Centre Number	Candidate Number	Name

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level and Advanced Level

BIOLOGY **9700/03**

Paper 3 Practical Test AS

May/June 2006

1 hour 15 minutes

Candidates answer on the Question Paper.
Additional Materials: As listed in the Instructions to Supervisors.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.
You are advised to spend 40 minutes on Question 1 and 35 minutes on Question 2.

At the end of the examination, fasten all your work securely together.
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 document consists of **6** printed pages and **2** blank pages.

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1 You are required to carry out an investigation into the relative quantities of reducing sugar in potato and onion tissue.
You are provided with test-tubes, labelled **X**, **Y** and **Z**, each containing a different concentration of reducing sugar. You are also provided with some potato tissue, labelled **P**, and some onion tissue, labelled **O**.

(a) Carry out the test for reducing sugars on samples **X, Y** and **Z.**

(i) Describe, giving full practical details, how you carried out the test for reducing sugars.

.....

.....

.....

.....

.....[2]

(ii) Record your observations in Table 1.1.

(iii) Complete the column headed **conclusion**.

Retain the test-tubes for comparison with the results you obtain in (b)(ii).

Table 1.1

solution	observation	**conclusion**
X	....	....
Y	....	....
Z	....	....

[3]

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(iv) Determine the order of concentration of reducing sugar in the three solutions and complete Table 1.2.

Table 1.2

concentration	**X** or **Y** or **Z**
high	
medium	
low	

[1]

(b) Finely cut up tissue **P** on the tile and place the crushed tissue into one of the two empty test-tubes provided.

Add 2 cm^3 of water to the test-tube.

Place a bung in the open end of the test-tube and shake gently.

Repeat the process for tissue **O** using the other empty test-tube.

(i) Carry out the test for reducing sugars on both samples.

Record your observations in Table 1.3.

Table 1.3

tissue sample	observation
P	....
O	....

[2]

(ii) Compare your observations with the results obtained for part **(a)**.

.....

.....

.....

.....

.....[2]

(c) Explain how you made sure that your tests produced a fair comparison.

.....

.....

.....

.....

.....[3]

[Total : 13]

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2 **S1** is a slide of a stained transverse section of an artery.

(a) **(i)** Make a large, labelled, plan diagram to show the distribution of the tissues.

[4]

(ii) Calculate the magnification of your drawing.
Show your working.

magnification ..... [2]

(b) Fig. 2.1 is a photomicrograph of an artery and a vein.

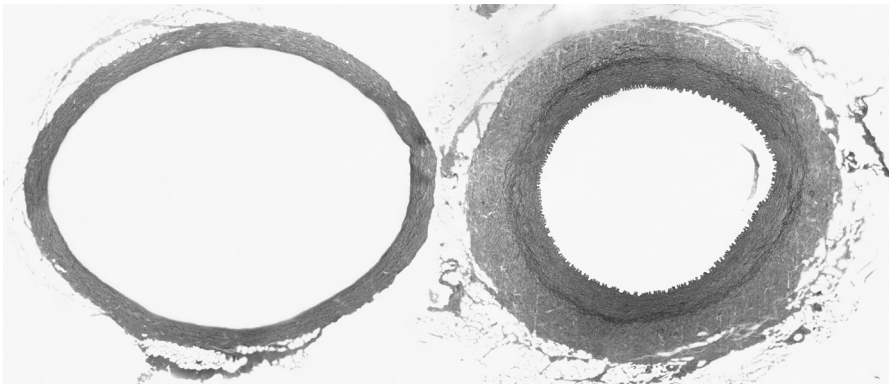


Fig. 2.1

Describe **three visible** differences between the artery and the vein.
Explain the reason for each structural difference.

difference 1 .....

explanation

.....

.....

difference 2 .....

explanation

.....

.....

difference 3 .....

explanation

.....

.....[6]

[Total : 12]

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