

NAME.....INDEX NO.....

SCHOOL.....

CANDIDATES SIGNATURE.....

DATE.....

231/3

BIOLOGY

PAPER 3

PRACTICAL

JULY/AUGUST 2010

2 HOURS

FORM FOUR LAICOMET 2010

231/3

BIOLOGY

PAPER 3

INSTRUCTION TO CANDIDATES:

- Write your name and index number in the spaces provided at the top of this page. Sign and write the date of examination in the spaces provided
- Answer **all** questions.
- You are required to spend the first 15 minutes of 2 hours allowed for this paper reading the whole paper carefully before commencing your work
- Answers must be written in spaces provided
- Additional pages **must not** be inserted

FOR EXAMINERS USE ONLY

QUESTION	MAX SCORE	CANDIDATE'S SCORE
1	14	
2	16	
3	10	
TOTAL	40	

1. (a) You are provided with specimens labeled X and Z and some reagents. Perform food tests to identify the foods present in the specimens

SPECIMEN X

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

(4 mks)

SPECIMEN Z

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

(4 mks)

b) Suggest how you would combine the two specimens to improve the quality of the specimen Z to make it a better food for human consumption (2mks)

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c) (i) Suggest the type of deficiency disease a child would suffer from if it was fed on specimen X only (1mk)

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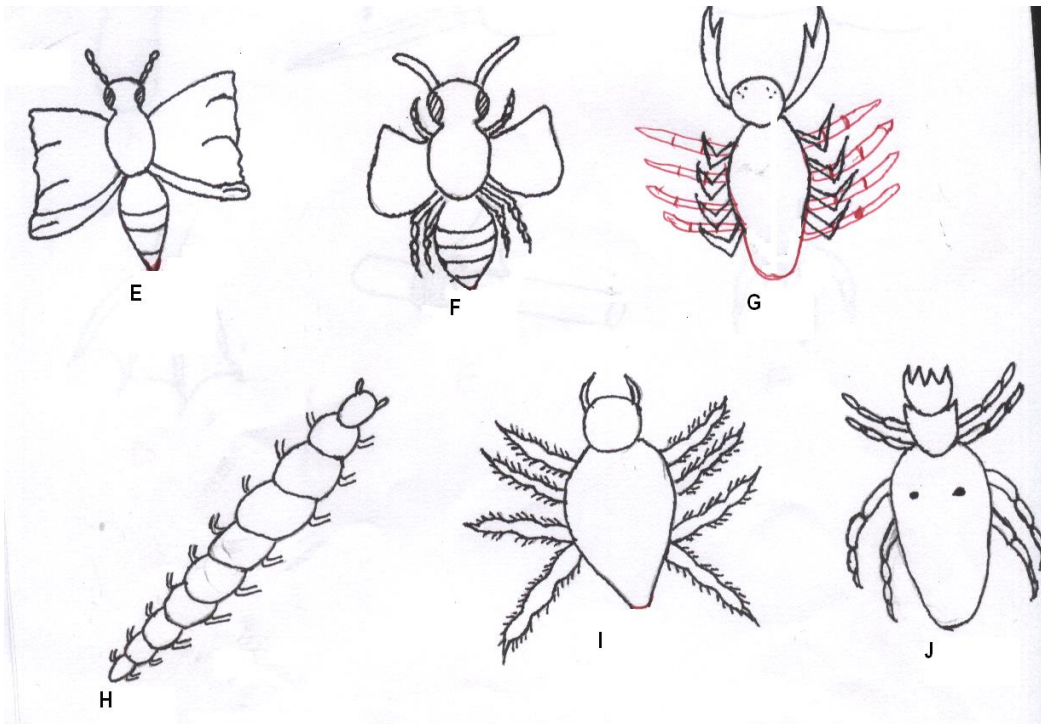
(ii) Suggest a remedy for the deficiency (1mk)

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2. Below are diagrams of specimens that were observed by a student during an ecological study



a) Identify the classes into which specimens F, G, H and I belong. Give reasons for your answers

<u>specimen</u>	<u>class</u>	<u>reason</u>
F		
G		
H		
I		

(4mks)

b) Identify one observation characteristic which makes the organisms E, G, I and J survive better in their environments.

