UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2009 question paper for the guidance of teachers

0625 PHYSICS

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

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2009 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

UNIVERSITY of CAMBRIDGE
International Examinations

1 (a) (i) *d* 0.5 cm or 5mm [1]

(ii) *x* 10.0 [1]

(b) (i)–(iii)
table: *T* 1.0, 0.95, 0.895 (0.90, 0.9), 0.84, 0.775 (0.78) [1]
T^2 1.00, 0.903, 0.801, 0.706, 0.601 (if *T* correct) [1]

(c) graph:
axes labelled [1]
scales suitable, plots occupying at least half grid [1]
plots all correct to ½ square [1]
well judged line [1]
thin line, 5 neat plots [1]

(d) statement NO and not through origin/
inverse/negative gradient/
x increases, T^2 decreases/ wtte [1]

[Total: 10]

2 (a) 91 (^{o}C) [1]

(b) *t* in s, both θ in ^{o}C [1]

(c) statement B and justified by reference to readings [1]

(d) any two from:
same starting temperature/temperature of hot water
constant room temperature/keep away from draughts/out of direct sunlight
same time intervals [2]

[Total: 5]

3 (a)–(c)
table:
V, A, Ω [1]
V 1.8 [1]
I 0.25 [1]
R values 7.20, 3.46(3.5) [1]
consistent significant figures for *R* (2 or more) [1]

(d) *y* 0.48, 0.49, 0.5 (ecf) [1]
2/3 significant figures and no unit [1]

© UCLES 2009

(e) (i) correct symbols and circuit (ignore power source symbol) [1]

(ii) voltmeter position correct [1]

(iii) control current/voltage/resistance/speed of motor [1]

[Total: 10]

4 (a) *f* 14.95 ± 0.05 (cm) [1]
unit to match number [1]

(b) more than one value shown [1]
d 6.5 ± 0.1 [1]

(c) *t* 0.85 ± 0.05 (cm) [1]
d and *t* both with correct unit [1]

(d) diagram showing blocks correctly placed [1]
rule shown correctly touching both blocks [1]

(e) *f* 10.9 – 13.1 (cm) (or 109 – 131 (mm)) [1]
no, too far out to be explained by experimental inaccuracy (wtte) [1]

[Total: 10]

5 (a) lens between object and screen (not mirror) [1]
lens at least 2 cm from object and screen [1]
metre rule on bench or clamped [1]

(b) any two from:
use of darkened room/brighter object
slowly moving lens back and forth to obtain good image
avoid parallax, action given
lining up object and lens
object and lens at same height from bench/object on principal axis
repeats
screen/lens perpendicular to bench
mark centre of lens position on block [2]

[Total: 5]

© UCLES 2009