

FORM 4 BIOLOGY 231/3
(Practical)
JANUARY SERIES 2016
TIME: 2 HOURS

<i>Date done</i>	
<i>Invigilator</i>	
<i>Date returned</i>	
<i>Date revised</i>	

Instructions to Candidates

- You are required to spend the first 15 minutes of the time allocated for this paper, reading the whole paper carefully before commencing your work.
- Students may be penalized for recording irrelevant information and for incorrect spelling of technical terms.
- Answer all questions in the spaces provided; avoid untidy rubbings, which shall be penalized.
- Use only pencil to draw diagrams where necessary.

FOR EXAMINER'S USE ONLY

Question	Max. Score	Candidate's Score
1	17	
2	13	
3	10	
TOTAL	40	

1. You are provided with specimen X, Y, Z and K. Study them then use them to answer the questions that follow.

(a) (i) Name the subdivision to which specimen X,Y,Z belong. (1mk)

(ii) Identify the class to which each specimen belongs. (3mks)

Specimen	Class
X	
Y	
Z	

(iii) Give reasons for each of your answers in (a) (ii) above. (3mks)

Specimen X

Specimen Y

Specimen Z

(b) Differentiate between the leaves of specimen X and Z. (2mks)

Leaves of X	Leaves of Z

(c) Differentiate between the stems of specimen X and Z. (2mks)

Stem of X	Stem of Z

(d) State adaptations of X to its habitat. (2mks)

(e) Cut a piece of stem from specimen K and dissect it through longitudinally to produce two pieces. Put one piece in solution P and another in solution N. Remove the pieces after 30 minutes. Account for the appearance of each piece in each solution.

Piece in solution N (2mks)

Piece in solution P (2mks)

2. You are provided with suspension A, Iodine solution, Benedict's solution, Dilute Hydrochloric acid, Sodium Hydrogen Carbonate solution.

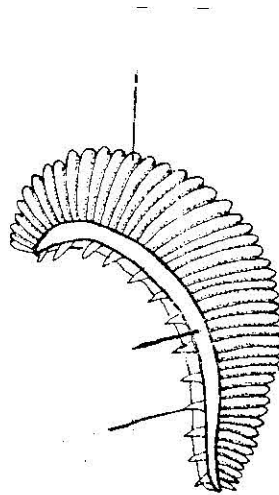
(a) Using the reagents provided, design food tests to establish the food present in suspension A. (12mks)

Food substance	Procedure	Observation	Conclusion

(b) Name one enzyme that may be required to digest the contents of suspension A in the alimentary canal of the mammal. (1mk)

(c) State the role of hydrochloric acid in the experiment. (1mk)

3. The diagram shown below represents a part cut and removed from a certain specimen.



(a) Identify the part represented above. (1mk)

(b) Name parts R, M and Q on the diagram. (3mks)

(c) State two functions of the part above in the specimen from which it was removed. (2mks)

(d) Give the adaptations of the part shown above to its functions. (4mks)