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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2010 question paper for the guidance of teachers

0654 CO-ORDINATED SCIENCES

0654/62

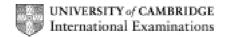
Paper 6 (Alternative to Practical), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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Page 2		2	Mark Scheme: Teachers' vers		Syllabus	Paper	
				IGCSE – October/November 2	2010	0654	62
1	(a)	(i)	5.4 g 5.(0)				[2]
		(ii)	tube tube tube tube	0.3 g ; 1.0 g ;			[4]
			tube -	0.0 g , (1 mark each, (ech))			[+]
	(b)			; (allow ecf) sst greatest mass ;			[2]
	(c)			ighed) protein with acid (instead of ju oss in/change of mass after <u>10 mins</u>			[2]
							[Total: 10]
2	(a)	(i)	corre	et symbols for ammeter and lamp sho	wn in circuit ;;		[2]
		(ii)	it is m	etallic/metal;			[1]
	(b)	any	/ menti	on of use of a magnet ;			[1]
	(c)	(i)		ne mixture ; im or mention of suitable apparatus, e	e.g. test-tube or i	metal container	·; [2]
		(ii)	heat (ives energy (so that atoms react);			[1]
		(iii)	exoth	ermic ;			[1]
	(d)	res (e.g	ult with	operty mentioned ; iron sulfide ; netic + non-magnetic/melting point + actor)	high mpt/electr	ical conductivit	[2] y +
							[Total: 10]

	Page 3	}	Mark Scheme: Teachers' version			Syllabus	Paper					
			IGCSE – October/November 2010 0654				62					
3	(a) (i)	(i) 8.6 cm (+/- 0.1 cm);							[1]			
	(ii)	6.2 c	:m (+/-	- 0.1 cm	n) ;							[1]
	(iii)	ii) 8.6 / 6.2 = 1.4 (1.39) (no penalty for using more decimal points) (ecf);										[1]
	(b) (i)	(b) (i) r ₃ = 49 degrees (+/- 2 degrees); r ₄ = 76 degrees;										[2]
	(ii)	(ii) sine $r_3 = 0.75$ / sine $r_4 = 0.97$ (ecf) (one or both correct);									[1]	
	(iii) both points correct (+/- half square) and straight line drawn through the origin;										[1]	
	(iv)	(iv) x- and y- distances used marked on the graph; gradient = 1.5 (ecf);									[2]	
	(c) (value (b)(iv) is more accurate) it is derived from several values instead of just one/owtte/very difficult to measure through glass block;									[1] 10]		
4	(a) (i)	still a		1.8 cm 14.7 c								[2]
	(ii)	1.4 c 14.4										[2]
	(iii)	(iii) 1.4/4 = 0.35; (ecf) 14.4/4 = 3.6; (ecf)								[2]		
	(b) moving air / the wind takes water (vapour) away from leaf; (gradient between inside and outside of leaf maintained) therefore more evaporation occurs / owtte;									[2]		
	(c) (i)	prev	ents a	ir from	entering	stem/pre	events ai	r lock ;				[1]
	(ii)	wate	er on le	eaves w	ould bloo	ck stoma	ta (and p	revent eva	poration)	;		[1]
											[Total: 1	10]

Pa	ige 4	Mark Scheme: Teachers' version	Syllabus	Paper	
	_	IGCSE – October/November 2010	0654	62	
5 (a)		no change / no reaction / no bubbles / dissolveno change / no reaction / no bubbles / dissolve		[2	
(b)		sodium chloride or hydrochloric acidnitric acid or potassium nitrate		[2]	
(c)	solution l solution l solution l	A is nitric acid B is sodium chloride C is potassium nitrate D is hydrochloric acid ;;; rect 3 marks, 3 correct 2 marks, 2 correct 1 mark)		[3	
(d)	test gas litmus tui	um hydroxide solution and aluminium foil and warn evolved using red litmus or by smell; rns blue / ammonia is given off; out flame test;	n;		

lilac flame seen; (for a max of 2 marks)

[Total: 10]

[3]

Page 5	Mark Scheme: Teachers' version	Syllabus	Paper
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(a) any dimensions to give an area of 5 cm² e.g. 5 cm × 1 cm; [1]
(b) 0.75 A, 0.90 A (second decimal point must be shown); [2]
(c) (he increases the resistance so that) the current is decreased / cannot get through the resistor / owtte; [1]
(d) four points plotted +/- half square; straight line drawn; [2]
(e) the hook / pan has a mass / owtte; [1]
(f) soft iron loses its magnetism when the current is switched off; but steel does not / owtte / steel retains its magnetism; [2]

(g) current could leak from the wire (through the iron)/owtte/prevent short circuit/no

shock if touched;

[1]

[Total: 10]