

Name: Index Adm No
CLASS Candidate's Signature: Date:

231/3
BIOLOGY PRACTICAL
Paper 3
Time: 1 ³/₄ Hours

KAMDARA JET - 2016

INSTRUCTIONS TO CANDIDATES:

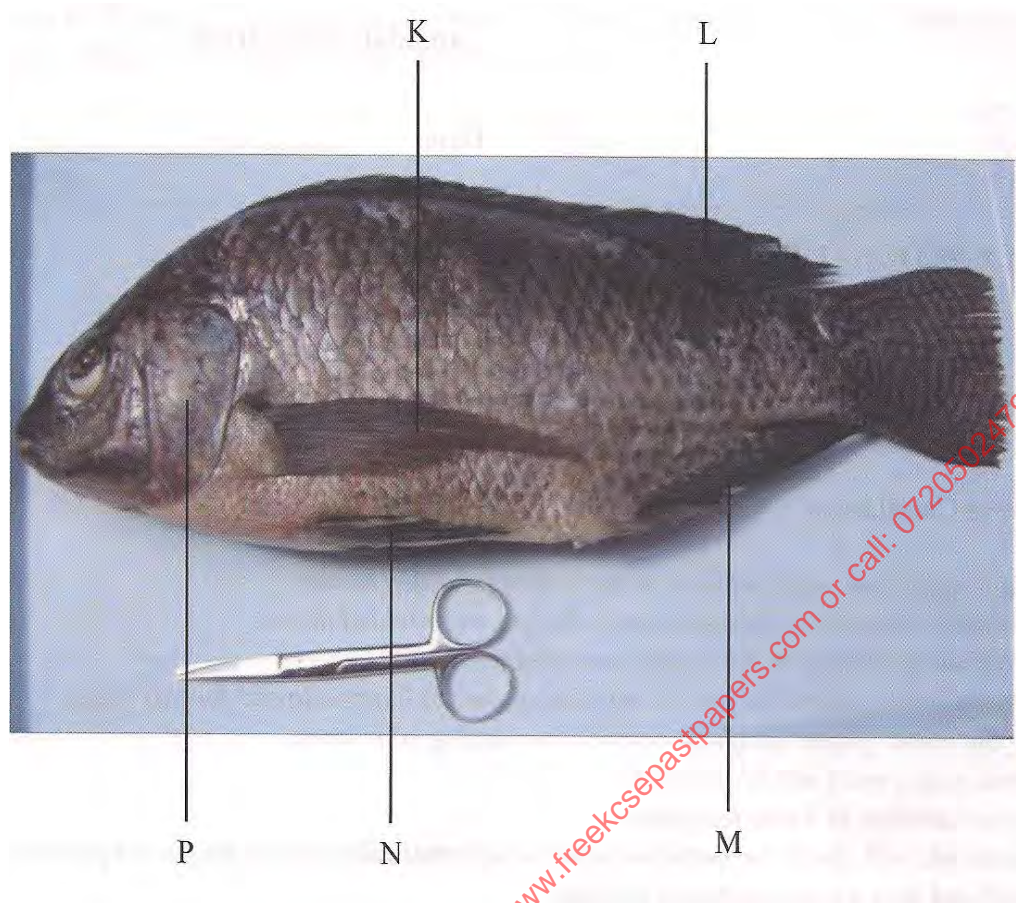
- Write your **name** and **index number** in the spaces provided at the top of this page.
- Sign and write **date** of examination in the spaces provided above.
- Answer **all** the questions
- You are required to spend the first **15 minutes** of the 1³/₄ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided in the question paper.
- Additional page must not be inserted.

For Examiner's Use Only:

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1	14	
2	13	
3	13	
TOTAL	40	

This paper consists of 8 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no question is missing.

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



a) List **three** observable features used to identify the class to which the organism shown on the photograph belongs [3mks]

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b) The actual length of the pair of scissors next to the fish is 13 cm. Using this information, calculate the actual length of the fish. (3 marks)

