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CAMBRIDGE
INTERNATIONAL EXAMINATIONS

NOVEMBER 2002

GCE Advanced Subsidiary Level

MARK SCHEME

MAXIMUM MARK : 25

SYLLABUS/COMPONENT :9700 /3

BIOLOGY
(PRACTICAL (AS))

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

Qn	Expected Answers	Mark	Additional Guidance
1 a	10 10	1	
	15 5	1	
	20 0	1	
1 b i	0M > 50 mm	1	
	0.75M & 1M < 50 mm	1	
	change in length calculated correctly	1	
	mean calculated correctly	1	
	+ and – signs used correctly	1	- signs must be used
1 b ii	axis correctly orientated with units and scale correct	1	
	all plots correct	1	
	straight line of best fit correct	1	
1 b iii	water potential of distilled water > than cells therefore water enters cells water potential of 1M < cells therefore water leaves cells correct ref to water potential	Max 5	Accept hypo and hypertonic if correct but max 4 if no correct ref to water potential
1 b iv	correct as read from graph with units mol dm^{-3}	1	
	reason must indicate net movement / equilibrium	1	
1 c	more accurate	1	
	good reason eg can measure to several decimal places / length may be cut at angle	1	Any good reason but reject can work out mass / vol of water
1 d	Explain how epidermal strips obtained Immerse in soln for > 15 mins Place under microscope Determine percentage plasmolysis for each solution Use 50+ cells each time Plot graph Determine 50% plasmolysis Plasmolysis explained / incipient plasmolysis	Max 5	
		25	