

NAME.....INDEX NO.....
CANDIDATES' SIGNATURE.....DATE.....
SCHOOL.....

231/1
BIOLOGY
PAPER 1
THEORY
MAY/ JUNE 2014
TIME: 2 HOURS

EKSIKA JOINT EVALUATION TEST.

Kenya Certificate of Secondary Education (K.C.S.E)

231/1
BIOLOGY
PAPER 1
THEORY
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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** questions in the spaces provided above.
- 4) Answers must be written in the spaces provided on the question paper. Additional pages must not be inserted.

FOR EXAMINERS' USE ONLY.

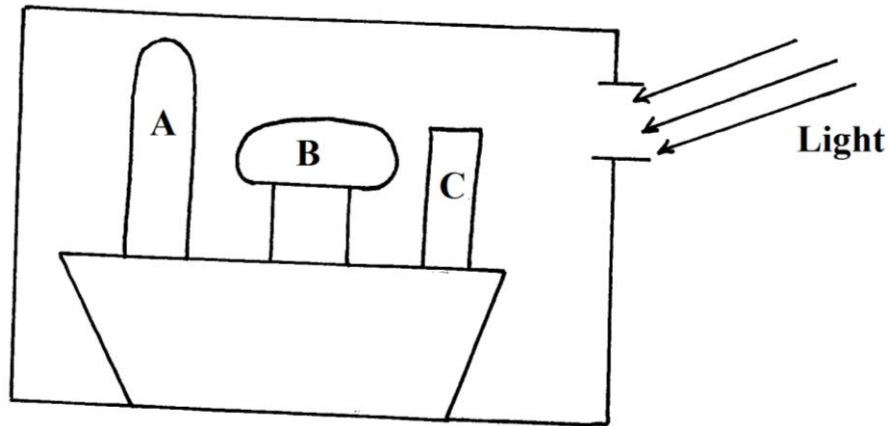
Question	Maximum Score	Candidates' Score
1 - 34	80	

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

1 Name the element obtained from insects by insectivorous plants. (1mk)

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2 An experiment was set up using seedlings as shown in the diagram below.



a) What was the aim of the experiment? (1mk)

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b) Why were seedlings B and C included in the experiment? (1mk)

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3 State the importance of the following processes that take place in human nephron.

a) Ultrafiltration (1mk)

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b) Selective reabsorption (1mk)

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4 State the functions of centrioles in a cell. (2mk)

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5 State **ONE** process that takes place during the light stage and **ONE** that takes place in the dark stage of photosynthesis. (2mks)

Light stage;

.....
.....

Dark stage;

6 Give a reason why a diet consisting of maize meal and cabbage if eaten over a long period may lead to Kwashiorkor in children. (2mks)

7 a) What is meant by non-disjunction? (1mk)

b) Give **ONE** example of continuous variations in humans. (1mk)

8 State the functions of the following parts of mammalian ear.

a) Ear Ossicles. (1mk)

b) Semi-circular canals. (1mk)

c) Eustachian tube. (1mk)

9 Give a reason why primary productivity in an aquatic Ecosystem decreases with depth. (1mk)

10 State **TWO** functions of the substance secreted by sebaceous glands. (2mks)

11 a) What is homeostasis? (1mk)

b) Name **3** processes in the human body in which homeostasis is involved. (3mks)

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12 Name the regions in plants where the following take place. (2mks)

i) Primary growth

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ii) Secondary growth.

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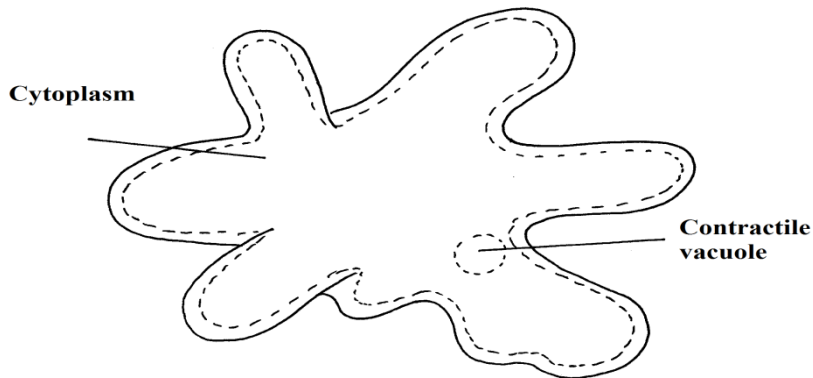
13 State **THREE** reasons for classifying organisms. (3mks)

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14 A student observing a drop of water under the high power objective lens of a microscope observed an organism and drew the following organism.



a) Suggest the kingdom to which the organism belongs. (1mk)

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b) Identify the organism. (1mk)

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c) Give an example of a disease caused by the organism. (1mk)

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15 In an experiment, the pituitary gland of a rat was removed.

a) State the effect this will have on the quantity of urine produced by the rat. (1mk)

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b) Give a reason for your answer in (a) above. (1mk)

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16 State the functions of the following parts of a light microscope. (2mks)

a) Objective lens

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b) Diaphragm

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17 State **THREE** structural differences between arteries and veins in mammals(3mks)

Arteries	Veins

18 State **TWO** ways in which plants compensate for their inability to move from one place to another. (2mks)

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19 Distinguish between parthenogenesis and parthenocarp. (2mks)

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20 In view of **modern** evolution , explain why Lamarkian theory is unacceptable(2mks)

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21 What is the functional difference between a tendon and a ligament? (1mk)

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22 Name **TWO** components of blood that are not present in the glomerular filtrate(2mks)

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23 a) A person was not able to see far objects clearly but could view near objects clearly. Name the eye defect the person was suffering from. (1mk)

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b) How can the defect be corrected? (1mks)

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24 a) Name **TWO** sites where gaseous exchange takes place in terrestrial plants. (2mks)

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b) State the importance of the following features in gaseous exchange.

i) Cartilage in the trachea. (1mk)

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ii) Moisture on the surface of the alveoli. (1mk)

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25 Explain how the following adaptations minimize the rate of transpiration.

a) Sunken stomata (1mk)

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b) Leaf drooping (1mk)

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26 State the role of decomposers in an ecosystem. (1mk)

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27 State **THREE** advantages of asexual reproduction in organisms. (3mks)

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28 Define the following terms as used in Ecology. (4mks)

i) Biosphere.

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ii) Population.

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iii) Standing crop.

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iv) Carrying capacity.

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29 a) Distinguish between Homologous and Analogous structures. (2mks)

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b) Give an example in each cases the structures in (a) above. (2mks)
Homologous structure.

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Analogous structure.

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30 Explain why digestion of starch stops shortly after food enters the stomach.(1mk)

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31 Explain why one fails to see clearly on moving from a brightly lit room to a poorly lit room. (2mks)

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32 What is the significance of meiosis. (2mks)

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33 Explain how the Erythrocytes are adapted to perform their functions. (3mks)

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34 State **ONE** function of each of the following parts of the brain. (2mks)

i) Hypothalamus.

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ii) Cerebrum.

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END

ANSWERS:

Order a copy of answers from www.schoolsnetkenya.com/order-e-copy

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