Give a reason in each case

Specimen	characteristic	reason
E		
G		
I		
J		

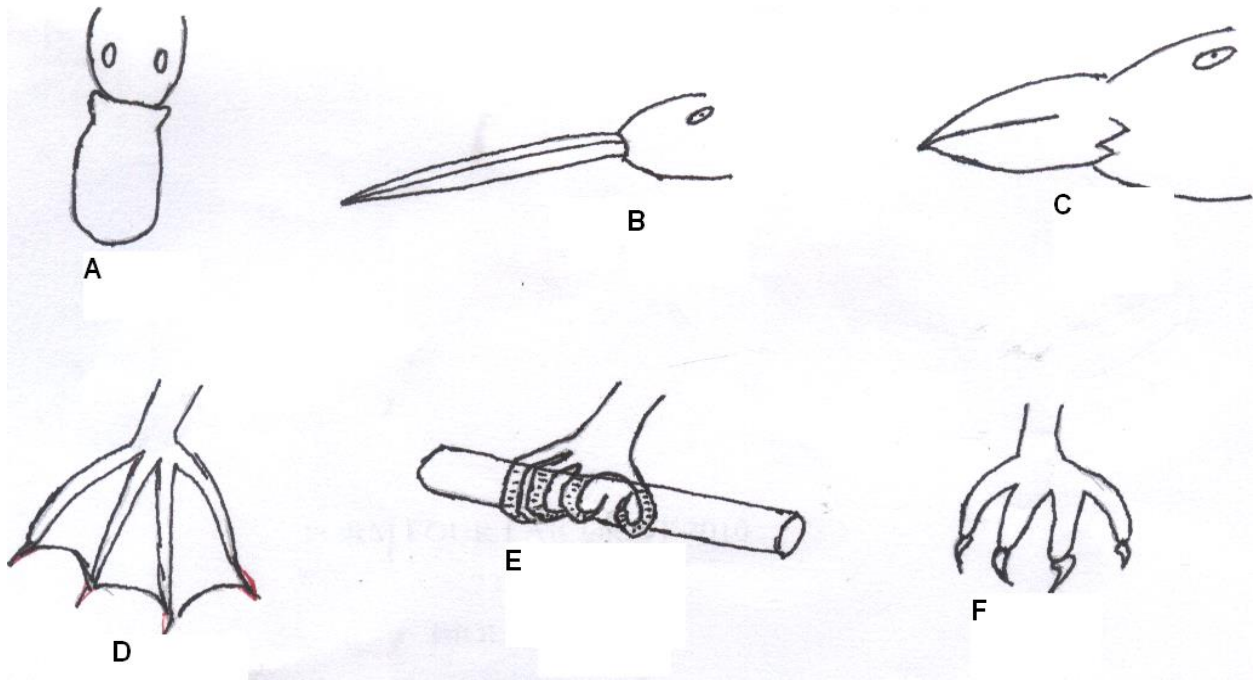
(4mks)

c) The following is a dichotomous key which the students constructed to identify the organisms F, G, H, I. Use the key to identify the class for organisms. Write the steps followed in each case

1. a) Animals with wings.....go to 2
 b) Animals without wings.....go to 3
2. a) Animals with one pair of wings.....INSECTA
 b) Animals with two pairs of wings.....HYMENOPTERA
3. a) Animals with two body parts.....go to 4
 b) Animals with several body partsDiplopoda
4. a) Animals with cheliceraCRUSTACEA
 b) Animals without chelicera.....ARACHNIDA

Organism	steps followed	identity
F
G
H
I

3. The diagrams below represent body parts of some organisms (animals). Study them and answer the question that follow



a) (i) Suggest the type of food eaten by organisms with the parts labeled A, B, C and F

	<u>Food</u>	<u>Reason</u>
A		
B		
C		
F		

(4mks)

(ii) With reasons, suggest the likely habitat of the organism from which the parts labeled D and E were obtained

Part	Habitat	Reason
D		
E		

(4mks)

b) (i) Suggest the type of evolution that is exemplified by the organisms labeled D, E and F. Give reason for your answer

The type of evolution (2mks)

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Reason

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(ii) Suggest the significance of the above named type of evolution for the organism (1mk)

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b) (i) Explain briefly the meaning of analogous structures (1mk)

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(ii) Give one example of analogous structure (1mk)

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