

Name: ..... Index No:...../.....

231/3  
**BIOLOGY**  
**Paper 3**  
**(PRACTICAL)**  
**Oct./Nov. 2011**  
 1¼ hours

Candidate's Signature:.....

Date:.....

**THE KENYA NATIONAL EXAMINATIONS COUNCIL**  
**Kenya Certificate of Secondary Education**  
**BIOLOGY**  
**Paper 3**  
**(PRACTICAL)**  
 1¼ hours

**Instructions to Candidates**

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. Answer **all** the questions in the spaces provided.
4. 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.
5. Additional pages must **not** be inserted.
6. **This paper consists of 8 printed pages.**
7. **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           | Maximum score | Candidate's Score |
|--------------------|---------------|-------------------|
| 1                  | 16            |                   |
| 2                  | 15            |                   |
| 3                  | 9             |                   |
| <b>Total Score</b> | <b>40</b>     |                   |

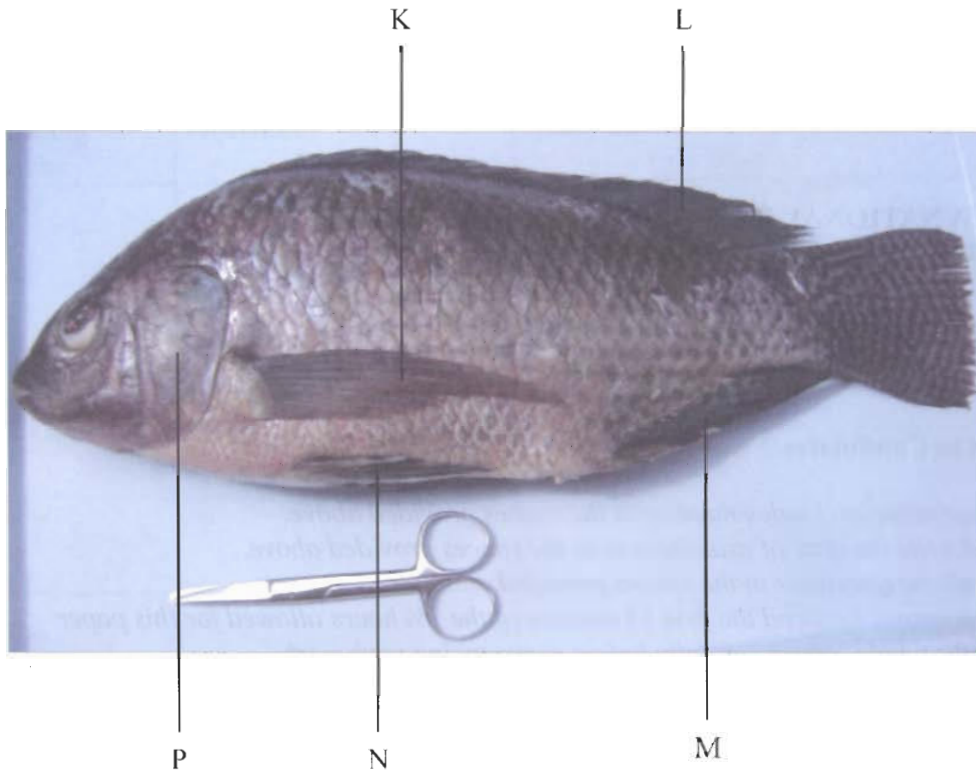


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Turn over

1 Below is a photograph of a fish. Examine it and answer the questions that follow.



(a) Name the parts labelled K, L, M and N. (4 marks)

- K .....
- L .....
- M .....
- N .....

