CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Ordinary Level

MARK SCHEME for the May/June 2013 series

5096 HUMAN AND SOCIAL BIOLOGY

5096/23

Paper 2 (Theory), maximum raw mark 100

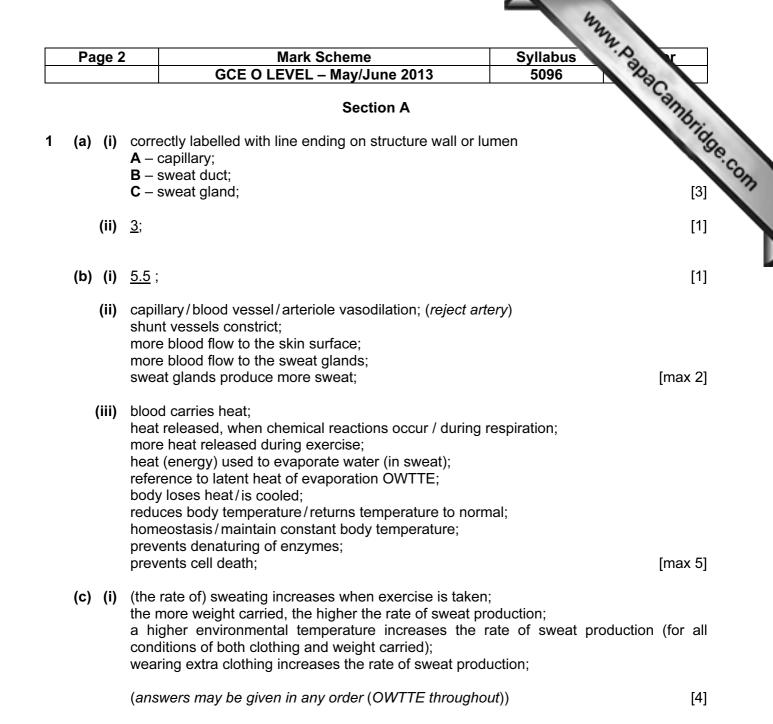
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This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

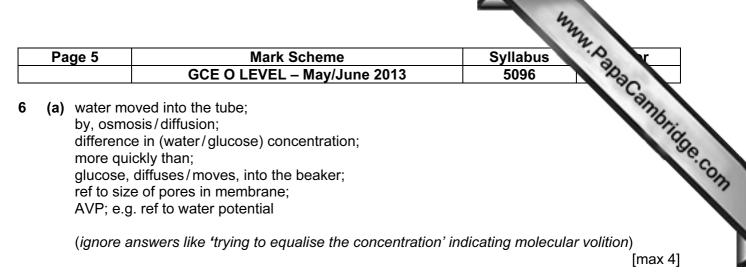
Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



Page 3	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2013	5096 73
r	more muscle contraction (in exercise) releases more h reference to energy 'lost' as heat; reference to tissue respiration/equation; more sweat needed to lose more heat;	Syllabus 5096 eat; [max
	muscles have to contract more strongly to carry extra v more heat released which has to be lost;	weight;
I	it is more difficult to lose body heat if environmental ter less difference between body temperature and that of e more evaporation of sweat required;	
	clothing reduces rate at which sweat can evaporate; less heat lost;	
k	body produces more sweat;	[max
		[max 4 for part (c)
		[Total:
passing f	s using glucose to form glycogen – A ; fibre out of the body – C ; ward a mark if more than one letter written in a box)	[Total
(this) oxyg <u>more</u> faste (<i>the</i>	e muscle contraction requires <u>more</u> energy;) requires <u>more</u> oxygen; jen is carried in the blood; <u>e</u> carbon dioxide must be removed; er heart rate pumps <u>more</u> blood to muscles; word 'more', or a similar word, must be included at a d not be mentioned in each marking point)	least once in the explanation,
	not be mentioned in each marking point)	
5	danger of stressing the heart; some people will not be capable of the average;	[max
5	danger of stressing the heart;	[max [max

