

NOVEMBER 2002

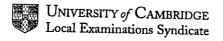
INTERNATIONAL GCSE

MARK-SELEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 0654/6

CO-ORDINATED SCIENCES (ALTERNATIVE TO PRACTICAL)



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1	(a)	39s 22s 13s 7s	
1	(a)	4 correct 2	
		2 or 3 correct 1	
		1 or 0 correct 0	[2]
•	(b)	labelling of axes 1	
		choice of scale 1	
		plotting (completely correct) (1)	F 43
		curve (1)	[4]
	(c)	higher the temperature, lower the time taken OWTTE	[1]
	(d)	+/- 1 s value depends on candidate's graph	[1]
	(e)	Plot 1/time taken against temperature (or find gradients)	[1]
	(f)	Surround with crushed ice	[1]
		total ten marks	
2.	(0)	(i) 7.5 +/- 0.1, 8.4 +/- 0.1	[2]
۷.	(a)	(i) $7.5 \pm 7.0.1$, $8.4 \pm 7.0.1$ (ii) 7.6 , 8.3 (ecf)	[2] [2]
•		(iii) change in length x 100	[2]
		original length	
		$0.4/8.0 \times 100 = 5\%$	[2]
	(b)	(i) water moves out of potato (by osmosis) OWTTE	[1]
		(ii) water moves into potato OWTTE	[1]
	(c)	solution C has the same water potential/osmotic potential (1)	rai
		no (net) movement of water into or out of cells OWTTE(1)	[2]

total 10 marks

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3.	(a)	775 352 128 67 17 9 6 or 5 correct (2) 4 or 3 correct (1) 2, 1or 0 correct (0)	[2]
	(b)	to find background count	_
	(-)		[1]
	(c)	(i) gamma only (1) (ii) alpha and beta (2) (iii) alpha andr. (1)	·
	(d)	(iii) alpha only (1) do not point at people use (lead) shield	[3]
		warning sign keep in store unless being used (any one)	[1]
	(e)	locked away in lead shield	
		with warning sign (any 2)	[2]
		total 10 marks	
4	7.5		
4.	(a)	(i)A inspired, B expired (ii) limewater (1) goes cloudy/milky (1)	[1]
		OR bicarbonate indicator (1) goes yellow (1) (iii) tube B (1)	[2]
		expired air contains more carbon dioxide OWTTE (1)	[2]
	(b)	(i) C 22s D 8s (ii) faster breathing/ more energy needed/ higher respiration rate/gaseous exchange/	[2]
		using more carbohydrate (any 2)	[2]
	(c)	more oxygen in inspired air than in expired air	[1]
		total ten marks	ŧ

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