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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

0652 PHYSICAL SCIENCE

0652/06

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 – October/November 2010	0652	06		
1	(a) (i)	36.5	;		[1]		
	(ii)	29.5	6 (+/- 0.1);		[1]		
	(iii)	29.5	$5-25 = 4.5 (cm^3) (ecf) ;$		[1]		
	(iv)	36.5	$3/4.5 = 8.1 (g/cm^3)$; (allow 8)		[1]		
	(b) (i)		y a light spill / flame ; llt – pop (owtte) ;		[2]		
	(ii)	(ii) Mg, Zn, A <i>l</i> , Fe, Sn (name or symbol); (do not allow alkali metal or alkaline earth metal)					
		ou. a			[1]		
	(c) (i)	blue	precipitate (formed) ;		[1]		
	(ii)	•	sipitate dissolves/soluble/forms solution; k) blue;		[2]		
					[Total: 10]		
2	(a) (i)	1.55	; 1.6(0) (no tolerance); (allow 1 mark if reversed)		[2]		
	(ii)		5 × 0.25 = 0.39 (ecf); × 0.12 = 0.19(2) (ecf);		[2]		
	(iii)	Watt	t(s)/W;		[1]		
	(b) (i)	diag	ram shows 2 lamps in parallel ;		[1]		
	(ii)	0.48	s (+/- 0.01) ;		[1]		
	(iii)	0.48	\times 1.5 = 0.72 (allow 0.705 to 0.74) (ecf);		[1]		
	acc	curate	tements are true/statement 1 is true and statemer ;; atement(s) is/are false if justified)	nt 2 is true but no	t as [1]		
	(d) clo	ck/wa	atch / timer ;		[1]		
			[Total: 10]				

		IGCSE – October/November 2010	0652	06
3	(a) blue; ammoni ammoni		[3]	
	iron	$n({ m II})$; $n({ m III})$; (allow 1 mark if oxidation state missing or revelation ;	ersed)	[3]
		ium chloride (nitrate) ; te precipitate / ppt. / solid / residue ;		[2]
		ic ; (must score before award of next mark) er nitrate / lead nitrate ;		[2] [Total: 10]
				[Total. To]
4	(a) 23.2 °C 44.8 °C	; ; (no tolerance)		[2]
	(b) 95.8 g ; 97.9 g ;	(no tolerance)		[2]
	(c) 97.9 – 9	95.8 = 2.1 g (ecf);		[1]
	(d) 44.8 – 2	23.2 = 21.6 °C (ecf);		[1]
	(e) (i) con	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

[Total: 10]

[2]

[1]

	Page 4		ļ	Mark Scheme: Teachers' version	Syllabus	Paper
				IGCSE – October/November 2010	0652	06
5	(a)	(i)	4.7,	5.5, 6.3 (newtons) (no tolerance) ;;;		[3]
		(ii)	2, 4,	6, 8, 10, 12, newtons (all correct);		[1]
	(b)	(i)	poin	sible scale chosen and axes labelled, units (newtons ts plotted (allow one error) ; ght line drawn NOT passing through (0,0) ;	s) given on one ax	is ; [3]
		(ii)		$\frac{6-0}{3.8-1.5} = \frac{6}{2.3}$ (choice of data shown on graph); 6 (no units);		[2]
	(c)	400	0×10 2.6	= 1538 N (ecf from part (b)(ii)); (allow 1540)		[1]
						[Total: 10]
6	(a)	(i)	(darl	k) red or red-brown (do not accept 'brown' on its ov	vn) ;	[1]
		(ii)	blac	k;		[1]
	(b)	litm	ius (tu	urns red and then) is bleached/loses colour;		[1]
	(c)	(i)	blue	-black colour (accept 'blue' or 'black') ;		[1]
		(ii)	all fo	+ 2KI \rightarrow 2KC l + I $_2$ branched; nced;		[2]
	(d)	(i)	ethe	ene ;		[1]
		(ii)	unsa	aturated / (molecules) contain a double bond / C=C;		[1]
	(e)	(i)	purp	ole ;		[1]
		(ii)	subl	imation / subliming; (ignore reverse)		[1]
						[Total: 10]

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