Page	4 Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2013	5096
(c) (i)	age (of people)/years; both points correct ± ½ square and line drawn with ruler;	Syllabus 5096 Apacambrid
(ii)	103 –105; (within this range)	
(iii)	(maximum) heart rate decreases with age; steady decline/same rate of decline (every 10 years); use of figures to show decrease;	[max 2]
		[Total: 12]
(a) (i)	pupil has become, larger/wider/dilates;	[1]
(ii)	light intensity has decreased/OWTTE; (accept shock/fright/use of drug)	[1]
(iii)	ref to reflex action;	
	circular muscles in iris have relaxed; radial muscles in iris have contracted;	[max 2]
	iary muscles contract;	
	nsion taken off suspensory ligaments; ns becomes thicker/more curved/more convex;	[max 2]
		[Total: 6]
• •	rbon dioxide – more;	
	xygen – less; mperature – higher;	[max 3]
	crease in breathing rate;	
	crease in volume of each breath; crease in the minute volume / AW;	[max 2]
		[Total: 5]

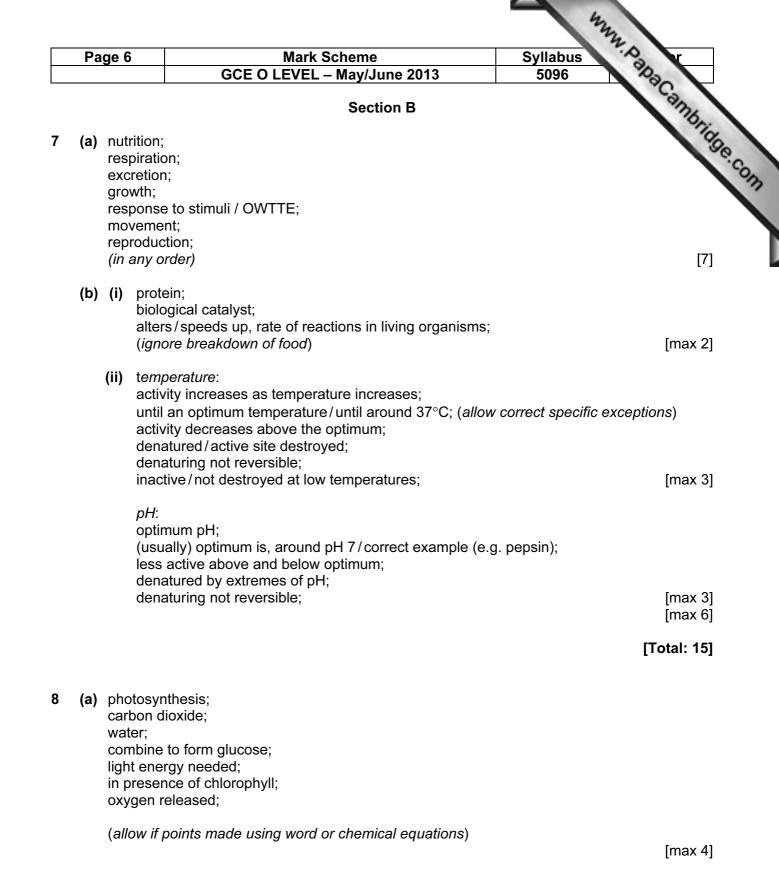


(b) osmosis/movement of water follows glucose, into the beaker; glucose diffuses into the beaker; (by 30 minutes) equilibrium established/same concentration of glucose solution in tube and

beaker;

[Total: 7]

[3]

