CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0654 CO-ORDINATED SCIENCES

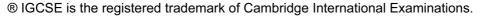
0654/62 Paper 6 (Alternative to Practical), maximum raw mark 60

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.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.





	age z		Cambridge IGC	SE – October/November 20	15	0654	62
1	(a)	biu	Benedict's: (reducing) sugar ; biuret: protein ; iodine: starch ;				[3]
	(b)						
			Benedict's	biuret	ioc	line	
		gre	en/yellow/orange/red;	purple/lilac	(ora	nge)	
	_		(blue)	purple/lilac (both);	blue-blad	ck/black;	
							[3]
	(c)	(i)	dissolve in/mix with ethat add water;	anol;			[2]
		(ii)	cloudy/milky/white emu	llsion ;			[1]
	((iii)	milk is white/milky/canr	not see the result/AW;			[1]
						Γ	Total: 10]
2	(a)	app	oly a lighted splint/flame /	AND gas ignites/a flame is se	een ;		[1]
	(b)	(i)	suitable diagram of CO ₂ white ppt. / white/milky;	passing into limewater ;			[2]
		(ii)	carbon dioxide ;				[1]
	(c)	cal	cium carbonate/calcium h	nydrogencarbonate ;			[1]
	(d)	(i) litmus paper/pH paper/universal indicator (in the vapour);blue to red (blue can be line above);OR					
				ersal indicator/pH indicator ;			[max 2]
		(ii)	to avoid ejection of hot a the paper;	cid/to avoid vapour of nitric	acid/to avoid a	acid touching	[1]
	(e)	wat	er/counting bubbles (in w	tube/collect in measuring cy vater); ed in a fixed time/time taken		ertain	
		volu		bbles in a fixed time/time taken			[2]

Mark Scheme

Syllabus

Paper

[Total: 10]

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Р	age :	3	Mark Scheme	Syllabus	Paper
	_		Cambridge IGCSE – October/November 2015	0654	62
3	(a)	d =	d = 25 cm: 0.69 (amps); d = 40 cm: 0.48 (amps); 1.1 and 1.2 both required (volts, for d = 25 and 40 cm respectively);		[3]
	(b)	(i)	points correctly plotted $\pm1\!\!/_{\!\!2}$ small square (allow one error) ; straight line drawn ;		[2]
		(ii)	indication on graph of how data obtained AND at least half of line us correct calculation for triangle method using data from graph;		[2]
		(iii)	0.67 or 0.7 ;		[1]
	(c)) (i) the ammeter reading will be off the scale/current greater than 1A/th ammeter may be damaged;		he	[max 1]
		(ii)	the wire will heat up/(so that) the resistance (of the wire) will be cha	anged ;	[1]
					[Total: 10]
4	(a)	(i)	$39 \pm 2 \text{ (mm)}$;; (OR (for max 1): $39 \pm 4 \text{ (mm)}$ or $3.9 \pm 0.2 \text{/ (cm)}$)		[2]
		(ii)	shows measurement of the scale bar in working 20 mm \pm 1 mm ; answer = 0.4 (mm) ;		[2]
	(b)	32 72 45 10	(all four numbers to be correct) ;		[1]
	(c)	(i)	axes labelled with units;		
			suitable linear scale; at least 4 plots correct ± half small square; best-fit line peaking at or above 0.5 mol/dm ³ ;		[4]
		(ii)	read from peak of graph \pm half small square ;		[1]
					[Total: 10]
5	(a)	(i)	rusty;		[1]
		(ii)	the nail has not rusted/no change;		[1]
		(iii)	the paint excludes air/oxygen/water/cannot react with air/oxygen/prevents oxidation;	/water	[1]

Page	4	Mark Scheme	Syllabus	Paper
		Cambridge IGCSE – October/November 2015	0654	62
(b)	(i)	lighted splint AND pops ;		[1]
	(ii)	(add aqueous) ammonia/sodium hydroxide AND green precipitate	;	[1]
	(iii)	yellow/orange/brown/red-brown;		[1]
	(iv)	(add aqueous ammonia/sodium hydroxide and) orange/red-brown precipitate;	/brown	[1]
(c)		ng mass from iron wire AND steel wire ; asure deflection/bend/distance with the ruler;		
		wires of same thickness/same length;		[3]
				[Total: 10]
6 (a)	(tea	at) pipette/dropper ;		[1]
(b)	(i)	A : 16.5 ; B : 8. <u>0</u> ; C : 11.5 ;		[3]
	(ii)	A C B;		[1]
(c)		hydrous) copper sulfate/cobalt chloride; ing/freezing point/melting point;		[2]
(d)	(i)	measuring cylinder (to measure) volume; balance/scale(s) (to measure) mass;		[2]
	(ii)	the mass is divided by the volume $\frac{\text{mass}}{\text{volume}}$;		[1]

Mark Scheme

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[Total: 10]

Syllabus

Paper