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

0625/51 Paper 5 (Practical), maximum raw mark 40

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1 **(a)** *d* values in cm and less than 50 cm [1]
correct calculation of 1/*d* [1]

(b) Graph:
Axes labelled and suitable scale [1]
All plots correct to ½ small square [1]
Well judged line (position) [1]
Thin line, single (quality) [1]

(c) Gradient by triangle method using at least ½ candidate's line [1]
Clear, on graph, how obtained [1]

(d) *z* value 0.5 cm – 5 cm [1]
z given to 2 or 3 significant figures with correct unit [1]

[Total: 10]

2 **(a)** θ_f sensible value [1]

Table:
t in s, θ in °C [1]
Correct *t* values [1]
Table 2.1 temperatures decreasing [1]
Table 2.2 temperatures increasing [1]
Evidence of temperatures to 1°C [1]

(e) at least 300s and given to nearest 10s or in mins [1]

(f) Statement matches readings and justified by reference to readings
Comparison given of changes in temperature and time with numbers [1]

(g) Any two from:
same starting temperature
constant room temperature/avoid draughts/same place
same time intervals
same thermometer (wtte)
same mass/amount/volume of water
same beaker
lid always used [2]

[Total: 10]

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3 **(a)** Ammeter symbol [1]
Resistor symbol [1]
Correct circuit [1]

(b) I_0 0.1–1.0 (A) [1]

(c) Table:
R in Ω, I in A [1]
All I to 2 d.p. [1]
I values decreasing [1]
Final I value = $0.5I_0$ (± 10%) [1]

(d) Correct calculation of $0.5I_0$ shown (ecf) [1]
Estimate matches results and given to nearest ohm [1]

[Total: 10]

4 Trace:
Normal at 90° [1]
Correct initial angle of incidence 18°–22° [1]
Point **E** labeled [1]
Initial pin separations ⩾ 5 cm [1]
All lines neat and thin [1]

(i) θ correct to ± 2° [1]

(j) Correct calculation of difference [1]

(k) new values present and angles in °
(at least once, no contradiction) [1]

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

[Total: 10]

Please note that due to a labelling error on the paper, the final five marks were not considered when deciding the grade thresholds.

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