

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

IGCSE

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IGCSE BIOLOGY 4325-1F MARK SCHEME

Key

- ; indicates separate mark points
 / indicates alternatives
 eq allow for correct equivalent
 — word underlined means no alternatives allowed

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

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

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
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; boxes labelled in correct order;			1 1 (2)
Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b)(i)	Decrease / die;			1 (1)

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

(Total 4 marks)

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

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

(Total 5 marks)

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

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

(Total 7 marks)

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

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

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6 (c)	type of plant / species of plant / 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; time;			Max 2 (2)

(Total 5 marks)

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

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

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

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

(Total 7 marks)

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

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

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

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

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark															
9	<table border="1"> <thead> <tr> <th>Type of organism</th> <th>Example</th> <th>Multicellular</th> </tr> </thead> <tbody> <tr> <td>plants</td> <td>maize / eq;</td> <td>YES</td> </tr> <tr> <td>animals</td> <td>human / eq;</td> <td>YES;</td> </tr> <tr> <td>bacteria</td> <td><i>Lactobacillus</i></td> <td>NO;</td> </tr> <tr> <td>viruses</td> <td>influenza / HIV / AIDS / TMV / eq;</td> <td>NO</td> </tr> </tbody> </table>	Type of organism	Example	Multicellular	plants	maize / eq;	YES	animals	human / eq;	YES;	bacteria	<i>Lactobacillus</i>	NO;	viruses	influenza / HIV / AIDS / TMV / eq;	NO			(5)
Type of organism	Example	Multicellular																	
plants	maize / eq;	YES																	
animals	human / eq;	YES;																	
bacteria	<i>Lactobacillus</i>	NO;																	
viruses	influenza / HIV / AIDS / TMV / eq;	NO																	

(Total 5 marks)

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

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (b)	<p>loss of habitat / food;</p> <p>loss of numbers / death / extinction / loss of genes / migration / loss of species / eq;</p> <p>less photosynthesis;</p> <p>global warming / greenhouse effect / ref to CO₂ in air;</p> <p>soil erosion idea / <u>leaching</u>;</p> <p>flooding / eutrophication / desertification / lack of minerals / eq;</p> <p>less transpiration;</p> <p>less rainfall;</p>			<p>Max 4</p> <p>(4)</p>

(Total 6 marks)

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

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)(ii)	drawn to anther only (not to filament);			1 (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 Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (b)	light / gravity;	sun / sunlight;	phototropism / geotropism	1 (1)

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

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)

(Total 9 marks)

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

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

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

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

(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; pancreas / pancreatic juice / eq; small intestine / duodenum / ileum; starch/maltose to glucose; maltase;			Max 6 (6)

(Total 6 marks)

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

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
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