

IGCSE DA Biology 4437 1F Mark Scheme (Results) Summer 2008

IGCSE

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4437-1F 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)	A;			1
(d)	B;			1
(e)	D;			1
(f)	B;			1
(g)	C;			1
				(7)

(Total 7 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	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
2 (b)(i)	C / iris;			1
				(1)

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

(Total 6 marks)

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

	vers	
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)	line to trachea (below larnyx);			1
	•			(1)
	Accept T			

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

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

(Total 7 marks)

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

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

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
5 (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;			

(Total 5 marks)

Question Number	Correct Answer		Acceptable Answers	Reject	Mark
6 (a)(i)					
	Description of step	Order of			
		step			
	Snuppy born	6 th			
	Egg cell enucleated (emptied)	2 nd ;			
	Embryo grows	(4 th)			
	Nucleus from fathers skin	3 rd ;			
	cell put into empty egg				
	cell				
	Egg cell obtained	(1 st)			(2)
	Embryo placed into uterus	5 th ;			(3)
	of surrogate mother				

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
6 (a)(ii)	ovary ;			
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
6 (a)(iii)	no nucleus / eq ;			
				(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers	_	
6 (b)	genetically / eq ; identical ;			(2)

Question Number	Correct Answer		Acceptable Answers	Reject	Mark
6 (c)					
	Animal	Sex			
		chromosomes			
	Snuppys father	(XY)			
	The surogate	XX;			
	mother				(2)
	snuppy	XY;			

(Total 9 marks)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
7 (a)	access / transport / travel / communication / trees for a purpose / construction / manufacture /			
	logging / eq / trees for fuel farming / mining;			(1)

Question	Correct Answer	Acceptable	Reject	Mark
Number		Answers		
7 (b)	loss of habitat / food;			Max 4
	loss of numbers / death / extinction			
	/ loss of genes / migration / loss of			
	species / eq;			
	species / eq,			
	land what a water of			
	less photosynthesis;			
	global warming / greenhouse effect /			
	ref to CO ₂ in air;			
	soil erosion idea / leaching;			
	flooding / eutrophication /			
	desertification / lack of minerals /			
	eq;			(4)
				(4)
	less transpiration;			
	less rainfall;			

(Total 5 marks)

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

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

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

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

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

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

(Total 9 marks)

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

(Total 6 marks)

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

(Total 8 marks)

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

(Total 5 marks)

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

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

(Total 4 marks)

PAPER TOTAL 75 MARKS