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
MAY/ JUNE 2014
TIME: 2 HOURS

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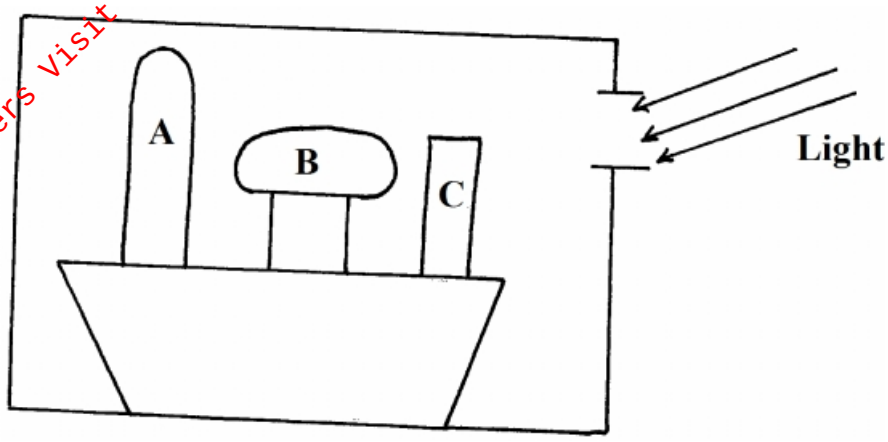
2 An experiment was set up using seedlings as shown in the diagram below.



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;

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Dark stage;

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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)

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

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

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

a) Ear Ossicles. (1mk)

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b) Semi-circular canals. (1mk)

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c) Eustachian tube. (1mk)

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

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

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11 a) What is homeostasis? (1mk)

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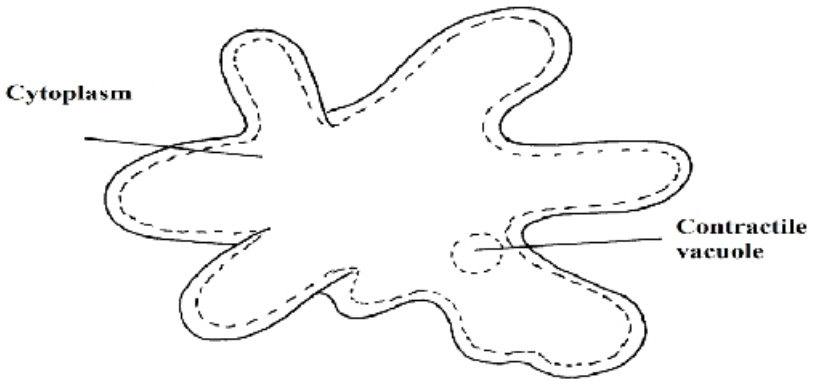
14 A student observing a drop of water under the high power objective lens of a microscope observed an organism and drew the following organism.



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 parthenocarpy. (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 glumerular 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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