

Biology A

General Certificate of Secondary Education

Unit **A223/01**: Ideas in Context plus B7 (Foundation Tier)

Mark Scheme for June 2011

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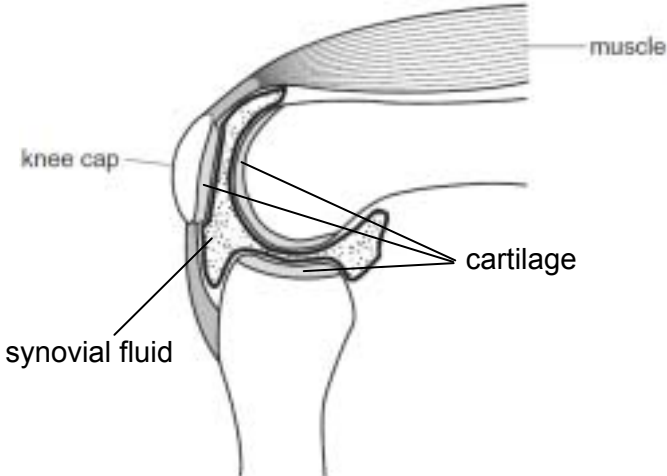
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Question		Answer	Mark	Guidance	
1	a	smaller wrinkles (1) fewer wrinkles (1)	2		
	b	any two from (for one mark): vitamins / vitamin A; proteins; plant extracts / lupins / alfalfa;	1	both required for the mark reject fibrillin	
	c	any two from: could have been digitally enhanced; idea that it could have happened anyway; idea that measurements are subjective and not objective; does not give a time period; small sample size / repetition needed;	2	 accept any reasonable example e.g. botox, other skin products used, any good life style habit, cosmetic surgery	
	d	idea of bias / scientists could feel under pressure / obligated to produce the result the manufacturers wanted (1) fear of loss of funding or job or wages (1)	2	ignore reference to lying or explicit bribery	
	e	experiments designed independently (1) same testing as used on medicines (1)	2		
	f	i	30 (1)	1	
		ii	idea that double the dose may not produce double the result/make it work better (1)	1	accept she may be one of the 30% for whom it does not work do not accept references to time i.e. it will not work quicker
	g	stay out of Sun (1) use sun creams (1)	2		
Total			[13]		

Question		Answer	Mark	Guidance
2	a	$\text{carbon dioxide} + \text{water} \xrightarrow{\text{light}} \text{glucose} + \text{oxygen}$	2	water on LHS (1) glucose <u>and</u> oxygen on RHS (1)
	b	<p>... absorbed by chlorophyll. <input checked="" type="checkbox"/> (1)</p> <p>... used to rearrange atoms in water. <input checked="" type="checkbox"/> (1)</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	2	
	c	<p>carbon dioxide (1)</p> <p>light/sunlight (1)</p> <p>temperature (1)</p>	3	any way round not sun not heat
	d	<p>any two correct examples</p> <p>e.g.</p> <p>burning fuels /and cutting down rain forest (2)</p>	2	
Total			[9]	
3	a	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>ethical <input checked="" type="checkbox"/> (1)</p>	1	
	b	<p>DNA removed from white blood cells (1)</p> <p>gene probe added (1)</p> <p>gene identified by UV or autoradiography (1)</p>	3	
Total			[4]	

Question			Answer	Mark	Guidance
4	a	i	breathe faster / deeper (1) heart beats faster (1)	2	
		ii	contract (1)	1	
	b		idea that it depends upon what Jessica is doing (1) idea of variation between individuals (1)	2	
	c		lactic acid (1) + energy (1)	2	
Total				[7]	
5	a		the Sun (1)	1	accept any clear indication of correct answer
	b		makes own food or organic materials / chemical energy (1) by photosynthesis (1)	2	ignore reference to heterotrophs
	c	i	100 - (60 + 30) (1) 10% (1)	2	10% scores both marks
		ii	5% (1)	1	
	d		any three from: e.g. heat or keeping warm; movement; decay; uneaten or undigested food such as bones; excretion or waste; QWC (1)	4	ignore reference to respiration the candidate's response must engage with the question and if you can read the response and it makes sense without having to re-read it then award the QWC mark
Total				[10]	

Question		Answer	Mark	Guidance
6	a	<p>cartilage - light grey area on end of bone (any of the three indicated on diagram) (1) synovial fluid - dotted area (1)</p> 	2	
	b	<p>any two from: to find out if he has any allergies/is taking any medication/past medical history; pass information on to different doctor/medical practitioner; monitoring progress;</p>	2	
	c	<p>any two from: use of exercise/stretching/example of exercise e.g. knee extension; repeated / regular; monitoring / adapting the programme;</p>	2	ignore reference to RICE
Total			[6]	

Question		Answer	Mark	Guidance												
7	a	<table border="1"> <thead> <tr> <th>component</th> <th>function</th> <th></th> </tr> </thead> <tbody> <tr> <td>red blood cells</td> <td>carry oxygen</td> <td>(1)</td> </tr> <tr> <td>white blood cells</td> <td>protect against disease</td> <td>(1)</td> </tr> <tr> <td>platelets</td> <td>clot blood</td> <td>(1)</td> </tr> </tbody> </table>	component	function		red blood cells	carry oxygen	(1)	white blood cells	protect against disease	(1)	platelets	clot blood	(1)	3	ignore fight infection/disease accept fight bacteria/viruses/microorganisms/pathogens/antigens or are part of immune system
		component	function													
		red blood cells	carry oxygen	(1)												
		white blood cells	protect against disease	(1)												
platelets	clot blood	(1)														
	A (1) B (1)	2														
	idea of clotting (1)	1														
Total			[6]													

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