

**MARK SCHEME for the October/November 2008 question paper**

**0625 PHYSICS**

**0625/05**

Paper 5 (Practical Test), maximum raw mark 40

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- 1 (a) (i) & (ii)  $h_0$  value [1]  
 $h_1$  value <  $h_0$  value [1]
- (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<sup>3</sup> [1]
- (d)  $e_2$  greater [1]  
 $\rho$  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., ≤ 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]**

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3 (a) record of  $\theta_p$  (sensible value) [1]

Table

$\theta$  in °C,  $V$  in cm<sup>3</sup> [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]**