UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Level and GCE Advanced Subsidiary Level

MARK SCHEME for the May/June 2006 question paper

9700 BIOLOGY

9700/03 **Paper 3**

Maximum raw mark 25

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

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International Examinations

Question	Expected Answers	Marks	Additional Guidance
1 (a) (i)	Equal volume test solution and Benedits/excess Benedicts;	1	
	Boil/heat in water bath above 80 °C;	1	Reject direct heat
(ii) & (iii)	X lowest sugar conc e.g. green/blue green/blue with hint of yellow;	1	
	Y highest sugar conc e.g. red;	1	
	Z medium sugar conc e.g. yellow orange/brown;	1	Observation **and** conclusion must both be correct
(iv)	Y top Z middle and X bottom;	1	
(b) (i)	P no or little sugar/blue/green/yellow;	1	Accept answers with P similar to Q as old potatoes may contain sugars
	Q more sugar than P/green/yellow/ brown;	1	
(ii)	P closest to X or Z with explanation:	1	
	Q closest to Y or Z with explanation;	1	
(c)	Three from: Same volumes of solutions/reagents; Same volumes of tissue; Heat for same time; Method for comparing colours; Same temperature of water bath; Replication;	max 3	
	Total	13	
2 (a) (i)	Quality of drawing;	1	Slide is TS rat aorta
	Crinkled inner lining;	1	
	Ratio of wall to lumen between 1:4 − 1:8;	1	
	Correct label;	1	
(ii)	Correct mag (actual size 1 mm) ± 10%; Measure specimen and measure drawing; Divide drawing by specimen;	max 2	
(b)	Artery thick wall;	1	Either way round
	Withstand pressure/muscular;	1	
	Vein larger lumen;	1	Accept artery has crinkles
	To ease blood flow;	1	inner surface to allow
	Artery more round in shape;	1	expansion even though not
	Vein lacks muscles/support structures;	1	visible in pm.
	Total	12	
	Total	25	