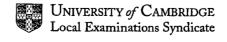


## **NOVEMBER 2002**

## **GCE Advanced Level**

## MAXIMUM MARK:: 30 SYLLABUS/COMPONENT: 9700 /5 BIOLOGY (PRACTICAL)



Page 1	Mark Scheme	Syllabus	Paper
	A Level Examinations – November 2002	9700	5

Qn	Expected Answers	Mark	Additional Guidance
1 a i	Nucleus – correct relative size (>1/2) Nucleus / nuclear membrane labelled		Reject chromosomes
	Nucleolus labelled		If not interphase then max 3
	Cell wall -2 lines - labelled		Ignore cell membrane
	Chromatin One other correct label	Max 4	
	One dater defreed laber	- Wick 4	
1 a ii	Quality of drawing – it must be real	- 1	
	Correct stages labelled	2	:
	Chromosomes / chromatids – correct labels – 1	2	
	mark each One other correct label	1	
			,
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		1
	S8 no change	1	Accept relative descriptions
	Ũ		
2 b	S9 slower than S7	1	
	•		
	:		
2 c	S6 catalase denatured		
	Explanation of denaturisation	:	Allow denature mark if good
	S7 has catalase		explanation
	S8 is control		
	Explanation of control		
	S9 dilution reduces rate of reaction	-	: , ,
	Explanation of why dilution affects rate of reaction	Max 4	
	* · · !		
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	1
			1
2 e	Equalise pressure	1	
-"	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	
	100		
2 g	Remove KOH		·
1	Replace with water		
	Determine difference between O <sub>2</sub> and CO <sub>2</sub>	Max 2	
		16	1