

## Biology 1

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept												
1		(a)		1	Eats meat/ other animals;		insects													
		(b)		3	<table border="1"> <thead> <tr> <th>factor</th> <th>Tick (✓) the three correct boxes</th> </tr> </thead> <tbody> <tr> <td>A disease harming the badgers</td> <td></td> </tr> <tr> <td>An increase in the number of foxes</td> <td>✓;</td> </tr> <tr> <td>The arrival of a new second stage consumer species</td> <td>✓;</td> </tr> <tr> <td>An increase in the number of beetles</td> <td></td> </tr> <tr> <td>A decrease in the area of woodland</td> <td>✓;</td> </tr> </tbody> </table>	factor	Tick (✓) the three correct boxes	A disease harming the badgers		An increase in the number of foxes	✓;	The arrival of a new second stage consumer species	✓;	An increase in the number of beetles		A decrease in the area of woodland	✓;			
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An increase in the number of foxes	✓;																			
The arrival of a new second stage consumer species	✓;																			
An increase in the number of beetles																				
A decrease in the area of woodland	✓;																			
		Total Mark		4																

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
<b>2</b>		(a)	i	1	0.5;	0.55		
			ii	2	larger; more slits/number slits from 3 to 5;			
			iii	1	dies out/ <i>idea of gone for ever/ no longer exists/ wiped out;</i>	None left		disappeared
			iv	1	no {shells/fossils} {in top layer/ in layer A/ in that layer}/ no shells after {5 million years/ 2 million years}/ last found in layer B;			
		(b)		1	(Charles) Darwin;	(Alfred) Wallace		
		Total Mark		6				

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
3		(a)	i	1	2;			
			ii	1	pH <u>falls</u> / water <u>becomes</u> {acidic/pH5};			PH/ Ph/ pH is acidic
		(b)	i	1	mayfly (nymph);			
			ii	2	<ul style="list-style-type: none"> <li>(mayfly nymph) is not found in acid water/ <u>only</u> found in {neutral <u>and</u> alkaline water/ water at pH 7 and above};</li> <li>{bloodworms/rat tailed maggots/ the others} are found in acidic (water);</li> </ul> <p>The only <u>one</u> that is found in <u>only</u> neutral <u>and</u> alkaline water/ <u>only</u> <u>one</u> not found in acidic water = 2 marks</p>			
			Total Mark		5			

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
4		(a)	i	4	I accurate plotting;; all correct = 2 marks one error = 1 mark more than one error = 0 marks  II one accurate line through centre of plots;  III lines labelled – 1.0 mm <b>and</b> 0.1mm;			
			ii	1	{1 mm/large/larger/ higher} mesh size has {higher/more} (%) decay/ ORA;			Not quicker decay
			iii	2	any <b>two</b> from: mass; (leaf) area; {species/tree}; age; moisture content;	weight		type of leaf/ type of tree/ size of leaf/ amount of leaf/ same shape leaf
		iv	1	bacteria/fungi/mould;				
		v	1	too {cold/hot/dry/wet}/ hotter/ colder/ drier/ wetter;	pH too {high/ low}		Climate/ weather	
		(b)	1	{Releases/ puts back/ restores/ gives/ recycles} {nutrients/ minerals/ ions/ named nutrient};				
		Total Mark				10		

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
5		(a)		3	3 → 2 → 5 → 1 → 4 Correct placement All 5 correct;;; 3 marks 4/3 correct;; 2 marks 2 correct; 1 mark 0/1 0 marks			
		(b)		2	one mark for a named sense organ and the second mark for the <u>correct</u> stimulus;;  one correct pair from: ear; sound/vibrations; or tongue/nose; chemical; or skin; touch/pain/temperature/pressure;			Noise  Taste  Heat
		Total Mark		5				

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
<b>6</b>		(a)		1	<u>hormone</u> ;			
		(b)		3	pancreas; (phonetic spelling) glucose; (correct spelling) glycogen; (correct spelling)			pancrease
		(c)		2	(type 1 or type 2) diabetes;  <b>one</b> from: <u>low</u> {sugar/ carbohydrate} {diet/foods}/ {injections/shots} of insulin/ insulin pen/ insulin pump/ pancreas transplant/ <u>named</u> tablets (e.g. novonorm/metformin);			Take insulin/ take tablets
Total Mark				6				

