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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

0653 COMBINED SCIENCE

0653/61

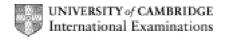
Paper 6 (Alternative to Practical), maximum raw mark 60

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.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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	Page 2)	Mark Scheme: Teachers' version		Syllabus	Paper
				IGCSE – Octo	ber/November 2010	0653	61
1	(a)	batch A ma		mass 8.8 g ; mass 8.3 g ;			[2]
	(b)	(b) average r		mass for batch A time	0 = 0.88 1 = 1.74 4 = 2.57 7 = 3.26		
		ave	average mass for batch B time				
		(allow ecf)		of)	(all correct 2 marks, 1 error	1 mark)	[2]
	(c)	c) scale correct; plotting of points for both batche reasonable curve(s) drawn; (if a non-linear scale only curves					[3]
	(d)	(i)	(see	ed/seedlings) took up/a	absorbed water ;		[1]
		(ii)	seed	dlings will die ;			
		()	canr		ave used up stored energy;)		[2]
							[Total: 10]
2	(a)	(i)	1.55	; 1.6(0) (no tolerance)	; (allow 1 mark if reversed)		[2]
		(ii)		$5 \times 0.25 = 0.39 \text{ (ecf)};$ $\times 0.12 = 0.19(2) \text{ (ecf)};$			[2]
		(iii)	Wat	t(s)/W;			[1]
	(b)	(i)	diag	ram shows 2 lamps in _l	parallel ;		[1]
		(ii)	0.48	(+/ - 0.01);			[1]
		(iii)	0.48	s × 1.5 = 0.72 (allow 0.7	'05 to 0.74) (ecf);		[1]
	(c)	acc	urate		ment 1 is true and statemer if justified)	nt 2 is true but not as	; [1]
	(d)	clock / watch / timer ;					[1]
							[Total: 10]

L	rage 3	Mark Scheme. Teachers Version	Syllabus	rapei		
		IGCSE – October/November 2010	0653	61		
3	(a) blue; ammonia ammonia	a ; um (accept NH ₄) ;		[3]		
	iron	(b) (i) iron(II); iron(III); (allow 1 mark if oxidation state missing or reversed) oxidation;				
	` '	um chloride (nitrate) ; <u>e</u> precipitate / ppt. / solid / residue ;		[2]		
		c; (must score before award of next mark) er nitrate / lead nitrate;		[2]		
				[Total: 10]		
4	(a) 23.2°C; 44.8°C;	(no tolerance)		[2]		
	(b) 95.8g; 97.9g; ((no tolerance)		[2]		
	(c) 97.9 – 99	5.8 = 2.1 g (ecf) ;		[1]		
	(d) 44.8 – 23	3.2 = 21.6 °C (ecf) ;		[1]		
	(e) (i) cond	densation / condensing ;		[1]		

(ii) molecules (particles)/gas lose energy/move more slowly/forms bonds;

(e.g. gas molecules lose energy when they become liquid = 2 marks)

on changing from gas to liquid/owtte;

(**not** molecules / particles come closer together)

(f) some (2.1 g) water / steam cools (from 100 °C to 44.8 °C);

Mark Scheme: Teachers' version

Syllabus

Paper

Page 3

[2]

[1]

	Page 4			Mark Scheme: Teachers' version	Syllabus	Paper	
				IGCSE – October/November 2010 0653		61	
5	(a) C and E A, B and D			purple ; blue ;		[2]	
	(b)	(b) B C and D		blue / black; brown / yellow; (ignore colours in other boxes)		[2]	
	(c)		tube D ; (Benedict's solution) changes (from blue) to red / shows a positive test ;				
	(d)	(d) put starch / solution B into two test-tubes; add protein solution to each / use C and E ; allow to react / leave for some time; at a temperature of 35 °C (allow 30 °C to 40 °C) / warming; test-tubes with Benedict's solution;					
		pos	[max 4]				
						[Total: 10]	
6	(a)	(i)	(dark)	red or red-brown (do not accept 'brown' on its	own);	[1]	
		(ii)	black ;			[1]	
	(b)	litmus (turns red and then) is bleached/loses colour;				[1]	
	(c)) (i) blue-black colour (accept 'blue' or 'black');		[1]			
		(ii)		$2KI \rightarrow 2KCl + I_2$ nulae correct; sed;		[2]	
	(d)	(i)	ethene	;		[1]	
		(ii)	unsatu	rrated / (molecules) contain a double bond / C=	C;	[1]	
	(e)	(i)	purple	;		[1]	
		(ii)	sublim	ation / subliming; (ignore reverse)		[1]	
						[Total: 10]	