UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2008 question paper

0625 PHYSICS

0625/05 Paper 5 (Practical Test), 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.

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.

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1 **(a)** **(i) & (ii)** h_0 value
h_1 value < h_0 value

(iii) correct e_1 value [1]
all above in correct unit (m, cm, mm) stated at least once [1]

(b) **(i) & (ii)** h_2 value, $<h_0$ and $> h_1$ [1]
e_2 value correct [1]

(c) density calculation correct [1]
2/3 significant figures, value 6–10 g/cm^3 [1]

(d) e_2 greater [1]
ρ greater (or identical to e_2 answer) [1]

[Total: 10]

2 Diagram: correct symbols for ammeter and voltmeter [1]
correct symbols for resistor [1]
correct circuit arrangement [1]

Table: units V, A (symbol/word) [1]
All V to at least 1 d.p., < 1.5 V [1]
All I to at least 2 d.p., $\leqslant$ 1 A [1]
Circuit 3 V < circuit 1 and 2 values [1]

(i) Statement: Yes (if within 10%) No (if not) [1]
Justification: must match statement (e.g. close enough/too different or words to that effect) [1]

Resistance at connections/temperature change/
Internal resistance of source/other sensible suggestion [1]

[Total: 10]

3 **(a)** record of θ_p (sensible value)

Table
θ in °C, V in cm^3 [1]
6 sets of readings with correct V 0, 20, 40, 60, 80, 100 [1]
Temps decreasing [1]

Graph: axes labelled [1]
axes suitable (e.g. not '3' scale) and plots occupy more than ½ grid [1]
all plots correct (better than ½ sq) [1]
well judged, thin best fit line [1]

(d) 1. sensible comment about heat loss to the surroundings, e.g. use of insulation/lid [1]
2. sensible comment about adding water in a regulated, timed flow [1]

[Total: 10]

4 **(a)** y value 25–53 cm [1]

(b) correct calculation of f [1]
correct unit for y and f [1]

(c) y value 20–40 (cm) and f present [1]

(d) correct method [1]
average f 13–17 (cm) [1]

(e) d 13–17 cm [1]

(f) Yes (if within 2 cm) No (if not) [1]

(g) same size/real [1]
Inverted/brightness/coloured edges [1]

[Total: 10]