

NAME: .....

INDEX NO: .....

SCHOOL: .....

DATE: .....

CANDIDATE'S SIGNATURE : .....

231/3  
BIOLOGY  
PAPER 3  
(PRACTICAL)  
JULY / AUGUST 2016  
TIME: 1¾ HOURS

2016

## FORM 3

Kenya Certificate of Secondary Education (K.C.S.E.)  
BIOLOGY  
PAPER 3  
TIME: 1¾ HOURS

### INSTRUCTIONS TO CANDIDATES:

- (i) Write your Name and Index Number in the spaces provided.
- (ii) Sign and write the Date of Examination in the spaces provided.
- (iii) Answer all the questions in the spaces provided.
- (iv) You are required to spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
- (v) Additional pages must not be inserted.
- (vi) This paper consists of 4 printed pages.
- (vii) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

### FOR EXAMINER'S USE ONLY

QUESTION	MAX. SCORE	CANDIDATE SCORE
1	20	
2	20	
TOTAL	40	



### SECTION A (40 MARKS)

Answer all questions in this section in the spaces provided.

1. You have been provided with a potato. You have as well been provided with a cork borer or a scalpel. Using this borer or scalpel, bore out or cut out 3cm long cylinders or cubes of potato tissues. Measure out, cut three 2cm pieces long.

- (a) Take the pieces of potato tissue and place each into three test-tube labeled A, B and C separately.

Fill test tube A with solution labelled L1.

Fill test tube B with solution labelled L2.

Test tube C is not filled with any solution.

Allow the experiment to remain standing for 30 minutes.

- (i) Remove one piece at a time, dry it with blotting or tissue paper and hence measure its length hence complete the table below. (3mks)

Test tube into which tissue was placed.	Measurement before putting into solution	Measurement after putting in solution.
A	2cm	
B	2cm	
C	2cm	

- (ii) Account for the observation made in the measurements for each tissue after 30 minutes in A, B and C above. (2mks)

A:.....

.....

B:.....

.....

C:.....

.....

- (b) (i) Crush the rest of the potato into a paste and carry out the following food tests:- (3mks)

Food substance tested	Procedure	Observation
(1) Starch	2m	2m
(2) Reducing Sugar	2m	2m
(3) Non-reducing sugar	2m	2m



(ii) Give one important nutritional use of the potato.

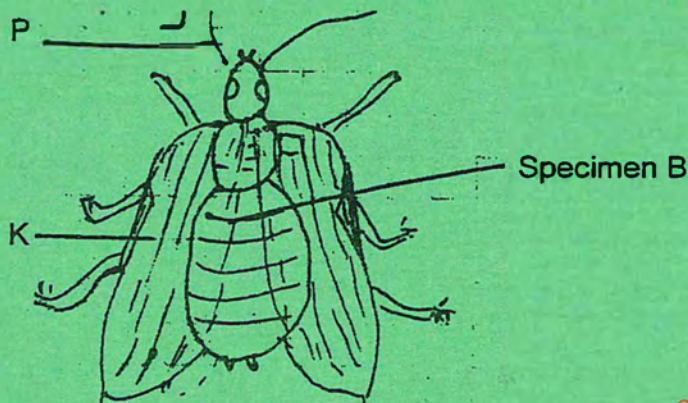
(1mk)

(iii) What would the following imbalances of such a food cause in the diet?

(a) Excess food:..... (1mk)

(b) Deficiency of the food:..... (1mk)

2. Below is an organism investigated during a biological study.



(a) Identify the phylum and class to which the organism belong.

Phylum:..... (1mk)

Reason:..... (2mks)

(b) Class:..... (1mk)

Reason:..... (2mks)

(c) State three differences between specimen B and man. (3mks)

(d) How is the specimen B adapted to living between cracks? (2mks)

(e) List two types of locomotion exhibited in the specimen B. (2mks)