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

0625/53 Paper 5 (Practical), maximum raw mark 40

1 (a) *a* and *b* present and in cm
a + *b* < 50 cm
m correct calculation

(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_r 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]

3 **(a)** V_0 sensible value 1.0–2.5

(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]