



FORM 4 BIOLOGY PP. 231/3

JULY SERIES 2017

TIME: 1 ¾ HOURS

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

Instructions

- Write your name, class number, admission number in the spaces provided
- Answer all the questions in the spaces provided.
- You are required to spend the 15 minutes of 1¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

Questions	Max. Score	Candidate's Score
1	18	
2	11	
3	11	
TOTAL	40	

1. You are provided with specimen K and hydrogen peroxide.

(a) (i) What part of plant is specimen K? (1mk)

.....

(ii) Give a reason for your answer. (1mk)

.....

.....

(b) State two roles played by specimen K in the life cycle of the plant from which it was obtained. (2mks)

(i)

.....

(ii)

.....

(c) Cut two equal cubes whose sides are about 1cm from specimen K. Place one of the cubes in a boiling tube labeled X. Crush the other cube using a mortar and pestle. Place the crushed material in another boiling tube labeled y. To each of the boiling tubes, add 4ml hydrogen peroxide.

(i) Record your observations (2mks)

(ii) Account for the results in (c) (i) above. (2mks)

(d) Peel half of specimen K and crush in a mortar. Decant to obtain an extract. Use the reagents provided to test for various food substances in the extract obtained from the crushed specimen. Fill the table below. (9mks)

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

2. Study the photographs P1 to enable you answer the questions that follow. The potted seedlings were placed on the window edge for 72 hours.

(a) On the diagram, use arrows to show the direction from which light was coming.

(1mk)

(b) What was the aim of the experiment?

(1mk)

(c) What does the response demonstrate?

(1mk)

(d) Suggest a control experiment for the set-up.

(1mk)

(e) Explain the mechanism of the response shown above.

(3mks)

- (f) In the diagram below, a bean seedling was pinned in a horizontal position inside a clinostat.

Explain what you would expect to observe after 48 hours if the clinostat was:

- (i) Not rotating (2mks)
- (ii) Rotating slowly (2mks)
3. Figure P2 is a photograph of a dissected mammal. Study it and answer the questions that follow.

(a) Name each of the structures marked A, B and C. (3mks)

A –

B –

C –

(b) In which of the labeled structures do the following processes occur? (quote letters) (3mks)

(i) Digestion of fats begins?

(ii) Most absorption of water occur?

(iii) Most absorption of glucose occur?

(c) State the functions of the following parts in digestion. (2mks)

F –

G –

(d) From observable features only, state one adaptation of D to its functions. (1mk)

(e) Explain why caecum and appendix is longer in herbivores than in carnivores. (2mks)

Name Adm No..... Class..... No..... Sign
