UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2010 question paper for the guidance of teachers

0625 PHYSICS

0625/52 Paper 5 (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 2010 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)** *a* and *b* present and in cm [1]
a + *b* < 50 cm [1]
m correct calculation [1]

(b) At least two values given for *w* or *t* [1]
More than two values given for *w* and *t* [1]
Sensible values for *w* and *t* [1]
V calculation correct method [1]
Density to 2 or 3 significant figures and unit [1]
Value 0.5–1.5 [1]

(c) Centre of mass at 50 cm mark/midpoint/middle (wtte) [1]

[Total: 10]

2 **(a)** θ_f sensible value [1]

(b)–(d) *t* in s, θ in °C [1]
Correct *t* values [1]
Table 2.1 temperatures decreasing [1]
Table 2.2 temperatures decreasing [1]
Evidence of temperatures to 1°C [1]

(e) Statement matches readings [1]
Justified by reference to readings
Comparison given of changes in temperature with numbers [1]

(f) Any two from:
Same (starting) temperature (wtte)
Constant room temperature/draughts (wtte)/environment/place
Carry out in same time intervals/duration
Same thermometer (wtte)

NOT volume of water/location of thermometer/beaker/'temperature' alone
If > 2 responses, –1 for each additional incorrect (ignore 'neutrals') [2]

[Total: 10]

© UCLES 2010

3 **(a)** V_0 sensible value 1.0–2.5 [1]

(b) Table:
R in Ω, V in V [1]
All V to at least 1 d.p. [1]
V values decreasing [1]

(c) Graph: axes labelled and scales suitable (origin included) [1]
All plots correct to nearest ½ small square [1]
Well judged best fit line [1]
Thin line [1]

(d) Line extended suitably to y axis [1]
Estimate correct to ½ small square [1]

[Total: 10]

4 **(b)** d = 2.8–3.2 cm [1]

(c)–**(e)** correct × values 2.0, 4.0, 6.0, 8.0, 10.0 [1]
s values present and increasing [1]
s^2 values correct [1]
s^2 values all to same number of significant figures (2, 3 or 4) [1]
All above in correct units [1]
Final s^2 value 2× first value (± 10%) [1]

(f) Correct statement matching results [1]

(g) Justified referring to specified results
(either exact or within limits of experimental accuracy, or wtte) [1]

(h) Any one of:
Use of darkened room
How to avoid parallax when taking readings
Use of marks paper on screen to aid measurements
Card and screen vertical
Repeats [1]

[Total: 10]

© UCLES 2010