

23.4.3 Biology Paper 3 (231/3)

Name ..... Index No. ....

**231/3**  
**BIOLOGY**  
**Paper 3**  
**(PRACTICAL)**  
**Oct./Nov.2006**  
**1<sup>3</sup>/<sub>4</sub> hours**

**THE KENYA NATIONAL EXAMINATIONS COUNCIL**  
**Kenya Certificate of Secondary Education**  
**BIOLOGY**  
**Paper 3**  
**(PRACTICAL)**  
**1<sup>3</sup>/<sub>4</sub> hours**

**INSTRUCTIONS TO CANDIDATES**

*Write your name and index number in the spaces provided at the top of this page.*  
*Answer all the questions.*  
*You are required to spend the first 15 minutes of the 1<sup>3</sup>/<sub>4</sub> hours allowed for this paper reading the whole paper carefully before commencing your work.*  
*Answers must be written in the spaces provided in the question paper.*  
*Additional pages must not be inserted.*

**For Examiner's Use Only**

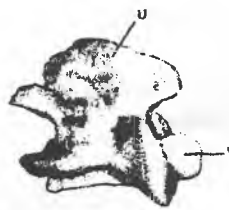
Question	Maximum Score	Candidate's Score
1	15	
2	12	
3	13	
<b>Total Score</b>	<b>40</b>	

**Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.**

1. The photographs below are of bones obtained from the same region of a mammalian body. Photographs labelled K are different views of the same bone while M and N are views of different bones.



Ventral view  
Posterior view  
Bone K



Side view  
Bone M

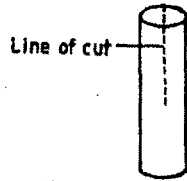


Posterior view  
Bone N

- (a) Name the region from which the bones were obtained. (1 mark)
- (b) Identify the bones. (3 marks)
- K .....
- M .....
- N .....
- (c) State three characteristic features of the bone in photographs labelled K. (3 marks)
- (d) Name the structures that fit in the opening labelled P in the photographs of bone K. (2 marks)
- (e) State the functions of the parts labelled S and T in photographs of bone K. (2 marks)
- (f) Name the structures that articulate with the parts labelled V in the photographs of bone K. (1 mark)

- (g) Name the parts labelled **U** and **X** in the photograph of bone **M** and **R** in the photograph of bone **N**. (3 marks)

2. You are provided with two pieces of plant material labelled specimen **D**. Using a scalpel cut a slit halfway through the middle of each piece as shown in the diagram below.



Place one piece in the solution labelled **L<sub>1</sub>** and the other in solution labelled **L<sub>2</sub>**. Allow the set up to stand for 30 minutes.

- (a) After 30 minutes remove the pieces and press each gently between the fingers.
- (i) Record your observations.
- L<sub>1</sub>** ..... (1 mark)
- L<sub>2</sub>** ..... (1 mark)
- (b) Examining the pieces.
- (i) Record other observations beside those made in (a) (i) above. (3 marks)
- (ii) Account for the observations in (a) (i) above. (5 marks)
- (ii) Account for the observations in (b) (i) above. (2 marks)

3. You are provided with three sets of seedlings labelled **A**, **B** and **C**. Examine them.

- (a) State the conditions under which each set was grown. (3 marks)
- (b) State four differences between the seedlings in set **A** and **B**. (4 marks)
- (c) (i) Name the phenomenon exhibited by seedlings in set **B**. (1 mark)
- (ii) Give a reason why plants exhibit the phenomenon named in (c)(i) above. (1 mark)
- (d) Name the response exhibited by the seedlings in set **C**. (1 mark)
- (e) Explain how the response named in (d) above occurred. (3 marks)