system like animals

(3mks)

16. What is the significance of an organism having:-

(a) A long loop of henle

(1mk)

(b) Few glomeruli

(2mks)

17. What advantage do birds have for excreting uric acid rather than ammonia. (2mks)

18. State four economic importance of organisms of kingdom fungi. (4mks)

19. A student carrying out an ecological study in a school came across an organism which he identified as belonging to class Diplopoda. State three characteristics that he used to place the organisms in that class. (3mks)

20. (a) Name the micro-organism found in the root nodules of leguminous plants (1mk)

(b) State the association of the micro-organisms named in (a) above and the plant. (1mk)

(c) What is the role of the micro-organism you have named in (a) above to the organism? (1mk)

21. Name three conditions that encourage cross pollination and fertilization (3mks)

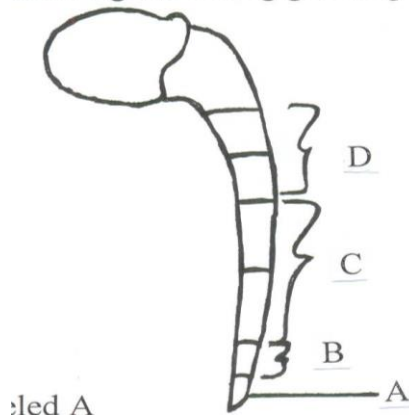
22. How can you differentiate between seed and a fruit? (1mk)

23. Give two disadvantages of sexual reproduction (2mks)

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

(b) State three conditions which may lead to loss of viability in a seed (3mks)

25. Below is a diagram showing a seedling growing in the school compound.



(a) Identify part labeled A (1mk)

(b) What are the characteristics of cells found in part labeled B? (3mks)

26. Name three disorder due to chromosomal mutation in human (3mks)

27. What are the importances of fossils in the study of evolution? (3mks)

28. State two functions of ear ossicles. (2mks)

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29. (a) Why do some individuals read a magazine at 9m length but are not able to read clearly if placed too close to their eyes? (2mks)

(b) How could the condition be corrected? (1mk)

ANSWERS:

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