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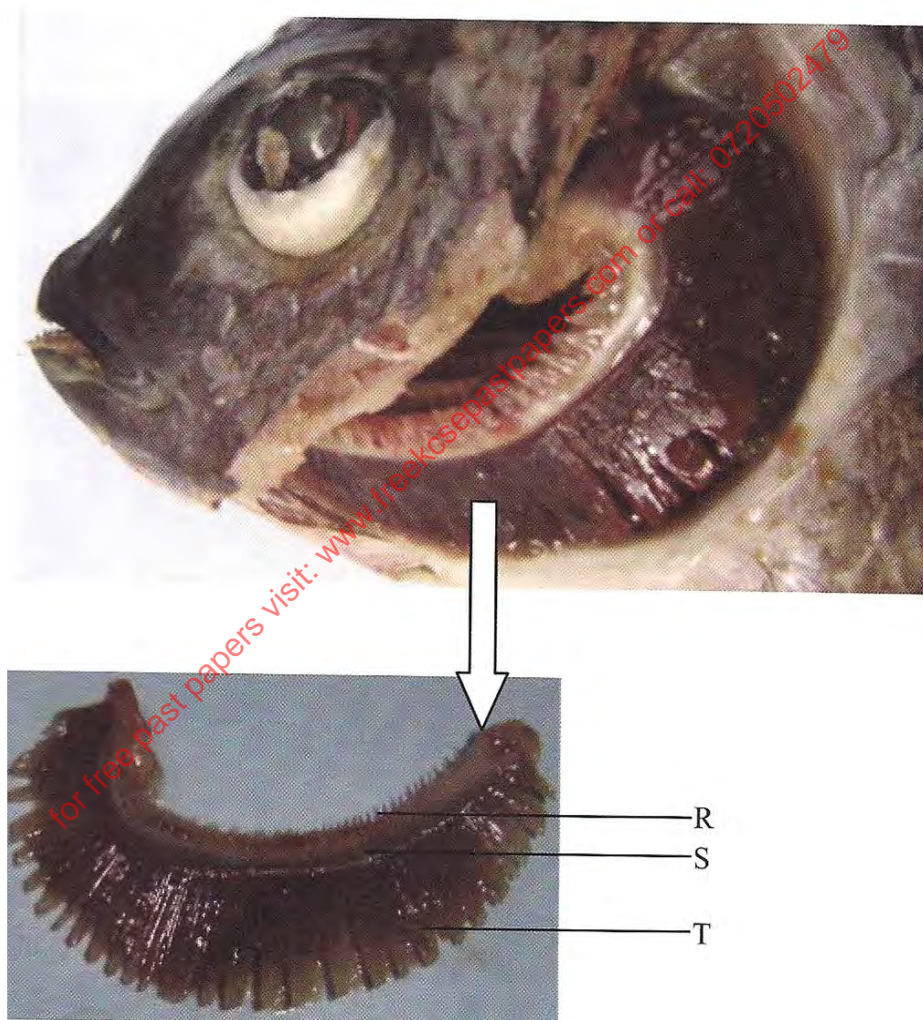
c) Name all the observable structures that prevent the following movements of fish during swimming.

(2marks)

i) Yawing.....

ii) Pitching.....

d) The photograph below shows structures visible after removing the part labeled P. The inset labeled figure 2 (a) is a magnified view of one of the structures.



i) Name the part labeled (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. You are provided with a visking tubing and

Solution A

Solution B

Solution C

Solution D

Label solution A as **Benedict's** solution using one of the blank labels provided.

Label solution B as **Iodine** solution using one of the blank labels provided. Measure 20 ml of solution D and pour into the boiling tube provided.

Reserve the rest of solution D for use in the next procedure.

Carefully open the visking tubing provided.

Tightly tie one end of the visking tubing with one of the pieces of thread.

Measure 10 ml of solution C and pour into the visking tubing.

Tightly tie the second end of the visking tubing.

Reserve the rest of solution C for use in the next procedure.

Ensure there is no leakage at both ends.

Rinse the visking tubing with the tap water provided.

Completely immerse the visking tubing into the boiling tube containing solution D and leave for 30 minutes.

i) Using the reagents provided, test for food substances in solution C and D (using portions of solution C and D reserved earlier.)

Record your work in the following table.

[8mks]

SOLUTION	FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION
C				
D				

- ii) After 30 minutes carefully remove the visking tubing from inside the boiling tube. Using the same reagents, test solution D in the boiling tube for food substances.

Record your work in the following table.

