

# **Additional Applied Science A**

General Certificate of Secondary Education

Unit **A335/01**: Harnessing Chemicals (Foundation Tier)

## **Mark Scheme for January 2011**

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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Question		Expected Answers	Marks	Additional Guidance
1	(a)	E;	[1]	
	(b)	D;	[1]	
	(c)	A; (1) C; (1)	[2]	either order
		<b>Total</b>	<b>[4]</b>	

Question		Expected Answers	Marks	Additional Guidance
2	(a)		[3]	all 4 correct = 3 marks 3 correct = 2 marks 2 correct = 1 mark 1 correct = 0 marks
	(b) (i)	3;	[1]	
	(ii)	33;	[1]	
	(c)	bulk <input type="checkbox"/> fine <input checked="" type="checkbox"/> rare <input type="checkbox"/> small <input type="checkbox"/>	[1]	
<b>Total</b>			[6]	

Question		Expected Answers	Marks	Additional Guidance
3	(a)	oxidising = C; (1) irritant = A; (1) corrosive = D; (1)	[3]	in this order (the first answer, B, for toxic is given)
	(b)	idea of protecting people; (1) idea of protecting the environment; (1)	[2]	two different ideas needed for both marks.
	(c)	Health and Safety Executive / HSE; (1)	[1]	
		<b>Total</b>	<b>[6]</b>	

Question		Expected Answers	Marks	Additional Guidance
4	(a)	idea of disappearance/change in the amount of reactant/appearance of product; (1) per unit time; (1)	[2]	<b>allow</b> (time for) complete reaction / reaction to stop (1) idea of a reaction needs to be qualified.
	(b)	hydrochloric acid + magnesium; (1) hydrogen/H <sub>2</sub> ; (1)	[2]	either order. <u>correct</u> symbols are ok
	(c) (i)	idea of giving out heat; (1)	[1]	
	(ii)	idea of measures <u>temperature rises</u> / feels it gets <u>hotter</u> ; (1)	[1]	
<b>Total</b>			[6]	
5	(a)	It is obtained from living sources. <input type="checkbox"/> It is obtained from non-living sources. <input type="checkbox"/> It is obtained from never-lived sources. <input checked="" type="checkbox"/>	[1]	
	(b)	5(%) (1)	[1]	
	(c)	any 2 from: idea of quality assurance; (1) consumer protection;(1) conforms to national/international standards; (1) quality control; (1)	[2]	
	(d)	idea of <u>made</u> on a large scale; (1)	[1]	
<b>Total</b>			[5]	

Question		Expected Answers	Marks	Additional Guidance
6	(a)	C anywhere before B; (1) B anywhere before E; (1) E anywhere before F; (1)	[3]	CBEF
	(b)	idea of using a funnel; (1) idea of pouring down a glass rod; (1)	[2]	not filters/filtering <b>ignore</b> pipette / burette <b>allow</b> pour down thermometer
	(c)	sodium chloride; (1)	[1]	<b>allow</b> correct formula do <b>not</b> allow wrong use of lower/upper case letter
	(d)	water; (1)	[1]	<b>allow</b> correct formula do <b>not</b> allow wrong use of lower/upper case letter
	(e)	idea of 1000ml = 1 litre/100ml = 0.1 litre; (1) <b>OR</b> 2.5/0.1; (1) 25 (g/l); (1)	[2]	correct answer of 25 = 2 marks
		<b>Total</b>	<b>[9]</b>	
		<b>Paper Total</b>	<b>[36]</b>	

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