Question Number		Sub-section			Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT								
7	1	(a)	i		1	Nn;	heterozygous		
			ii		2	<p>He does not have cystic fibrosis therefore must have a <b>{N/dominant allele}</b> / He has to have a <b>{N /dominant allele}</b> to give to {the child without cystic fibrosis/ child 3};</p> <p>Has to have a <b>{n/recessive allele/ allele for cystic fibrosis }</b> to give to {child with cystic fibrosis/ child 4} {child 4/ child with cystic fibrosis} has to have a <b>{n/recessive allele}</b> from him;</p>			
		(b)	i		1	Nn;	heterozygous		
			ii		2	<p>She does not have cystic fibrosis and therefore must have a <b>{ N allele/dominant allele}</b>/ person 3 gets <b>{ N allele/dominant allele}</b> from person 2;</p> <p>Her mother has {cystic fibrosis/ <b>nn</b>} and therefore must give one <b>{n allele/recessive allele}</b>/ person 3 gets <b>{n allele/recessive allele}</b> from person 1;</p>			
		(c)			1	25%;			
		Total Mark			7				

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
8	2	(a)		2	A hair B sweat gland			Hair follicle Sweat duct
		(b)	i	2	any <b>two</b> from <ul style="list-style-type: none"> <li>sweating/ produces sweat;</li> <li>vasodilation/ blood vessels widen;</li> <li>hairs lying flat/ hairs lie {flat/down}/ hairs lowered;</li> </ul>		Erector muscle relaxes	sweat  Blood vessels {open/ get bigger/ larger/thicken/ enlarge}/ expand.  hairs are flat
			ii	2	<u>Less/not as much</u> blood flowing (through the blood vessels); therefore <u>less/not as much</u> heat is {lost/ radiated} 2 <sup>nd</sup> mark linked to 1 <sup>st</sup> mark			Any reference to blood vessels moving {up to/ down from} skin surface. No heat is lost
		Total Mark		6				



Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT							
9	3	(a)		2	any <b>two</b> from: <ul style="list-style-type: none"> <li>• liver {damage/ failure/disease}/ cirrhosis of the liver;</li> <li>• circulatory disease;</li> <li>• heart {damage/failure/disease};</li> <li>• brain damage;</li> <li>• {throat/tongue/oesophagus/liver/breast/bowel} cancer;</li> <li>• kidney {disease/damage/failure};</li> </ul>	kills brain cells		Liver problems  Heart attack
		(b)	i	1	alcohol consumption {increases/slows} reaction time/ alcohol consumption slows {reactions/ reaction speed};			Less reaction time/ reaction time decreases
			ii	1	person 2;			
			iii	1	take longer to {react/brake/swerve} to avoid an accident/ longer to react to {danger/changes in road};		take longer to stop (needs to be qualified)	
		Total Mark		5				

Question Number		Mark	Answer
FT	HT		
10	4	6  QWC	<p><i>Indicative content:</i></p> <p><i>Credit should only be given where health issue is linked to the excess in the diet</i></p> <ul style="list-style-type: none"> <li>• <b>ENERGY:</b> too much energy (taken in at lunch – excess energy stored as fat) leading to obesity</li> <li>• <b>SUGAR:</b> too much sugar (taken in at lunch) - this could possibly lead to diabetes (type 2)/ obesity/tooth decay</li> <li>• <b>FAT:</b> too much fat (taken in at lunch) - (possibly) leading to obesity/ heart disease/circulatory disease</li> <li>• <b>SODIUM:</b> too much salt (taken in at lunch) - could lead to high blood pressure</li> <li>• <b>EXERCISE:</b> ref to lack of exercise affecting circulation/heart</li> </ul> <p>For marks in 5-6 range:</p> <p>Account needs to recognise, at least once</p> <p><b>EITHER</b> that the GDA is being exceeded</p> <p><b>OR</b> that only one meal is being looked at and therefore when all the daily meals are considered then the overshoot of the GDAs are very great indeed.</p> <p><b>5-6 marks</b> The candidate constructs an articulate, integrated account correctly linking relevant points, such as those in the indicative content, which shows sequential reasoning. The answer fully addresses the question with no irrelevant inclusions or significant omissions. The candidate uses appropriate scientific terminology and accurate spelling, punctuation and grammar.</p> <p><b>3-4 marks</b> The candidate constructs an account correctly linking some relevant points, such as those in the indicative content, showing some reasoning. The answer addresses the question with some omissions. The candidate uses mainly appropriate scientific terminology and some accurate spelling, punctuation and grammar.</p> <p><b>1-2 marks</b> The candidate makes some relevant points, such as those in the indicative content, showing limited reasoning. The answer addresses the question with significant omissions. The candidate uses limited scientific terminology and inaccuracies in spelling, punctuation and grammar.</p> <p><b>0 marks</b> The candidate does not make any attempt or give a relevant answer worthy of credit.</p>
Total Mark		6	