MMM. Xiremedaders.com

#### UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

### MARK SCHEME for the November 2004 question paper

#### 0620 CHEMISTRY

0620/06

Paper 6 (Alternative to Practical), maximum mark 60

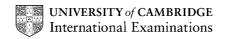
This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

• CIE will not enter into discussion or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the November 2004 question papers for most IGCSE and GCE Advanced Level syllabuses.



**Grade thresholds** taken for Syllabus 0620 (Chemistry) in the November 2004 examination.

	maximum	minimum mark required for grade:				
	mark available	А	С	E	F	
Component 6	60	46	37	29	23	

The threshold (minimum mark) for B is set halfway between those for Grades A and C. The threshold (minimum mark) for D is set halfway between those for Grades C and E. The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.

Grade A\* does not exist at the level of an individual component.

### November 2004

# **INTERNATIONAL GCSE**

## MARK SCHEME

**MAXIMUM MARK: 60** 

**SYLLABUS/COMPONENT: 0620/06** 

CHEMISTRY
Alternative to Practical

	•			lark Scheme – November 2004		Syllabus 0620	Paper 6
1	(a) A measuring cylinder (1)						
	<b>B</b> flask (1)	sk (1)					(2)
	(b) boxes comple	eted correctly	y, zinc and	hydrochloric	acid (1)		(1)
	(c) lighted splint (1) pops (1)						
	second mark	consequent	ial i.e. glow	ing splint = (	)		(2)
2	(a) smooth line/o	(a) smooth line/curve (1)					(1)
	(b) result at 60s	(1)		not on curve	e or similar	(1)	(2)
	(c) calcium carbonate is being used up/acid gets more dilute (1)						(1)
3	(a) to absorb/hol	d/contain the	e liquid (1)				(1)
	(b) cracking (1)						(1)
	(c) bromine (wat	er) (1)		colourless	(1)		(2)
	(d) remove the delivery tube from the water (1)						
	to prevent su	ck-back or s	imilar effect	(1)			(2)
4	Table of results						
	initial temp.	24	23.5	24.5	23	22.5	23
	final temp.	-	20.5	17.5	14	11	7.5
	All 11 temperatures recorded correctly (5), -1 for each incorrect						
	(a) Graph poir	its plotted co	errectly (3),	-1 for ea	ach incorrec	t	
	stra	ight line (1)					(4)
	<b>(b) (i)</b> temperature from graph (1) e.g. $12.5^{\circ}$ C $\pm$ 0.5						(1)
	indication	(1)		°C (1)			(2)
	(ii) temperatu	ure from gra	oh (1)	e.g. 4°C ±	0.5		
	extrapola	tion shown	(1)				(2)
	(c) endothermic	(1)					(1)
	(d) temperature changes would be smaller (1)						
	more water	(1)					(2)
	(e) larger surfac	e area (1)		reacts/disso	olves faster/	easier (1)	(2)

	Page 2		November 2004	0620	Paper 6		
	(f) 22 - 24	4°C/room temperature	(1) reaction finished (1)		(2)		
	(g) use a burette/pipette instead of measuring cylinder/insulation/lids/lags (1)						
5	(a) white	(1)	crystals/solid (1)		(2)		
	(c) (i) whi	te (1)	precipitate (1)		(2)		
	(ii) whi	te (1)	precipitate (1)		(2)		
	(iii) refe	erence to smell (1)	alkaline/blue (1) pH 9 $\rightarrow$ 1	2 (1)	2 max (2)		
	(d) ammor	nia (1)			(1)		
	(e) alkaline	e gas/ammonia given of	ff (1)				
	acid ga	s/hydrogen chloride giv	ven off (1)		(2)		
6	(a) litmus/i	ndicator (1)					
	bleach	ed in chlorine, no effect	with sodium chloride (1)		(2)		
	(b) sodium hydroxide (1)						
	green (	precipitate) with iron(II)	, brown (precipitate) with iron(II	I) (1)	(2)		
	(c) add hy	drochloric acid (1)					
	fizz/bul	fizz/bubbles with carbonate, no reaction with sulphate (1) (2)					
	alternative with HC1 and barium chloride (1)						
		white precipitate	e with sulphate, not carbonate	(1)			
7	chromatog	raphy (1)	apply inks/spots to pape	r (1)			
	organic so	lvent/water (1)	rises up paper (1)				
	check heig	hts/positions of spots	(1) compare to find ink from	banknote	<b>(1) (6)</b>		
	N.B. all marks can be obtained from a diagram						
	Total marks for paper 60						

Mark Scheme

Page 2

Total marks for paper 60

Syllabus

Paper