CAMBRIDGE
INTERNATIONAL EXAMINATIONS

November 2003

GCE AS/A LEVEL

MARK SCHEME

MAXIMUM MARK: 30

SYLLABUS/COMPONENT: 9700/05

BIOLOGY
Paper 5 (Practical 2 (A2))

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

Qn	G	Expected Answers	Marks	Additional Guidance
1 a		Table headed **time** with units**;** Table headed **distance** travelled with units; 5 realistic measurements recorded between 1 – 100 mm;	1 1 1	Reject fractions of a mm
1 b i		answer correct = 2;; working correct but wrong answer =1;	1 1	Must be mm min^{-1}
1 b ii		CO_2 absorbed by soda lime; Oxygen used by peas / respiration; CO_2 given off by peas; Reduced pressure / volume moves liquid;	1 1 1 1	
1 c i		Temperature change; RQ < 1 / correct description of RQ;	max 1	
1 c ii		RQ = CO_2 / O_2; bi / 10 – 0.02 ---------- ; bi / 10 answer correct ;	1 1 1 **13**	Accept bi – 0.2 ---------- bi
2 a		Quality (ie does it look like the slide?) with glomerulus & tubule and cells; Both glomerulus and tubule drawn; Circular glomerulus with podocytes shown; Tubule with nuclei < 0.5 - > 0.1glomerulus width; Bowmans capsule labelled; Podocyte labelled; Nucleus labelled; Glomerulus OR tubule labelled	max 5	Please refer to photomicrograph of kidney made from a typical UCLES slide.
2 b		130 – 300; µm;	1 1 **7**	
3		10 from 1 Correct use of equipment; 2 Range of at least three suitable temperatures; 3 Mix / add milk and renin; 4 Same vols of milk and renin for each temp; 5 Leave for same time / time measured; 6 Repeat; 7 Average determined; 8 Indication of positive result; 9 Method of recording data; 10 Scientific knowledge ie kinetic energy of molecules; 11 Would it work?	10	Reject boiling
			Paper30