

EXAMINATION NO.: _____

THE MALAWI NATIONAL EXAMINATIONS BOARD

2005 MALAWI SCHOOL CERTIFICATE OF EDUCATION EXAMINATION

BIOLOGY

Friday, 14 October

Subject Number: M022/II

Time Allowed: 2 hour sessions
8:30 am onwards

PAPER II

(40 marks)

Practical

Instructions

1. This paper contains 6 pages. Please check.
2. Write your Examination Number at the top of this page and of every sheet.
3. Answer all the four questions in the spaces provided on the question paper. The maximum number of marks for each answer is indicated against each question. A pencil should be used for all drawings.

1. You are provided with a small fish.

- a. (i) Draw the fish and label any two locomotory structures.

(4 marks)

- (ii) Calculate the magnification of your drawing.

(2 marks)

- b. (i) Describe the shape of the fish.

(1 mark)

- (ii) What is the advantage of this shape to the fish?

(1 mark)

- c. How does drying preserve the fish?

(1 mark)

- d. State two nutrients that human beings get from fish.

(2 mark)

Continued/...

2. The **table** below shows the effect of storage time on amount of vitamin C in potatoes. Use it to answer the questions that follow.

Storage Time (months)	Amount of Vitamins (mg/100 g)
0	30
2	20
4	15
6	10
8	8

- a. Using the graph paper provided on **Page 4**, plot a graph of amount of vitamin C against time. (6 marks)

- b. What is the effect of storage time on vitamin C?

(1 mark)

- c. How much vitamin C would be found in the potatoes at 10 months?

(1 mark)

- d. What disease is prevented by vitamin C in human beings?

(1 mark)

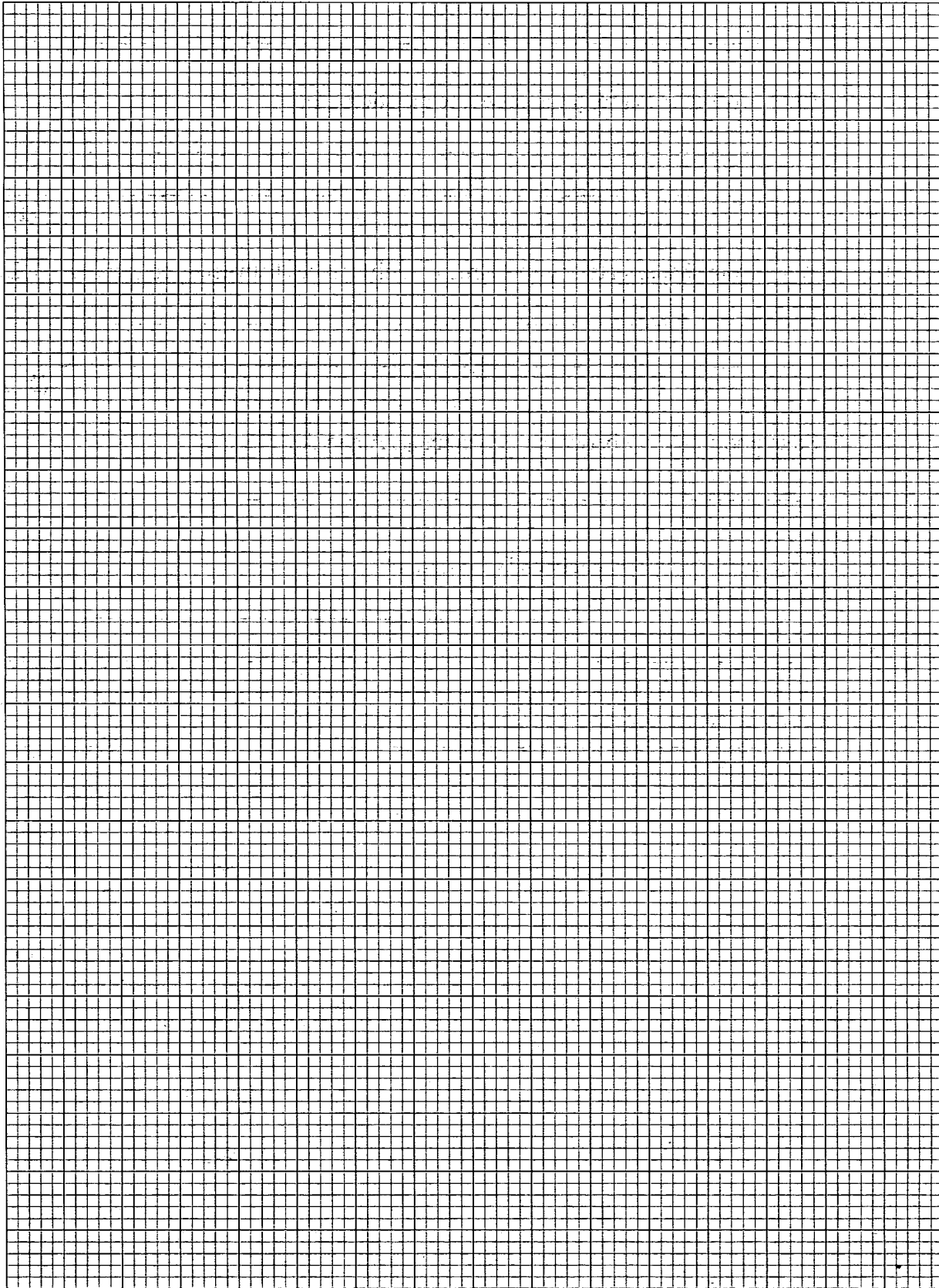
- e. Apart from potatoes, mention **two** other sources of vitamin C.

