

NAME.....INDEX NO.....

SCHOOL.....DATE.....

SIGN.....

231/1
BIOLOGY
PAPER 1
JULY/AUGUST 2013
TIME 2 HOURS

NAKURU DISTRICT TRIAL EVALUATION TEST 2013
Kenya Certificate of Secondary Education

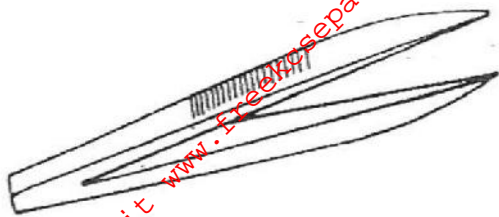
INSTRUCTIONS TO CANDIDATES

- Answer all questions in the spaces provided

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidates Score
1-24	80	

1. Identify the following apparatus and state its functions.



(i) Name.....(1mark)

(ii) Function (1mark)

2. A student measured the length of a mitochondrion on a photomicrograph whose magnification was X 40000 and found it to be 1mm. Calculate the actual size of the mitochondrion. (3 marks)

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3. (a) Name the kingdom whose members have a cell wall made of chitin (2mark)

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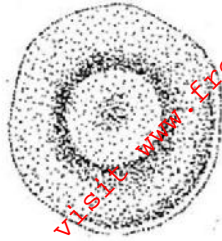
(b) Besides the abdomen, name the other body part of the members of arachnida (1mark)

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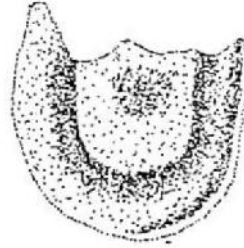
(c) State two main characteristic features of members of division Bryophyta (2 marks)

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4 A form one student obtained the results below in an experiment



Red blood cell
At start of experiment



Red blood cell
At end of experiment

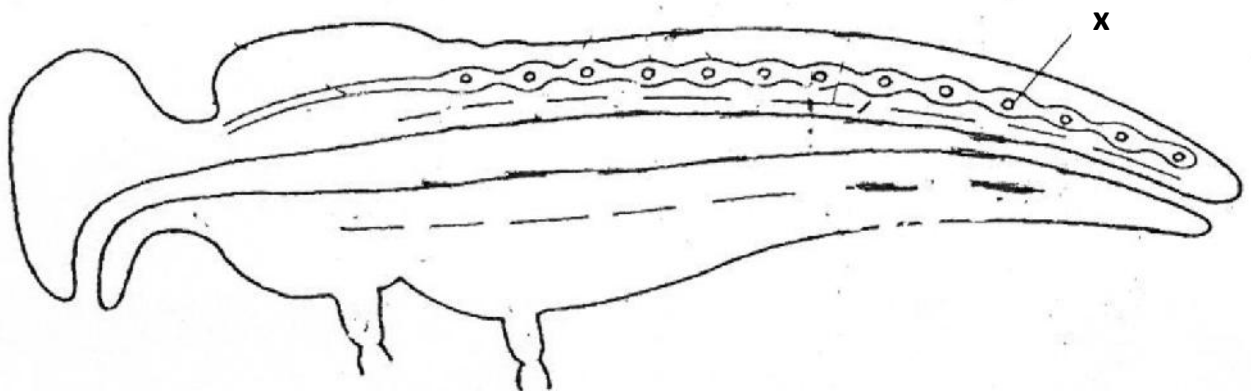
(a) Identify the physiological process under investigation. (1mark)

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(b) Account for the result obtained (3marks)

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5(a) The diagram below illustrates the flow of blood in a certain organism. By use of arrows, show the direction of blood flow. (1mark)



b) Identify structure X..... (1mark)

c) State 2 functions of haemolymph

(2marks)

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6 A certain species of flowering plants relies entirely on sexual reproduction for propagation. The chromosome number of its Ovary tissue is 16. Predict the chromosome number in

(a)(i) Male nucleus

(1mark)

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(ii) A cell of the endosperm

(1mark)

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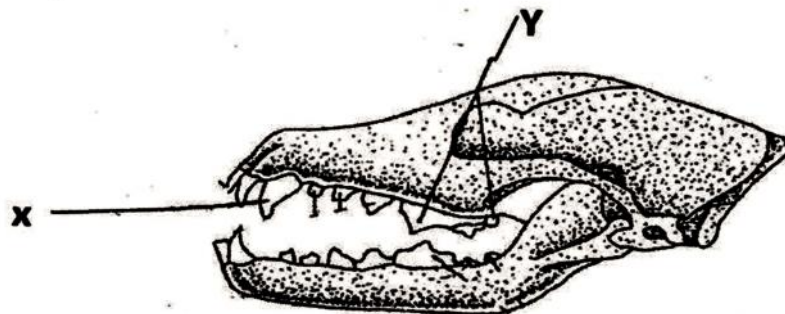
(b) How does the male nuclei reach the ovule after pollination

(2marks)

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7 The diagram below represents dentition formula of a certain animal



Identify the parts labeled X and Y giving a function for each

X.....
Function.....(2marks)

Y.....
Function.....(2marks)

8 State **THREE** causes of seed dormancy (3marks)

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9(a)(i) Name the principal site of gaseous exchange in the lungs of humans (1mark)

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(ii) State 2 ways in which the structure named in (a) (i) above is adapted to its function (2marks)

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(b) Apart from gaseous exchange give one other function of stomata (1mark)

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10. The equations below represent certain reactions in living organisms.



