



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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Mark Scheme

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Question			Answer	Mark	Guidance
1	a		C D B one mark for D in the middle one mark for C <u>and</u> 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]	

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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		<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: right; padding-right: 10px;">competition</div> <div style="display: flex; flex-direction: column; align-items: center;"> <input type="checkbox"/> <input checked="" type="checkbox"/> (1) <input type="checkbox"/> <input type="checkbox"/> </div> </div>	1	
			Total	[4]	

6	a		<div style="display: flex; justify-content: space-between;"> chimpanzee humans A. ramidus </div>	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]	

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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]	

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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	<div style="text-align: right;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Read ... to check for sulfur dioxide <input checked="" type="checkbox"/> (1) </div>	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]	

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Question			Answer	Mark	Guidance								
9	a		<div><div>... safe levels of chemicals in food.</div><div><input checked="" type="checkbox"/> (1)</div><div><input type="checkbox"/></div><div><input type="checkbox"/></div><div>They advise people on what they ... eat</div><div><input checked="" type="checkbox"/> (1)</div><div><input type="checkbox"/></div></div>	2	1 mark for each correct answer if 3 ticks deduct 1 mark 4 or 5 ticks = 0 marks								
	b		<table><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	<div><div>Digestion breaks ...</div><div>Amino acids ...</div><div>Urea is excreted ...</div><div>... kidneys</div><div>... blood</div><div>... liver</div></div>	2	all 3 lines correct = 2 marks 2 or 1 line correct = 1 mark								
			Total	[8]									

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