(2 marks)

Continued/...

2. (Continued)

a. (Graph plotting)



3. You are provided with specimens A and B.

a. (i) Which one is a stem?

_____ (1 mark)

(ii) Give a reason for your answer to question a(i).

_____ (1 mark)

b. Apart from shape, state any **two** structural differences between specimens A and B.

_____ (2 marks)

c. State **one** similarity between the specimens A and B.

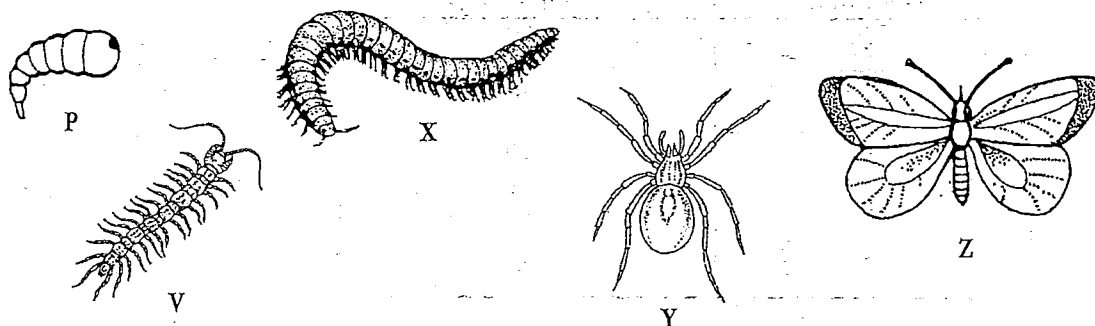
_____ (1 mark)

d. How would you test specimen B for starch?

_____ (4 marks)

Continued/...

4. The figure below shows five invertebrates and a dichotomous key. Use it to answer the questions that follow.



1. Wings absent See 2
Wings present butterfly
2. Legs present See 3
Legs absent Larvae
3. More than 8 legs See 4
Eight legs present Tick
4. Long antennae Centipede
Short antennae Millipede

- a. Identify the invertebrates:

P _____ V _____
X _____ Y _____
Z _____ (5 marks)

- b. What two features are common to organisms labelled X and V?

(2 marks)

- c. (i) Which of the organisms in (a) is still in the developmental stages?

_____ (1 mark)

- (ii) Which of the organisms in (a) can transmit diseases to tamed animals?

_____ (1 mark)

END OF QUESTION PAPER

NB: This paper contains 6 pages.