(a) Name the reactions represented by the equations (2 marks)

(i).....

(ii)

(b) Calculate the RQ for the reaction (II) (2marks)

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11 (a) In a plant breeding experiment red flowered plants were crossed with white flowered plants. Both plants were pure breeding. All F1 offspring's had pink flowers. Give a genetic explanation for this occurrence (1mark)

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b) The words given in the table below are analogous to mutations. Fill in the table the type of mutation in each case (2 marks)

	Intended	Actual	Mutation
(i)	From	Form	-----
(ii)	super	supper

(c) State ONE chemical agent that causes mutation.....(1mark)

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12 Explain what would happen if there is more water in the mammalian blood (4marks)

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13 (a) List three evidences that support organic theory of evolution (3 marks)

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(b) Why is Larmack's theory of evolution not acceptable?

(2marks)

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14 The diagram below represents a mammalian bone



(a) Name the bone.....(1mark)

(b) Name the type of joint formed by the bone at its anterior end **A** and the adjacent bone

.....(1mark)

(c) State the function of part labeled **B**.

(1mark)

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15 (a) In an accident, a victim suffered brain injury consequently the heart beat was affected. Name the part of the brain which was injured. (1 mark)

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(b) Differentiate between simple reflex action and conditioned reflex action (2marks)

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16 Explain why the carrying capacity for wild herbivorous animals is higher than that for cattle in a given piece of land. (2marks)

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(b) Name the bacteria found in root nodules of leguminous plants (1mark)

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c) What is the role of the bacteria named in (b) above (1mark)

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17 (a) In deamination, the amino group of the amino acid is normally removed to form ammonia. What happens to this ammonia? (1mark)

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(b) State **Three** reasons why plants do not have a problem of excretion (3marks)

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18 (a) State where the light stage of photosynthesis process occur. (1mark)

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(b) Give **TWO importances** of the light stage in photosynthesis (2marks)

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19 Name the three types of transpiration (3 marks)

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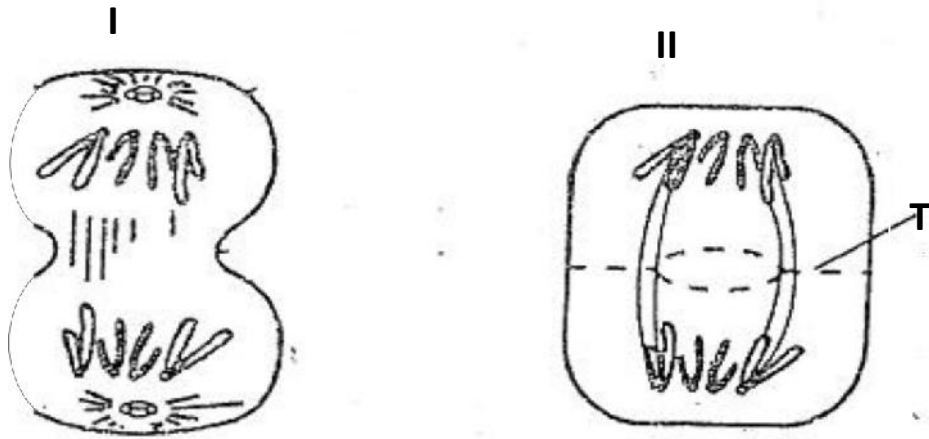
20 Name **THREE** support tissues found in woody plants (3 marks)

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21 The figure below represents cytoplasmic division in animal cell and plant cell.



a) Identify the phase of cell division..... (1mark)

b) Name the structure labeled **T**..... (1mark)

c) Name the part of the plant from which the cell labeled **II** was obtained (1mark)

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22. The table below gives information about some diseases. Complete the table (4marks)

Disease	Type of organism causing the disease	Mode of transmission
1.....	Plasmodium Spp.	Bites by Anopheles mosquito
2. Amoebiasis	Ingestion
3. Cholera	Vibrio cholerae
4. Typhoid	Taking in contaminated food or water

23. State one survival value of Nastic response (1mark)

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24 (a) State the major effect of decrease of juvenile hormone (1mark)

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(b) Explain the meaning of the term instar (1mark)

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