



GCSE

Science A

General Certificate of Secondary Education

Unit **A213/01**: Modules B3, C3, P3 (Foundation Tier)

Mark Scheme for June 2011

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Question		Answer	Mark	Guidance
1	a	C D B one mark for D in the middle one mark for C and B in correct place	2	2 marks for three correct
	b	i Alan <u>and</u> Dave (1)	1	both needed
		ii Alan (1)	1	
		Total	[4]	

2	a	i bar to correct place ($42\% \pm 1\%$) (1)	1	
		ii nuclear industry (1)	1	
	b	i 15 % (1)	1	
		ii food and drink (1)	1	
	c	named occupation (1) detail of risk (1) action by employer (1)	3	free response e.g. nuclear power station/reprocessing plant, nuclear medicine ignore lab on its own ignore X rays cancer/cell damage/ionising accept 'exceeding allowed dose' / owtte regular monitoring/use of shielding/protective or safety clothing/restrict time/maximise distance/safe storage
		Total	[7]	

3		A (1) C (1) A (1)	3	
		Total	[3]	

Question		Answer	Mark	Guidance
4	a	6 (1)	1	
	b	5 (1)	1	
Total		[2]		

5	a	arrow from sand eels to puffin (1)	1	
	b	i herring (1)	1	
		ii herring (1)	1	
	c	competition	1	
		<input type="checkbox"/> <input checked="" type="checkbox"/> (1) <input type="checkbox"/> <input type="checkbox"/>		
Total		[4]		

6	a	A. ramidus chimpanzee humans	2	all three correct = 2 marks 1 or 2 correct = 1 mark
	b	pelvis was badly crushed (1) only partial skeleton (1)	2	
Total		[4]		

Question		Answer	Mark	Guidance
7	a	<p>any three from:</p> <p>variation not all the males have the same size tails / same number eyespots;</p> <p>competition males compete for mates / females prefer males with bigger tails/more eyespots;</p> <p>reproduction (selected) males are more likely to reproduce;</p> <p>evolutionary consequence passing on genes for bigger tails (so tail size increases over time);</p>	3	<p>allow reverse arguments</p> <p>'females prefer to mate with males with most eyespots' is a quote but gets points 1 & 2</p> <p>N.B. 'males with bigger tails/more eyespots are more likely to reproduce' = 2 marks (marking points 1 & 3)</p>
	b	fossils and DNA in that order (1)	1	
		Total	[4]	

Question		Answer	Mark	Guidance
8	a	i prevent harmful microbes/bacteria/fungi/mould growing on food (1) makes food safe to eat / stop it going off / extend shelf life (1)	2	accept make it last longer
		ii Read ... to check for sulfur dioxide <input checked="" type="checkbox"/> (1)	1	tick in any other box = 0 marks
	b	i (uncooked) cassava / gluten (in wheat) / peanut (allergy) / (poisonous) mushrooms / kidney beans (1)	1	any reasonable answer for poisons in any plant or animal source accept alcohol, puffer fish
		ii what is done (1) what is added (1)	2	one from either category = 1 mark max 2 e.g. farming: pesticides/fertilisers processing: preservatives / chemicals formed in storage, processing or cooking packaging: chemicals from plastic for 2 marks, must be linked
		Total	[6]	

Question		Answer	Mark	Guidance								
9	a	<p>... safe levels of chemicals in food.</p> <p><input checked="" type="checkbox"/> (1)</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>They advise people on what they ... eat</p> <p><input checked="" type="checkbox"/> (1)</p> <p><input type="checkbox"/></p>	2	1 mark for each correct answer if 3 ticks deduct 1 mark 4 or 5 ticks = 0 marks								
	b	<table border="1"> <tr> <td>true</td> <td>false</td> </tr> <tr> <td>✓</td> <td></td> </tr> <tr> <td></td> <td>✓</td> </tr> <tr> <td></td> <td>✓</td> </tr> </table>	true	false	✓			✓		✓	2	all 3 ticks in correct boxes = 2 marks 2 or 1 tick correct = 1 mark
true	false											
✓												
	✓											
	✓											
	c	i carbon; hydrogen; oxygen; nitrogen;	2	answers in any order accept chemical symbols C, H, O, N all 4 correct = 2 marks 3/2 correct = 1 mark								
	ii	<p>Digestion breaks ...</p> <p>Amino acids ...</p> <p>Urea is excreted ...</p> <p>... kidneys</p> <p>... blood</p> <p>... liver</p>	2	all 3 lines correct = 2 marks 2 or 1 line correct = 1 mark								
		Total	[8]									

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