Centre Number	Candidate Number

Candidate Name _____

International General Certificate of Secondary Education
UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE

BIOLOGY 0610/5

PAPER 5 Practical Test

MAY/JUNE SESSION 2000 1 hour

Candidates answer on the question paper.
Additional materials:
As listed in Instructions to Supervisors

TIME 1 hour

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.
Answer **both** questions.
Write your answers in the spaces provided on the question paper.
Use sharp pencils for your drawings. Coloured pencils or crayons should not be used.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.

FOR EXAMINER'S USE	
1	
2	
TOTAL	

This question paper consists of 6 printed pages, 1 blank page and Supervisor's Report.

[Turn over

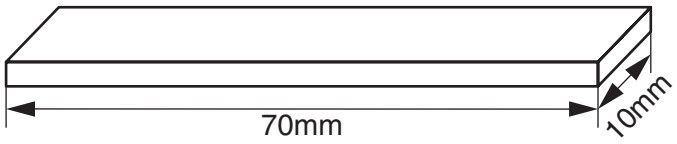
You must start with Question 1, set up the experiment, and then go on to Question 2, leaving at least 15 minutes to complete Question 1.

1 You are going to investigate the effect of different concentrations of sucrose solutions, **A**, **B**, **C** and **D**, on the length of potato strips.

You are provided with some slices of potato, in a sucrose solution. The slices have been left in this solution for one hour.

(a) (i) Remove the potato from the solution and blot gently.

(ii) Prepare four strips of potato, **exactly** 70 mm long and approximately 10 mm wide, as shown in the diagram.



(iii) Place one strip into each of the four sucrose solutions, **A**, **B**, **C** and **D**. Leave the strips for at least 25 minutes.

Now go on to Question 2

(iv) After the 25 minutes, carefully remove the strip from solution **A** and blot gently. (The solution may be poured away). Measure the length of the strip, to the nearest 0.5 mm.

Record the measurement in Table 1.1.

Repeat this procedure, using the strips from solutions **B**, **C** and **D**.

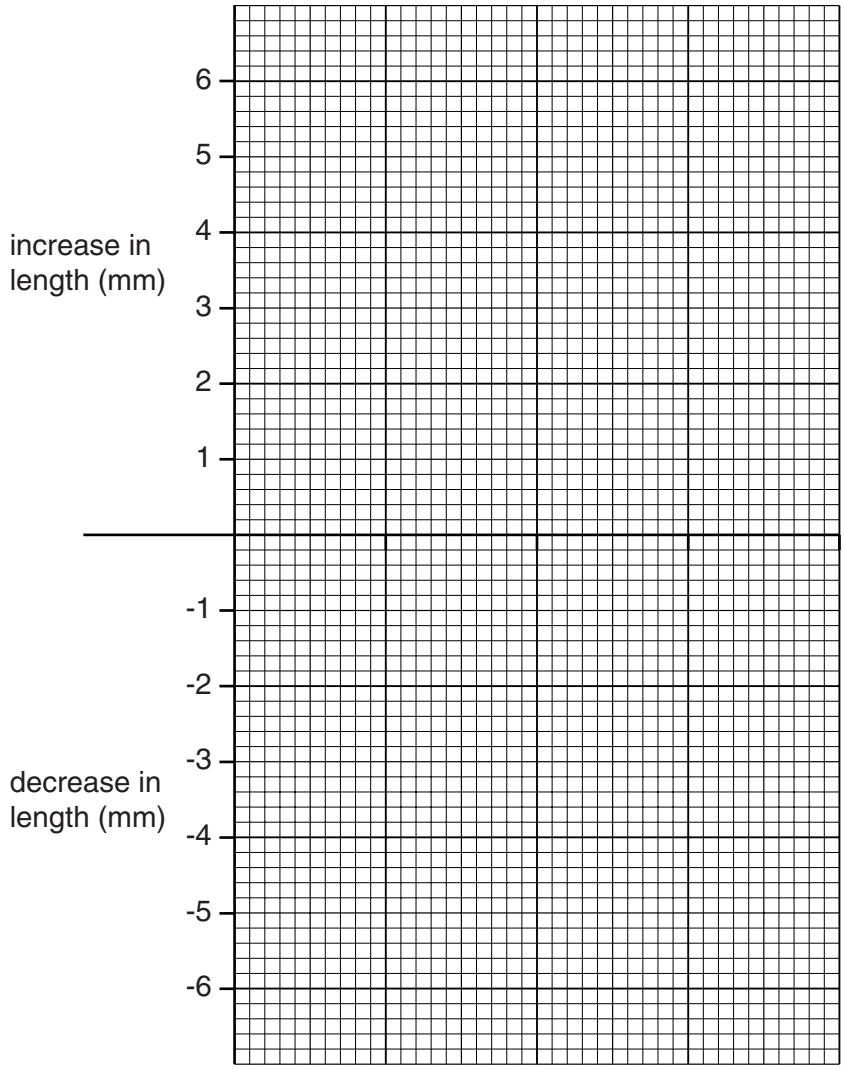
(v) Complete Table 1.1.

Table 1.1

solution	sucrose concentration (mol dm^{-3})	initial length (.....)	final length (.....)	change in length (.....)
A	0.2			
B	0.4			
C	0.6			
D	0.8			

[5]

(b) Draw a graph of change in length against sucrose concentration, on the axes provided. Join the points using ruled lines.



[6]

(c) The potato slice(s) were supplied to you in a sucrose solution in which they had been soaked for an hour. Using your graph, suggest the concentration of this solution and explain your answer.

Concentration .....

Explanation .....

.....

.....

.....

.....[4]

(d) State **two** ways in which the experiment could be improved so that the results would be more reliable.

1. .....

.....

2. .....

.....

[2]

(e) Describe what would happen to the potato **cells** if you placed the strip you removed from solution **D** into distilled water.

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.....[3]

[Total : 20]

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Question 2 begins on page 6

2 You are provided with two flowers of the same species.

(a) (i) On the cutting surface provided, cut one of the flowers longitudinally (vertically), to produce two similar half flowers. It is advisable to make the cut starting from the base of the flower.

In the space below, make a large, labelled drawing of the half flower.

[12]

(ii) Measure the widest part of your drawing.

Record the measurement: .....

Measure the same width on the flower.

Record the measurement: .....

Calculate the magnification of your drawing.

Show your working:

Magnification.....[4]

(b) Suggest how cross-pollination of this flower may take place.

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.....[4]

[Total : 20]