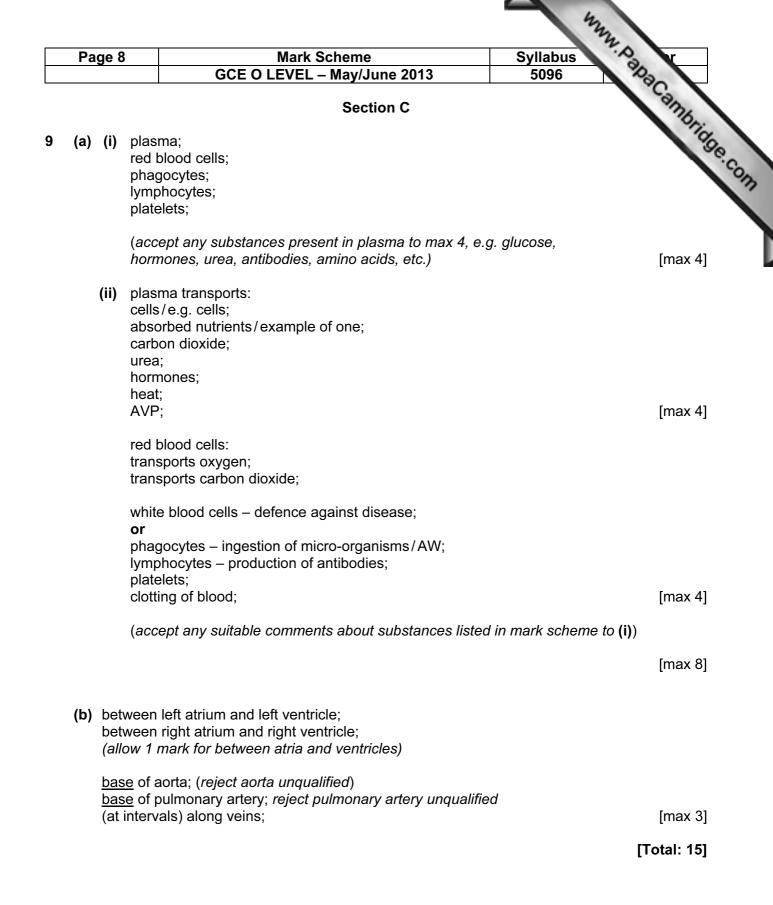


Page 7	Mark Scheme	Syllabus r
	GCE O LEVEL – May/June 2013	5096
converts amylase duodenu pancreas produces	glands; amylase; starch to maltose; denatured by stomach acid/OWTTE; m; s; (<i>reject if incorrect ref, e.g. food goes into the pa</i> s amylase; (remaining) starch to maltose;	Syllabus 5096 Photoscannbridge
	maltase; maltose to glucose;	[max 9]

(c) diffusion; active transport;

[2]

[Total: 15]



Р	age 9	Mark Scheme	Syllabus of r
		GCE O LEVEL – May/June 2013	5096
0 (a)) (i)	(sugar in food); fermented/acted on by bacteria; produce acid; attacks enamel/dentine;	Syllabus 5096 Papacambrid [max
	(ii)	brush teeth, after meals/before going to bed; brush gums; use toothpaste; use dental floss/tape; reduce amount of sugar/sweet food in diet; eat hard/crisp food; fluoride (in whatever form); eat foods rich calcium/phosphate/vitamin C/vitamin D; visit dentist regularly; AVP;	[max 3]
(b) (i)	destruction of all organisms present; example surgical instruments boiled (under pressure)/any v	valid e.g.; [2]
	(ii)	both prevent growth of (pathogenic) micro-organisms/AW; disinfectants are toxic to human tissues;	[2]
(c)) (i)	chemical produced by, living (micro) organisms/fungi; kill/inhibit, growth of, micro-organisms/bacteria; example penicillin/any valid example;	[3]
	(ii)	bacteria that are naturally resistant (to that antibiotic) surviv their offspring inherit resistance property; antibiotic ineffective in a (serious) infection; the more antibiotics are used, the more resistant strains will ref to multiple resistance/resistance to several antibiotics;	
		(reject 'develop resistance')	[max 3]
			[Total: 15]