Centre Number	Candidate Number	Name	
UNIVERS	General Ce	GE INTERNATIONAL EXAMINATIONS ertificate of Education ry Level and Advanced Level	
BIOLOGY		9700/03	
Paper 3 Prac	ctical Test AS		
·		May/June 2004	
Candidates ans	wer on the Question Pa	1 hour 15 minutes	
Additional Mate	rials: As listed in Instruct	tions to Supervisors.	
READ THESE INSTRU			
Write in dark blue or bla You may use a soft pen	ick pen in the spaces pro cil for any diagrams, gra		
Answer all questions.	er clips, highlighters, glu		
The number of marks is		the end of each question or part question.	
rou are advised to sper	id 40 minutes on Questi	ion 1 and 35 minutes on Question 2.	
		For Examiner's Use	
· · · ·			
If you have been given a details. If any details are	e incorrect or		
missing, please fill in yo in the space given at the		2	
		2	
Stick your personal labe provided.	i nere, ii	Total	
		ed pages, 2 blank pages and a Report Form. ERSITY of CAMBRIDGE	
P (SC/GR) S64477/3 UCLES 2004		national Examinations [Turn ov	

https://xtremepape.rs/

1 You are provided with three solutions, **S1**, **S2** and **S3**. One of the solutions contains glucose, one contains another carbohydrate and the third contains a protein. The solutions **may not** be in that order.

You are required, using only the reagents provided, to identify each of the solutions, **S1**, **S2** and **S3**.

(a) (i) Complete the table below giving the test that you used which **positively** identified each of the solutions.

solution	reagent(s) used	observations	conclusion
S1			
S2			
S3			

[4]

(ii) Describe the **method** that you used to identify the carbohydrate solution that was not glucose.

(iii)	Describe how the test you used for glucose can be used as a semi-quantitative test.		
	[4]		
	[Total : 11]		

For Examiner's Use

2 K1 is a stained, longitudinal section of a young root tip. Some cells are undergoing mitosis.

Use your microscope to examine carefully the regions labelled ${\bf X}$ and ${\bf Y}$ in Fig. 2.1.

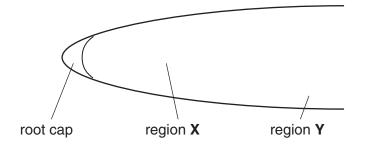


Fig 2.1

(a) Make a large, labelled, high-power drawing of a single cell in either anaphase or metaphase.

Identify the stage shown.

https://xtremepape.rs/

(b) (i) Make a labelled, high-power drawing of two cells, to the same scale, from region X.One cell should be at interphase, the other at or just after telophase.

[6]

(ii) Make a large, high-power drawing of one cell from region **Y**, to the same scale as you used in (b)(i).

Annotate your drawing to indicate how it differs from the cells you drew in (b)(i).

[4]

[Total: 14]

BLANK PAGE

6

University of Cambridge International Examinations is part of the University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

BLANK PAGE

REPORT FORM

The teacher responsible for this subject is asked to answer the following questions.

(a) Was the candidate physically handicapped in drawing or in using a microscope or is the candidate colourblind? If so, give brief details.

(b) Was the candidate handicapped by deficient material or apparatus? If so, give brief details.

(c) Was it necessary to make any substitutions for the materials sent from Cambridge? If so, give brief details of the circumstances.

(d) Any comments.

Signed

N.B. Information that applies to all candidates need be given on the first candidate's answer book only.