UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the November 2004 question paper

0625 PHYSICS

0625/06 **Paper 6 (Alternative to Practical), maximum mark 40**

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.

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Grade thresholds taken for Syllabus 0625 (Physics) in the November 2004 examination.

	maximum mark available	minimum mark required for grade:			
		A	C	E	F
Component 6	40	34	26	20	15

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: 40

SYLLABUS/COMPONENT: 0625/06

PHYSICS
Alternative to Practical

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1	**(a)**	**(i)** 84	**1**
		(ii) 50	**1**
		both units correct °C and cm^3 (or ml)	**1**
	(b)	**(i)** 75	**1**
		(ii) 15 (ecf)	**1**
		(iii) source of error e.g. thickness of string/extension of string/diagonal windings/identified parallax	**1**
		(iv) improvement e.g. thinner string/inextensible string/parallel windings/ no gaps between windings/repeats and averages	**1**
	(c)	**(i)** 2.1 (cm)	**1**
		(ii) 31.5 or 32 cm^2 (2/3 sf and unit required)	**1**
	(d)	time	**1**
		another temperature	**1**
			TOTAL 11
2	**(a)**	**(i)** triangle seen	**1**
		large triangle (> ½ line)	**1**
		correct readings to ½ sq	**1**
		G = 0.37 – 0.39	**1**
		(ii) ρ = 2.63 (ecf)	**1**
		2/3 sf and g/cm^3	**1**
	(b)	increased accuracy	**1**
			TOTAL 6
3	**(a)**	**(i)** 2.15 – 2.25	**1**
		(ii) 1.1 (+ both with correct unit, cm/mm) ecf	**1**
	(b)	**(i)** all correct 1 values, 91.1, 81.1, 71.1, etc	**1**
		(ii) all correct T values, 1.93, 1.80, 1.67, 1.57, 1.41, 1.28	**1**
		3/4sf for T	**1**

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(c) Graph:

scales suitable T start at 1.0s, T: 10sq : 0.2s

1: 10sq : 20cm; both labelled

and correct way round **1**

plots correct to ½ sq (-1 each error) **2**

line judgement **1**

line thickness **1**

(d) 58 cm **1**

TOTAL 11

4 **(a)** 4 pins at least one separation, separation $\geq$ 5 cm **1**

normal at 90^{o} (by eye) **1**

r = 19 – 21 **1**

i = 31 – 33 **1**

unit given for both **1**

TOTAL 5

5 **(a)** **(i)** all R correct, 0.464, 0.976, 1.45, 1.88, 2.25 **1**

2/3 sf for R **1**

(ii) V, cm, Ω **1**

(b) **(i)** 18, 4.5 (ignore unit) **1**

(ii) answer 4 **1**

(iii) 72 **1**

(c) micrometer **1**

TOTAL 7

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