

THE KENYA NATIONAL EXAMINATIONS COUNCIL  
Kenya Certificate of Secondary Education

**231/3 – BIOLOGY – Paper 3**  
**(PRACTICAL)**

**SEPT 2018 - PAPER 3**

Name ..... Index Number .....

Candidate's Signature ..... Date .....

**Instructions to candidates**

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) Answer **all** the questions in the spaces provided.
- (d) You are required to spend the first 15 minutes of the 1¼ hours allowed for this paper reading the whole paper carefully before commencing your work.
- (e) Additional pages must **not** be inserted.
- (f) **This paper consists of 7 printed pages.**
- (g) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (h) **Candidates should answer all the questions in English.**

**For Examiner's Use Only**

Question	Maximum Score	Candidate's Score
1	13	
2	14	
3	13	
Total Score	40	

**BIOLOGY PAPER 3**  
**REVISION KITS 2018**

1. Take 2 clean test tubes and into each add  $5\text{cm}^3$  of dilute hydrogen peroxide. Label the test tubes as **A** and **B**.  
 Cut 2 cubes of irish potato measuring  $1\text{cm}^3$  each. Boil one cube in a boiling tube with some water for about 5 minutes.  
 Drop the boiled cube into test tube **A** and unboiled cube in test tube **B**. State your observations

(a) Test tube **A** (1mk)

.....  
 .....

Test tube **B** (1mk)

.....  
 .....

(b) Account for your observations in  
 Test tube **A** (1mk)

.....  
 .....

Test tube **B** (2mks)

.....  
 .....

(c) Take a small piece of substance **Z** provided and add to it  $2\text{cm}^3$  of sodium hydrogen carbonate.  
 (i) State your observations (1mk)

.....  
 .....

(ii) Which physiological process in the body is illustrated above (1mk)

.....  
 .....

(iii) State the part of the body where the process takes place. (1mk)

.....  
 .....

(iv)What is the significance of the process (1mk)

.....  
 .....

(d) Put  $2\text{cm}^3$  of liquid labelled as **C** into a test tube. Squeeze some juice from specimen **X** into a beaker.  
 Draw some of the juice into a dropper. Add 3 drops of the juice into the test tube with solution **C**.

(i) State your observation. (1mk)

.....  
 .....

(ii) State the part of the human body where the physiological process demonstrated above occurs and the enzyme that carries out the process. (2mks)

Part of body

.....  
 .....

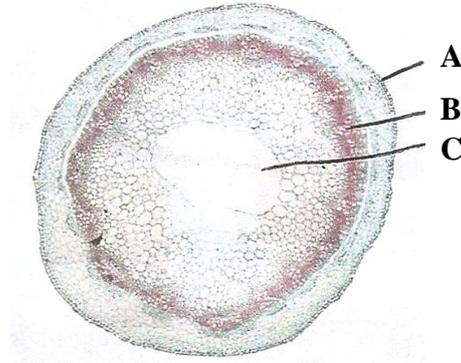
Enzyme

.....  
 .....

(iii) Which gland produces the enzyme stated in (ii) above. (1mk)

(iv) Which hormone stimulates the production of the enzyme stated in (II) above. (1mk)

2. The diagram below shows an electron micrograph of across section of a part of a plant.



a) State the class of the plant from which the section was obtained. (1mk)

b) Give a reasons for your answer (1mk)

c) Label the structures labelled **A**, **B**, and **C** and state **one** functions in each (6mks)

**A**.....

Function

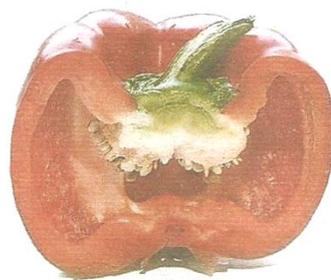
**B**.....

Function

**C**.....

Function

d) The diagram below represents a longitudinal section of a fruit.



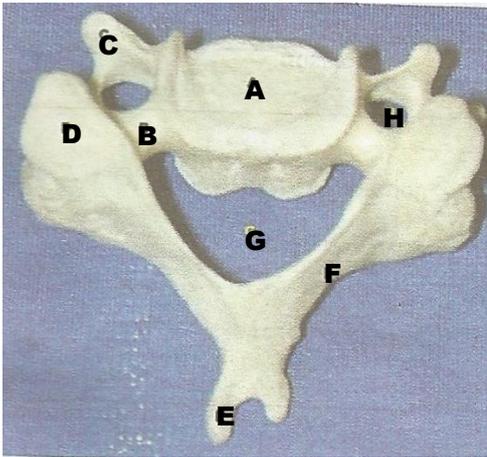
(i) State the type of fruit (1mk)

(ii) Give a reason for your answer in (i) above (1mk)

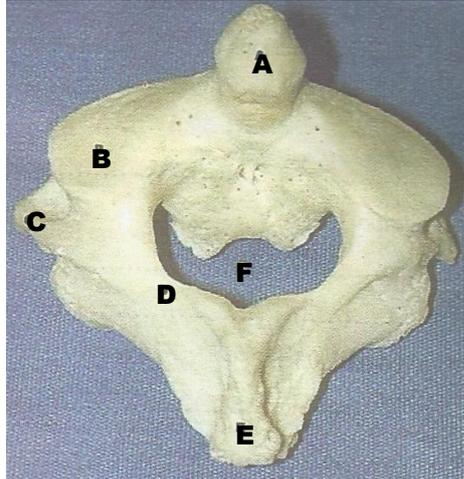
- (iii) State the type of placentation in the fruit and give a reason for your answer (2mks)  
Placentation

Reason

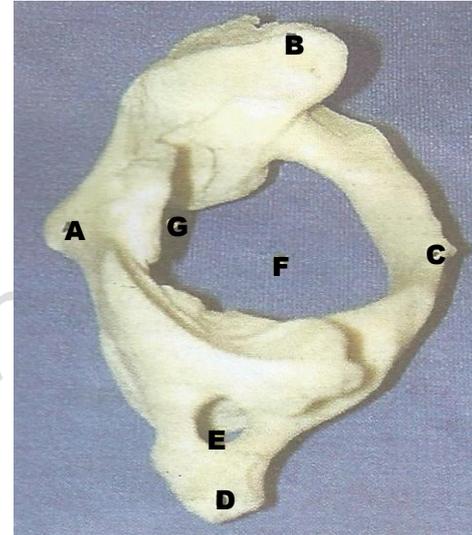
3. The photographs below are bones from the same mammal. Examine the bones and answer the questions that follow.



**Photograph 3.03**



**Photograph 3.02**



**Photograph 3.01**

- (a) Name the body region from which the bones were obtained. (1mk)  
.....
- (b) Name the bones in terms of 3.01, 3.02 and 3.03 in the correct order from anterior to posterior. (1mk)  
.....
- (c) Name and state the function of the following part labelled as
- (i) **F** in photograph 3.02 (2mks)  
.....
- (ii) **H** in photograph 3.03 (2mks)  
.....
- (iii) **A** in photograph 3.02 (2mks)  
.....
- (d) Identify the bones in photograph (3mks)  
**3.01** .....  
**3.02** .....  
**3.03** .....
- (e) Name the bones that articulate with bone in photograph 3.03 in the distal end (1mk)  
.....
- (f) How is structure labelled C in photograph 3.03 adapted to its function (2 mks)  
.....  
.....