## 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*.

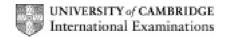
All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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.



[8]

		Page 2	Mark Scheme	Syllabus	Paper			
		_	IGCSE – May/June 2006	0625	03			
1	(a)	straight line joining 0,0 and 8,12						
	(b)		line joining 8,12 and 20,12 ation = change in v/change in t or 12/8 etc		B1 C1	3		
			$= 1.5 \text{ m/s}^2$		A1	2		
	(c)	distance	e = area under graph between t = 20 and t = 25 = 24 m to 28 m		C1 A1	2		
	(d)	= 4	na or 4000 x 1.2 800 N		C1 A1	2		
	(e)		assengers got on (so mass increased) ressed accelerator less (so force decreased)					
		more tra	affic or going uphill	any two lines	B2	2 [11]		
2	force corr resu scal	closed tres in correct resultant 7.7 e stated	C1 C1 C1 A1 B1 B1	4 2 [6]				
3	(a)		force x distance force of gravity/weight x (vertical) distance/height		C1 A1	2		
	(b)	(i) w	ork = $(100 \times 8) = 800 \text{ J}$		A1	•		
		(ii) po	ower = (800/5) = 160 W		A1	2		
		(iii) in	creases the k.e. of the water (ignore heat/sound)		B1	1 [5]		
4	(a)	on surfa s.v.p. <	B2	2				
	(b)	(agains	work to separate molecules t) forces of attraction between water molecules k bonds C1)		B1 B1	2		
		•	./speed of the molecules does not increase		B1	1		
	(c)	Wt = ml L = 120 L = 240			C1 C1 A1	3		

	Page 3		3	Mark Scheme	Syllabus	Paper	]
				IGCSE – May/June 2006	0625	03	
5	(a)			surface area of tank over surface/put in windy place		B1 B1	2
	(b)	(i)	сар	illary tube longer or liquid with lower expansivity		B1	
		(ii)		oillary tube thinner/finer or liquid with higher expansivity bigger bulb		B1	2
	(c)	$p_1 v_1 \\ p_2 =$	= p <sub>2</sub> \ 3 x 1		C1 A1	2 [6]	
6	(a)	red ray refracted away from normal violet ray refracted more than red ray in prism violet ray further refracted from red ray to screen					
	(b)		= sir	n 40°/sin r n 40°/ 1.52 ( = 0.423)		M1 C1 A1	3
	(c)	(i)	3 x	10 <sup>8</sup> m/s		A1	
		(ii)	san	ne as (i)		A1	2 [8]
7	(a)	Long	gitudi	inal or pressure waves		B1	1
	(b)			C marked R marked		B1 B1	2
	(c)			n/vibration/backwards and forwards (consider pressure waves as alternative)		M1 A1	2
	(d)	wave PX(=	_		C1 A1	2 [7]	
8	(a)	I = V I = 1		or 9/6		C1 A1	2
	(b)	(i)	8 ol	hm		A1	
		(ii)	6 V			A1	2
	(c)	(i)	brig	htness decreases/dimmer		B1	
		(ii)		istance of circuit greater rent through lamp falls		B1 B1	3
	(d)	(i)	4 o	hm		A1	
		(ii)	4 ol	hm		A1	2 [9]

	Page 4				Mark Scheme		Paper	
					IGCSE – May/June 2006	0625	03	
9	(a)	primary and secondary coils on iron core labelled 240 V a.c. to primary, 12 V a.c. to secondary turns ratio shown or stated 20:1, stepdown						3
	(b)	(i) must be constantly changing magnetic field					B1	
		(ii) magnetic field of primary passes through core to secondary magnetic field of secondary cuts coil, induces output					B1 B1	3
	(c)	(i)	18	W			A1	
		(ii)	54	0 J			A1	2 [8]
10	(a)	bring rod close but not touching plate touch metal plate with earth lead remove lead and then rod					M1 M1 A1	3
	(b)	(i)	Q		20 (mA) x 15 (s) 0.30 C		C1 A1	
		(ii)	٧		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					B1 B1 B1 B1 B1	6 [6]