

IGCSE Chemistry 4335 03 4437 08  
Mark Scheme (Results)  
Summer 2008

IGCSE

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## IGCSE CHEMISTRY 4335-03 / 4437 08 MARK SCHEME

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1 (a)	B	b	Any other answers	1
	E	e		1
	D	d		1
	F	f		1
				(4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1 (b)	F	f	Any other answers	
	A	a		
	C	c		
				(1)

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (a)	22.65			1
	1.30 ( <i>zero needed for mark</i> )			1
	21.35			1
				(3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b) (i)	ticks under 23.10 and 23.20			
				(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b) (ii)	$\frac{23.10 + 23.20}{2}$			1
	23.15 (answer must be to 2 dp)			1
				(2)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)	mass / weight / amount / number of moles			1
	(surface) area / size (of chips)			1
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b) (i)	3			1
	did not do experiment for 1 minute / did not record time / waited for bubbles to stop / waited for reaction to end	OWTTE		1
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b) (ii)	two correct column headings: concentration (of acid) mass of gas lost/given off carbon dioxide/CO <sub>2</sub>	weight	amount	1
	two correct units: % g / grams			1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b) (ii)	six values correctly inserted			2
				(4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c) (i)	vertical scale of 1 cm rep 0.1 g			1
	six points correctly plotted			2
	(straight) line of best fit ignoring anomalous point			1
				(4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c) (ii)	0.44 / 50 circled or otherwise identified			1
				(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c) (iii)	cotton wool not put in flask/ acid (spray) escaped acid too concentrated / too much acid temperature too high gas collected for longer than 1 minute malachite pieces smaller / bigger surface area			
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c) (iv)	vertical line from 70 % to line of best fit			1
	0.47	between 0.46 and 0.48		1
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (d) (i)	mass (of CO <sub>2</sub> given off) increases as concentration (of acid) increases / mass (of CO <sub>2</sub> given off) decreases as concentration (of acid) decreases			1
	direct proportion / equivalent wording such as "mass doubles when concentration doubles"			1
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (d) (ii)	more collisions between particles / equivalent wording such as "particles bump into each other more"		references to energy	1
	correct reference to frequency or time, eg "collisions are more frequent", particles bump into each other more often", "more collisions in a given time"			1
				(2)

(Total 21 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)(i)	40.5	40,5 40.50 40,50	Any other answers	(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)(ii)	10.5 16.8	10.50 16.80	Any other answers	1 1 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)(iii)	$\frac{100 \times 10.5}{16.8}$ 62.5 cq on 4(a)(ii)			1 1 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b) (i)	six points correctly plotted  smooth curve of best fit			2  1 (3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b) (ii)	SEE NOTES			(1)
<b>Notes</b>	<ul style="list-style-type: none"> <li>If a vertical line is drawn from the intersection (within 1 small square), then award mark if the answer is within 1 °C</li> <li>If no vertical line drawn from the intersection, then decide what the answer should be, and award mark if within 1°C</li> <li>Ignore °C</li> </ul>			

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (c)	(solubility) stays the same increase(d) decrease(d)	Any other answers with the same meaning, eg for "stays the same", accept unchanged, does not change, remains constant eg for "increased", accept bigger, greater, larger, more eg for "decreased", accept smaller, less, lower		1 1 1 (3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (d)(i)	add ice (to the beaker or water) / cool the water in a fridge	use water from fridge put tube in ice	add ice to tube add ice to mixture add ice to salt add ice to solution do experiment in fridge do experiment in cold room	(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (d)(ii)	water boils at 100 (°C) / (120 °C is) above boiling point of water	Any answer with same meaning, eg boiling point of water is 100 °C this temperature is higher than the boiling point of water Accept boiling temperature, bp and bpt in place of boiling point	Any other answers	(1)

(Total 14 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (a)	Q / chlorine / Cl <sub>2</sub> S / ammonia / NH <sub>3</sub> T / hydrogen / H <sub>2</sub> <i>Award 1 mark each for any two</i>	q s t	Cl  H	(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (b)	P / carbon dioxide / CO <sub>2</sub> R / sulphur dioxide / SO <sub>2</sub>	p r	Any other answers	1 1 (2)

(Total 4 marks)

PAPER TOTAL 50 MARKS