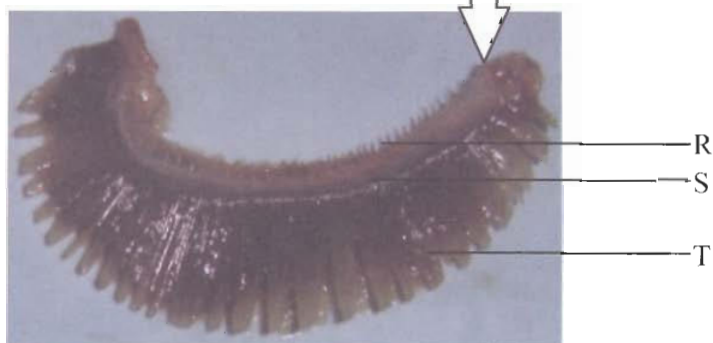
(b) The actual length of the pair of scissors next to the fish is 12.5cm. Using this information, calculate the actual length of the fish. (3 marks)

.....

.....

.....

- (c) Name the fins that prevent the following movements of fish during swimming. (3 marks)
- (i) Yawing: .....
- (ii) Pitching: ..... and .....
- (d) The photograph below shows structures visible after removing the part labelled P. The inset is a magnified view of one of the structures.



- (i) Name the parts labelled R, S and T. (3 marks)

R .....

S .....

T .....

- (ii) Explain how each of the parts named in (d) (i) above is adapted to its function. (3 marks)

.....

.....

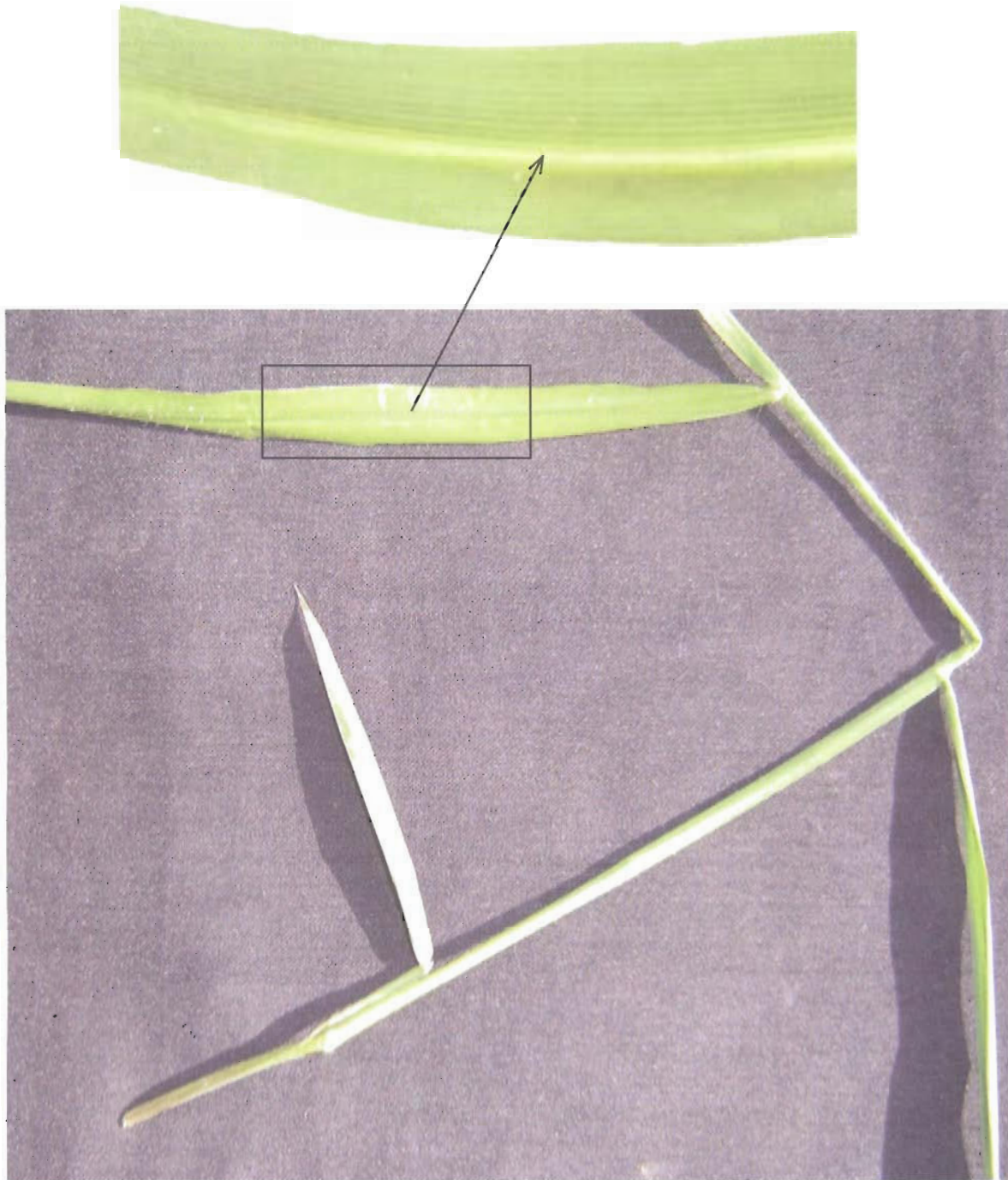
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- 2 The photographs labelled D and E show two types of leaves.



