

JUNE 2002

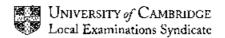
GCE Advanced Level

MARK SCHEME

MAXIMUM MARK: 30

SYLLABUS/COMPONENT:9700/5

BIOLOGY (PRACTICAL)



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Qn	G	Expected Answers	Marks	Additional Guidance
1 a i		Any two from: No cells or tissue, 5 single lines, correct		
	i	orientation, no mid rib;		
		Spongy layer > palisade layer; Palisade layer > either epidermat layers.		
	1	i ransado layer > entrer epidermai layers.	max 2	}
	İ	Any two from:		į.
		Epidemis correctly labelled;]	
		Stomata correctly labelled; Palisade correctly labelled;]	1
		Spongy (mesophyll) correctly labelled;	max 2	Labels required
		opening (management) in action of the contract	11187 2	
1 a ii		Any two from:		i
		3 cells only;		ĺ
		Irregular packing, not 'bricks in wali'; Height > width;	max 2	
		1 congress triums,	ITIEX 2	
		Any two from:	}	
		Chloroplasts;	1	1
		Cell walls; Nucleus;		1
		1100,603,	max 2	ļ
lbi		Any eight from:		Ì
		Sunken stomata;		t mark for each feature and t
	[Reduces diffusion rate / trap water vapour,		for function.
	1	Hairs;]	
		Reduces diffusion rate / trap water vapour;	•	
		(Thick) cuticle;	ļ	
		Reduces evaporation / transpiration;	i	OWITE
		· · · · · · · · · · · · · · · · · · ·		Reject reduces water loss
		Curled leaf / inner foldings;		
		Reduces external surface area / reduces		
		diffusion rate / trap water vapour;		Į
		Scierenchyma;		Í
		Reduces water loss / reduces evaporation;	max 8	
Ьіі		Less surface area to absorb light / CO ₂	۱.	Į
_		Total	1 17	
2 a	į l	Any 7 from:	,	
	Ì	Place end of pond-weed under gas chamber; Open screw clip;		
	\	Draw up water with syringe;		Poject fill syrings with water
	1	Water in capillary;		Reject fill syringe with water and push.
		Set lamp at measured distance;		and pass.
		Add sodium hydrogen carbonate / aerate;		Mark 2(a) as a whole.
	1	Leave to stabilise; Time:		
	1	Draw up gas;		
		Measure gas;	Ì	
		Move lamp;		
		Repeat procedure	max 7	
2 b		Any two from		1
. •		Any two from: temperature (of water);		
		same pond-weed;		}
		carbon dioxide conc;		
	(I	PH;		
	<u>}</u>	Time	max 2	I

Page 2	Mark Scheme	Syllabus	Paper
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2 c	Any four from:		
	As light increases so does gas production;		<u> </u>
	1/2 distance = 4 X rate;		
	ref to numbers on table; ½ distance = 4 X light intensity;		1
	Ref. to limiting factor (closer than 20cm);		'
	Correct example of limiting factor.	max 4	
	Total	13	1

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