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Name Index Number /

231/3
BIOLOGY
Paper 3
(PRACTICAL)
Oct./Nov. 2015
1¾ hours

Candidate's Signature

Date



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



02315160

Instructions to candidates

- Write your name and index number in the spaces provided above.*
- Sign and write the date of examination in the spaces provided above.*
- Answer all the questions in the spaces provided.*
- You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- Additional pages must not be inserted.*
- This paper consists of 8 printed pages.*
- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
- 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	



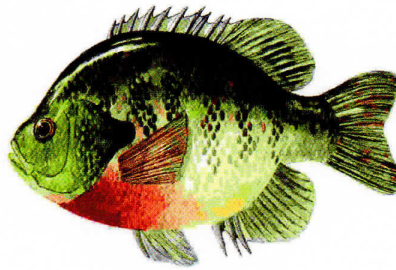
915035



- 1 Using the pictures of animals provided below, complete the construction of the dichotomous key by filling the blank spaces. (13 marks)



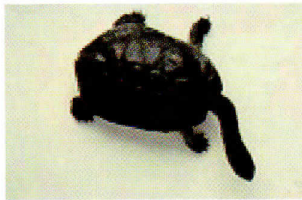
Eagle



Fish



Earthworm



Tortoise



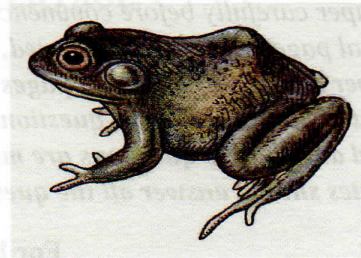
Octopus



Starfish



Spider



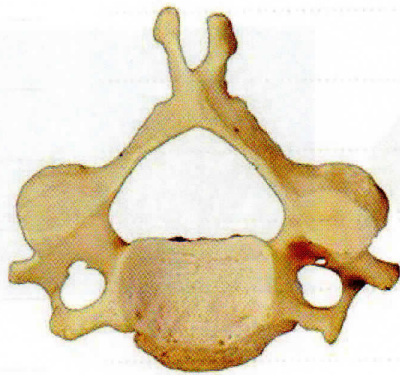
Frog

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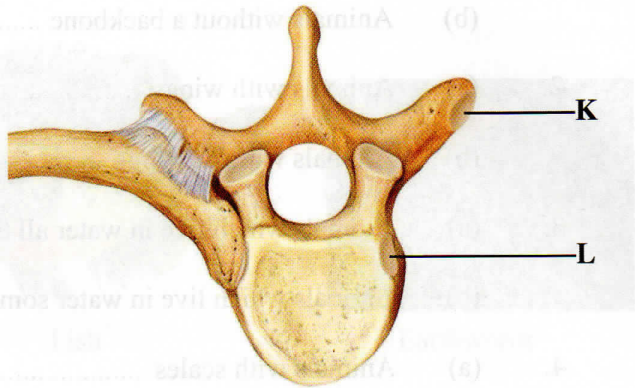


1. (a) Animals with a backbone **go to 2**
 (b) Animals without a backbone _____
2. (a) Animals with wings _____
 (b) Animals without wings _____
3. (a) Animals which live in water all the time _____
 (b) Animals which live in water some time _____
4. (a) Animals with scales _____
 (b) Animals without scales _____
5. (a) Animals with legs _____
 (b) Animals without legs **go to 7**
6. (a) Animals with six legs **Butterfly**
 (b) Animals with eight legs _____
7. (a) Animals with a shell **Snail**
 (b) Animals without a shell _____
8. (a) Animals with a jelly-like body _____
 (b) Animals without a jelly-like body _____
9. (a) Animals with a segmented body _____
 (b) Animals without a segmented body **Octopus**

2 Below are pictures of three mammalian vertebrae.



F



G



H

- (d) How does each of the parts of a vertebra enable a mammalian skeleton to carry out its functions? (4 marks)

This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- 3 You are provided with a 250 ml beaker, four test tubes, solutions labelled **D** and **E**, iodine and Benedict's solutions.

Half fill the beaker with the hot water provided to create a hot water bath.

- (I) Label the four test tubes as follows:
- (i) test tube 1, **D+Iodine**
 - (ii) test tube 2, **D+E+Iodine**
 - (iii) test tube 3, **D+Benedict's solution**
 - (iv) test tube 4, **D+E+Benedict's solution**
- (II) Put 1 cm³ of solution **D** in each of the four test tubes.
- (III) To the **D+Iodine** test tube, add one drop of iodine solution and shake to mix.
- (IV) To the **D+E+Iodine** test tube, add 1 cm³ of solution **E** and two drops of iodine solution. Shake to mix.
- (V) To the **D+Benedict's solution** test tube, add 1 cm³ of Benedict's solution and shake to mix.
- (VI) To the **D+E+Benedict's solution** test tube, add 1 cm³ of solution **E** and 1 cm³ of Benedict's solution. Shake to mix.
- (VII) Observe the changes in each of the four test tubes.
- (VIII) Put all the four test tubes in the hot water bath and observe carefully for about five minutes.

- (a) Record the observations and conclusion for each of the four test tubes in the table below. (8 marks)

NO	TEST TUBE	OBSERVATION	CONCLUSION
1	D+Iodine		
2	D+E+Iodine		
3	D+Benedict's solution		
4	D+E+Benedict's solution		

- (b) What was the role of each of the following in the experiment?

- (i) solution E (1 mark)

.....

- (ii) hot water bath. (1 mark)

.....

- (c) Give the identity of E in human beings. (1 mark)

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- (d) Explain the observations made on the reagents tested with Benedict's solution. (2 marks)

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