Transpiration MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	on diagram:		1
	arrow drawn from cell X,		
	through air space and out		
	through stoma above		
	stoma		
a)ii)	transpiration		1
b)i)	13-15	ignore units	1
b)ii)	any two from:	accept warmer / hotter or sun	2
	warmest / hottest /	higher in	
	brightest time of day	sky	
	□ water evaporates		
	fastest		
	☐ stomata open / more		
	open		
Total marks			5

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	transpiration /	ignore osmosis	1
	evaporation / diffusion		
b)i	D		1
b)ii)	any two from:		2
	☐ more / faster diffusion or		
	evaporation or		
	transpiration		
	☐molecules move faster		
	□ maintains concentration □		
	gradient or keeps water		
	concentration low		
	in the air		
	or brings in more dry air		
	or removes damp air /		
	water		
Total marks			4

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	С		1
b)i)	guard (cell)		1
b)	water movement /		1
	transpiration		
	through stomata / pores /		
	holes /		
	(region) X		1
	or		
	petroleum jelly blocks /		
	covers		
	stomata / pores / holes / X		
	stomata / pores / holes / X		
	found on		
	lower surface		
Total marks			4

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	wind	answers in either order	1
	temperature	ignore weather	1
a)ii)	different plants have	ignore reference to validity	1
	different		
	sizes / different numbers of	allow different plants need	
	leaves / different sizes of	different amounts of water	
	leaves /		
	different plants take up		
	different		
	amounts of water		
b)i)	in table, in sequence:	all 3 correct = 2 marks	2
	С	2 correct = 1 mark	
	В	0 or 1 correct = 0 mark	
	A		
c)	transpiration		1
Total marks			6

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	В	only allow zero water loss if	1
	(B has) low(est) number of	linked to	1
	stomata		
	or no stomata on upper	no stomata on upper surface /	
	surface	linked to	
	or only 800 (on lower	leaf B upper surface	1
	surface)	ignore references to leaf	
	less transpiration /	surface area	
	evaporation / water		
	loss owtte		
	or water (vapour) is lost via		
	stomata		
b)	reduce loss / amount of	accept converse	1
	water (vapour)		
	or	do not allow no water is lost	
	reduced transpiration (from		
	upper		
	surface)	accept converse	
	warmer above leaf		1
	or wilted leaf folds over	ignore reference to dust	
	lower surface		
	or lower leaf in shade		
	or less light / heat / sun on		
	lower side		
Total marks			5

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	guard (cell)	ignore stoma / stomata	1
b)	Species A:	allow converse points for	
	☐ stomata open in dark /	species B	1
	at night or		
	close in light / in day		
	stomata closed during		1
	warm(est)		
	period or open when		
	cool(er)	must give explicit link	1
	☐ heat (energy) / warmth	between heat	

	increases	and transpiration	
	evaporation / transpiration		1
	□ reduces water loss /	ignore photosynthesis	
	evaporation /		
	transpiration		
Total marks			5