[2mks]

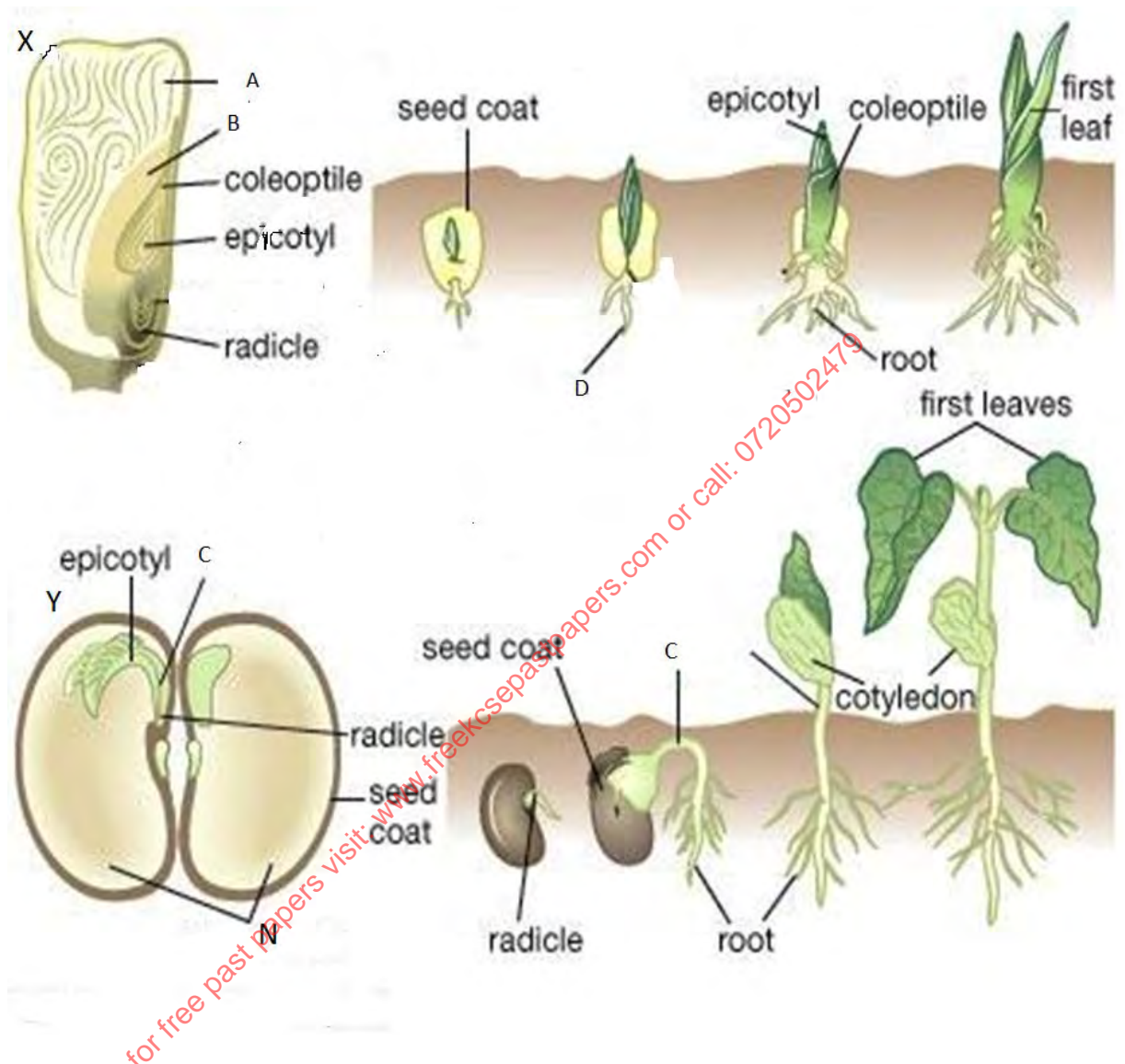
SOLUTION	FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION
D, in the boiling tube				

- iii) Account for the results obtained after carrying out the food tests on solution D before and after immersing the visking tubing containing solution C and leaving it for 30 minutes. [2mks]

- iv) Name the physiological process being investigated in the procedure above.

[1mk]

3. The diagram below illustrates photographs of plants undergoing a certain process. Study them carefully and answer the questions that follow.



a) i) Name the process illustrated on the photograph.

[1mk]

ii) State two differences in the way the process occurs as illustrated in X and in Y. [2mks]

b) i) State **two** roles of part C in the process illustrated above. [2mks]

ii) State two external factors that are necessary for the process above to take place. [2mks]

c) Name the parts labelled B and give its function

Name:..... [1mk]

Function..... [1mk]

d) Using observable features only, name the classes to which the specimen X and Y belong, giving **one** reason in each case. [4mks]

SPECIMEN	CLASS	REASONS
X		
Y		

END.