

IGCSE Biology 4325 1F Mark Scheme (Results) Summer 2008

IGCSE

IGCSE Biology 4325 1F



IGCSE BIOLOGY 4325-1F MARK SCHEME

Key

indicates separate mark points indicates alternatives

allow for correct equivalent eq

word underlined means no alternatives allowed

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
1 (a)	C;			1
(b)	B;			1
(c)	B;			1
(d)	A;			1
(e)	B;			1
(f)	D;			1
(g)	C;			1
(h)	D;			1
(i)	B;			1
(j)	C;			1
				(10)

(Total 10 marks)

Question	Correct Answer	Acceptable Reject	Mark
Number		Answers	
2 (a)	A cornea;		1
	B lens;		1
	C iris;		1
	D retina;		1
			(4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b)(i)	C / iris;			1 (1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
2 (b)(ii)	D / retina;			1
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
3 (a)	three boxes, one on top of the other, getting smaller nearer the top;			1
				1
	boxes labelled in correct order;			(2)
Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
3 (b)(i)	Decrease / die;			1
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
3 (b)(ii)	less food (for the big fish);			1
				(1)

(Total 4 marks)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
4 (a)	A condensation:			1
	B precipitation;			1
	C evaporation;			1
				(3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)	roots absorb; osmosis; leaves lose; transpiration / evaporation / diffusion;			Max (2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
5 (a)	line to trachea (below larnyx);			1
				(1)
	Accept T			

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (b)	cartilage; ribs; alveoli / air sacs / lungs;			1 1 1
				(3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (c)	muscle; contract; flattens / moves down / eq; volume (of thorax) increases; pressure (inside the thorax) decreases;			Max 3

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
6 (a)	beaker B;			1
				(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6 (b)	C;	7111344013		1
	less gas / less photosynthesis / slower enzyme activity / eq;			1 (2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
6 (c)	type of plant / species of plant /			Max 2
	eq;			
	size / mass / amount / surface area			
	of plant / eq;			
	type of water;			
	pH of water / eq;			
	CO ₂ in water / eq;			
	amount of chlorophyll / eq;			(2)
	time;			

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (a)	prevent Lactobacillus being killed/prevent Lactobacillus enzymes being denatured / Lactobacillus can work;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (b)(i)	pH decreases / eq;			1

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
7 (b)(ii)	pH (continues to) decrease; acid / lactic acid formed; lactose / sugar; Lactobacillus increase / eq; texture change / coagulate protein / thicken / eq; taste change / goes sour / eq;			Max 3

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (c)	(other) bacteria not killed; (other) substances made / eq; sour / bad; Lactobacillus can't work / eq;			Max 2

(Total 7 marks)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
8 (a)	urea /water / salts;			1
				(1)
	Accept urine			

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
8 (b)	large (molecule);			2
	qualified e.g. long chains / not			
	filtered / does not pass through			
	membrane;			(2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
8 (c)	reabsorbed; into blood; active uptake; correct description of diabetes;;			Max 2
	*			(2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
8 (d)	more concentrated;			1
				(1)

Question	Correct Answ	ver		Acceptable	Reject	Mark
Number				Answers		
9						
	Type of	Example	Multicellular			
	organism	-				
	plants	maize / eq;	YES			
	animals	human / eq;	YES;			
	bacteria	Lactobacillus	NO;			
	viruses	influenza /	NO			
		HIV / AIDS /				
		TMV / eq;				
		_	_			
						<i>(</i> -)
						(5)

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (a)	access / transport / travel / communication; trees for a purpose / construction / manufacture / logging / eq; trees for fuel; farming / mining;			Max 2

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
10 (b)	loss of habitat / food;			Max 4
	loss of numbers / death / extinction			
	/ loss of genes / migration / loss of			
	species / eq;			
	Species 7 eq,			
	loss photosynthosis:			
	less photosynthesis;			
	global warming / greenhouse effect /			
	ref to CO ₂ in air;			
	soil erosion idea / <u>leaching</u> ;			
	flooding / eutrophication /			
	desertification / lack of minerals /			
	eq;			
	C4/			(4)
	loss transpiration.			(4)
	less transpiration;			
	less rainfall;			

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
11 (a)(i)	anther / stamen / pollen sac;			1
	·			(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
11 (a)(ii)	drawn to anther only (not to			1
	filament);			(1)
	·			

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)(iii)	pollen; from <u>anther/P</u> to <u>stigma</u> ;			2 (2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
11 (b)	light / gravity;	sun /	phototropism	1
		sunlight;	/ geotropism	(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
11 (c)(i)	carbon dioxide + water; (or	chemical		2
	opposite)	symbols;;		
	glucose + oxygen; (or opposite)			(2)
	Ignore light / chlorophyll			

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (c)(ii)	thin; large surface area; stomata; air spaces / spongy (mesophyll);		pores / guard cells	Max 2 (2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
12 (a)	heart rate increases; until 50 mins / 124;			Max 2
	then levels off / falls;			(2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
12 (b)	adrenaline;			1
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
12 (c)	higher heart rate / higher rate sooner / eq; nicotine / narrows arteries /			2
	releases adrenaline / raises blood pressure;			(2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
12 (d)	breathing / respiratory / nervous /			1
	reproductive / digestive /			(1)
	endocrine;			

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13	mouth / saliva; mechanical digestion / chewing / mastication / eq; amylase; ONCE Ignore carbohydrase (starch to) maltose;	Allsweis		Max 6
	pancreas / pancreatic juice / eq; small intestine / duodenum / ileum; starch/maltose to glucose; maltase;			(6)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
14	vena cava; atrium / auricle; lung; valves; aorta; hepatic; glucose / sugar; glycogen;			8

(Total 8 marks)

Question Number	Correct Answer		Acceptable Answers	Reject	Mark
15 (a)	Step	Order of step	all 4 = 3;;;		Max 3
	repeat crosses for several generations	4	2 correct = 2;;		
	cross parent plants to produce more offspring	2	1 correct = 1;		
	identify parent plants with desired characteristics	1			
	select offspring with desired characteristics	3			(3)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
15 (b)	large numbers; quickly produced; identical / all have desired characteristic / cloned / eq;			Max 2
				(2)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
16 (a)	magnesium;	Mg;		1
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
16 (b)	3.6 / 5.4 x 100 = 66.7;; Accept 66.67 / 66.6666etc one for 3.6	66 and two thirds;		2
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
16 (c)	all / extra / increase / more mineral ions / more named mineral / correct amount / eq; use or purpose;	nutrients		2 (2)

(Total 5 marks)

PAPER TOTAL 100 MARKS