**PHOTOGRAPH D**



**PHOTOGRAPH E**

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- (a) With a reason, state the classes of plants from which the leaves in Photographs D and E were obtained. (4 marks)

Photograph D .....

Reason .....

Photograph E .....

Reason .....

- (b) State three features in the leaf shown in photograph D that adapt it to its functions. (3 marks)

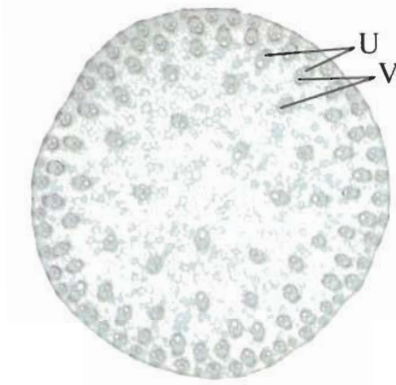
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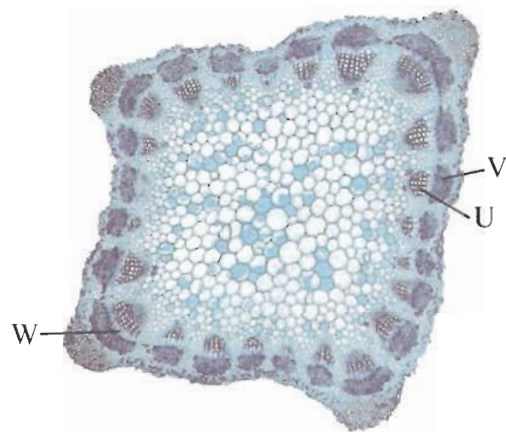
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- (c) The photographs below show the structures observed in cross sections of parts of two types of plants as seen under a light microscope.



**PHOTOGRAPH F**



**PHOTOGRAPH G**

- (i) Name the parts labelled U, V and W. (3 marks)

U .....

V .....

W .....

- (ii) Identify **five** differences between cross sections F and G and record them in the table below. (5 marks)

| Cross Section F | Cross Section G |
|-----------------|-----------------|
| .....           | .....           |
| .....           | .....           |
| .....           | .....           |
| .....           | .....           |
| .....           | .....           |
| .....           | .....           |
| .....           | .....           |

- 3 You are provided with a sample of food labelled **X** in solution form, solution **J** (Iodine solution), solution **K** (Benedict's solution) and solution **L** (Biuret's reagent). Carry out tests on the food sample to identify the type of food substances present. (9 marks)

| Food being tested for | Procedure | Observations | Conclusion |
|-----------------------|-----------|--------------|------------|
|                       |           |              |            |
|                       |           |              |            |
|                       |           |              |            |

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