

Name

Index No.....

School

Candidate's Signature

Date

231/3

BIOLOGY

PAPER 3

(PRACTICAL)

JULY/AUGUST

TIME: 1³/₄ HOURS

LOWER YATTA DISTRICT JOINT EVALUATION EXAM- 2011

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

231/3

BIOLOGY

PAPER 3

(PRACTICAL)

TIME: 1³/₄ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided
2. Answer **ALL** the questions in spaces provided.
3. You are required to spend the first 15 minutes of the 1³/₄ allowed for this paper reading the whole paper carefully before commencing your work.

FOR EXAMINER'S USE ONLY

Question	Max. Score	Candidate's score
1	16	
2	13	
3	11	
TOTAL SCORE	40	

This paper consists of 5 printed pages.

Candidates should check to ensure that all pages are printed as indicated and no questions are missing

1. You are provided with 0.1% ascorbic acid solution; liquid N₁, N₂ and N₃.

Put 1cm³ of DCIP in each test tube labelled 1 to 4.

a) Using a dropper add drops of ascorbic acid to DCIP shaking after each drop; until it is completely decolourised. Count and record the number of drops used. Repeat the procedure with liquids N₁, N₂ and N₃. Record your results in table below.

Test tube	liquid	Number of drops
1	0.1% ascorbic acid	
2	N ₁	
3	N ₂	
4	N ₃	

(4 mks)

b) i) Calculate the percentage of ascorbic acids in N₁ and N₃.

(3 Marks)

N₁

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N₂

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ii) Give a reason why taking of fruits by people is preferred other than commercial juices.

(1 Mark)

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iii) Suggest the expected results if liquid N₂ was boiled and cooled before being added to DCPIP.

(2 Marks)

Give reason

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iv) How could the accuracy of results be influenced?

(1 Mark)

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c) i) Using reagents given carry out benedicts test of liquid N₂.

(4 Marks)

Food	Procedure	Observations	Deduction

ii) What conclusion can be drawn from the table above?

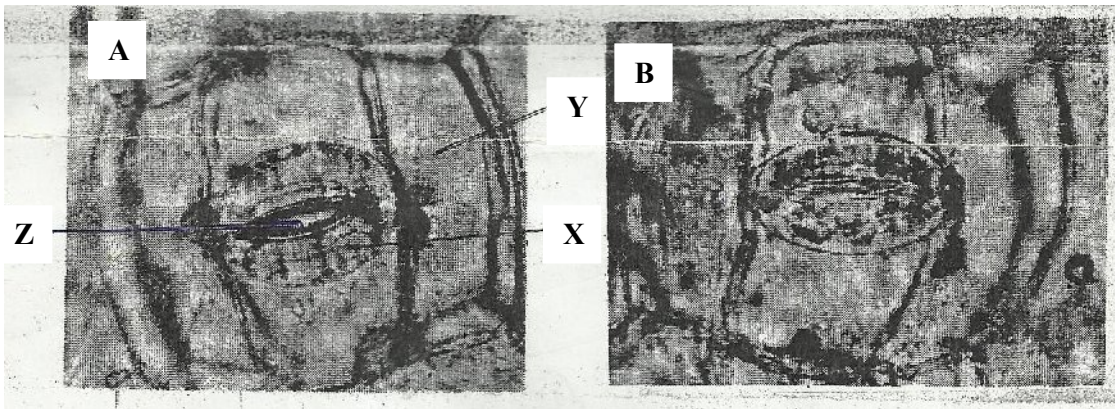
(1 Mark)

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2. The photographs below show a certain physiological process.



a) Name the physiological process shown by the photographs.

(1 Mark)

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b) Name cells X and Y.

(2 Marks)

X

Y

c) How is cell X adapted to function?

(2 Marks)

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d) i) Name **two** substances likely to be in part Z.

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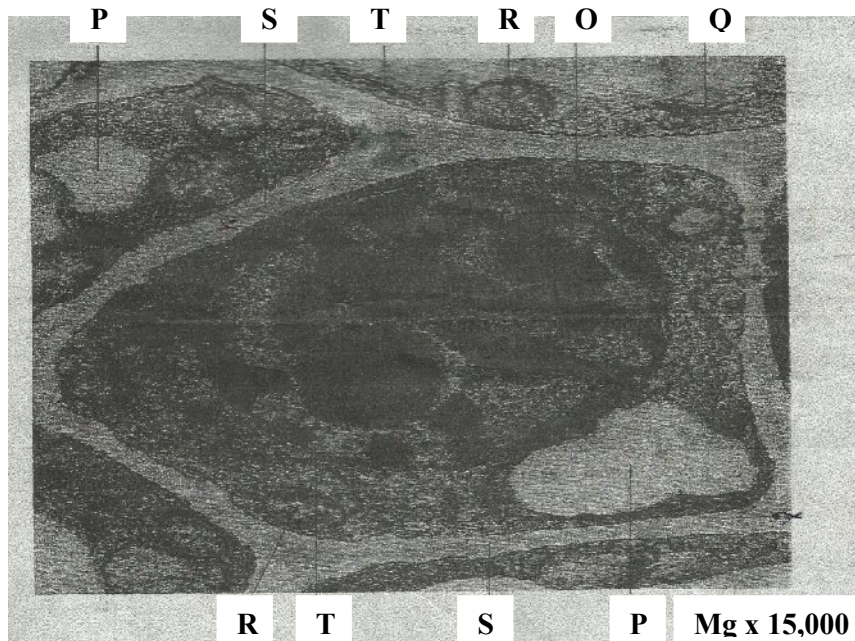
ii) Describe the significance of the process shown by figure A. (2 Marks)

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e) Describe how the appearance of figure B results at night. (4 Marks)

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3. Figure below is an electron micrograph showing a cell and parts of neighbouring cells in a tissue of an organism.



a) i) Are the cells from an animal or plant tissue? (1 Mark)

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ii) Give reasons for your answer. (2 Marks)

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b) Identify organelles shown in the table below and state the function of each.

Organelle	Identity	Function
P		
Q		
R		

(6 Marks)

c) Calculate the diameter of the cell between X and Y in micrometers.

(2 Marks)

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