UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2006 question paper

0625 PHYSICS

0625/03 Paper 3, maximum raw mark 80

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do 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*.

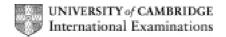
All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

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

CIE is publishing the mark schemes for the May/June 2006 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



								70 and 20			0020			
1	(a)	strai	t 8,12 id ght line ght line	join	ing 0,0								B1 B1 B1	3
	(b)	acce	eleration		change 1.5 m/s		nange ir	n t or 12/	8 etc				C1 A1	2
	(c)	dista	ance = =		ea unde m to 28	• .	betwee	en t = 20	and t = :	25			C1 A1	2
	(d)		ma or 4800		00 x 1.2								C1 A1	2
	(e)	drive		ed a	accelera	ator less		creased) rce decre	eased)		any two lin	ies	B2	2 [11]
2	force corr resu scal	closed triangle or parallelogram es in correct directions relative to each other ect resultant indicated ultant 7.7 N to 8.1 N le stated ultant vertically upwards							C1 C1 C1 A1 B1 B1	4 2 [6]				
3	(a)	work	c = force = force				x (vertio	cal) dista	nce/heig	ht			C1 A1	2
	(b)	(i) (ii)		•	00 x 8) =	= 800 J = 160 W	I						A1 A1	2
		(iii)	•	•	,			ignore he	eat/sound	d)			B1	1 [5]
4	(a)		urface/t o. < at. p					bbles; al re	l temps./	b.p.;	any two		B2	2
	(b)	energy/work to separate molecules (against) forces of attraction between water molecules (to break bonds C1) The k.e./speed of the molecules does not increase							B1 B1	2				
										B1	1			
	(c)	Wt = mL or 120 x 1 = 0.05 x L L = 120/0.05 L = 2400 J/g						C1 C1 A1	3					
														[8]

Mark Scheme IGCSE – May/June 2006 Syllabus 0625 Paper 03

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	Page 3		Mark Scheme	Syllabus	Paper	
			IGCSE – May/June 2006	0625	03	
5	(a)		ase surface area of tank air over surface/put in windy place		B1 B1	2
	(b)	(i)	capillary tube longer or liquid with lower expansivity		B1	
			capillary tube thinner/finer or liquid with higher expansivity or bigger bulb		B1	2
	(c)	$p_1 v_1 = p_2 = 3$	p_2v_2 or 1 x 10 ⁵ x 150 = p_2 x50 x 10 ⁵ (Pa)		C1 A1	2 [6]
6	(a)	violet	y refracted away from normal ray refracted more than red ray in prism ray further refracted from red ray to screen		B1 B1 B1	3
	(b)		= sin 40°/sin r = sin 40°/ 1.52 (= 0.423)		M1 C1 A1	3
	(c)	(i)	3 x 10 ⁸ m/s		A1	
		(ii)	same as (i)		A1	2 [8]
7	(a)	Longi	tudinal or pressure waves		B1	1
	(b)		ect C marked ect R marked		B1 B1	2
	(c)		ation/vibration/backwards and forwards PY (consider pressure waves as alternative)		M1 A1	2
	(d)		ength = $340/200$ $\lambda/2$) = 0.85 m		C1 A1	2 [7]
8	(a)	I = W/ I = 1.5	V or 9/6 5 A		C1 A1	2
	(b)	(i)	8 ohm		A1	
		(ii)	6 V		A1	2
	(c)	(i)	brightness decreases/dimmer		B1	
			resistance of circuit greater current through lamp falls		B1 B1	3
	(d)	(i)	4 ohm		A1	
		(ii)	4 ohm		A1	2 [9]

	Page 4			Mark Scheme	Syllabus	Paper			
				IGCSE – May/June 2006	0625	03			
9	(a)	240 V	/ a.c	nd secondary coils on iron core labelled to primary, 12 V a.c. to secondary to shown or stated 20:1, stepdown		B1 B1 B1	3		
	(b)	(i) must be constantly changing magnetic field							
		(ii)	(ii) magnetic field of primary passes through core to secondary magnetic field of secondary cuts coil, induces output						
	(c)	(i)	(i) 18 W						
		(ii)	540	J		A1	2 [8]		
10	(a)	bring touch remo		M1 M1 A1	3				
	(b)	(i)		= 20 (mA) x 15 (s) = 0.30 C		C1 A1			
		(ii)		= 20 (ma) x 10 (kΩ) = 200 V		C1 A1	M3 [6]		
11	line	line1 into paper positive or +2 line 2 out of paper or opposite of line 1 negative or -1 line 3 no deflection no charge							
				J -		B1	6 [6]		