

NOVEMBER 2002

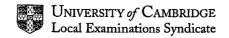
GCE Advanced Level

MARK SCHEME

MAXIMUM MARK: 30

SYLLABUS/COMPONENT:9700/5

BIOLOGY (PRACTICAL)



Page 1	Mark Scheme	Syllabus	Paper
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Qn	Expected Answers	Mark	Additional Guidance
			
1ai	Nucleus – correct relative size (>1/2) Nucleus / nuclear membrane labelled Nucleolus labelled Cell wall -2 lines - labelled Chromatin		Reject chromosomes If not interphase then max 3 Ignore cell membrane
	One other correct label	Max 4	·
1 a ii	Quality of drawing – it must be real Correct stages labelled Chromosomes / chromatids – correct labels – 1 mark each One other correct label	1 2 2	
1 a iii	Quality of drawing – it must be real Elongate Nucleus intact Vacuole labelled Small nucleus relative to cell (<1/4)	Max 4	
		14	

Page 2	Mark Scheme	Syllabus	Paper
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2 a	S6 no change		
	S7 bubbles / reaction		
	S8 no change	1	Accept relative descriptions
2 b	S9 slower than S7	1	
2 c	S6 catalase denatured Explanation of denaturisation S7 has catalase		Allow denature mark if good explanation
٠.	S8 is control Explanation of control		
	S9 dilution reduces rate of reaction Explanation of why dilution affects rate of reaction	Max 4	
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2 d	Repeat and average Shoots of same mass / length / size Make it quantitative ie measure volume of oxygen Control temperature		
	Same age / variety Control pH	Max 3	
2 e	Equalise pressure Acts as control	1	
2 f	Close tap and or screw clip Stabilise		
	Note position of manometer fluid and start clock Note position of syringe Read position of fluid at fixed time		
	Equalise levels with syringe Read off volume change in syringe Method to calculate rate	Max 3	
2 g	Remove KOH		
	Replace with water Determine difference between O ₂ and CO ₂	Max 2	
		16	