

MARK SCHEME for the October/November 2007 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.

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- 1 (a)–(e) t in s, θ in $^{\circ}\text{C}$, and θ_0 (10 – 45) [1]
 Complete set of readings, temps decreasing [1]
 Evidence of θ to 1°C [1]
- (f) (i) T_1, T_2 correct arithmetic [1]
 (ii) $T_1 > T_2$ [1]
- (g) (i) reason consistent with results [1]
 (ii) Three from:
 room temp/draughts, etc.
 volume/mass/amount
 beaker/insulation/lid/surface
 liquid
 amount of stirring
 (not starting temperature) [3]
- (h) lid [1]
- [Total: 10]**
- 2 (a) h_0 25 – 100 cm with correct unit [1]
- (b)–(d) complete table h, d [1]
 correct arithmetic for d [1]
 all h to nearest mm [1]
- (e) Graph:
 suitable scale labelled symbol/unit [1]
 all plots to nearest $\frac{1}{2}$ sq (–1 each error or omission) [2]
 line thin and well judged [1]
- (g) calculation of d correct [1]
 correct reading from graph to $\frac{1}{2}$ square and to 1dp [1]
- [Total: 10]**

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- 3 (a)–(c) 4 I values, sensible (watch for $I \times 10$) [1]
 All I to at least 2 dp [1]
 I in A at least once [1]
 $I = I_1 + I_2 \pm I_3 + 10\%$ [1]
- (d) statement (yes) [1]
 reason consistent with readings [1]
- (e) variable resistor/extra cell/vary power supply/different number of lamps [1]
- (f) sensible $V (< 3V)$, unit and at least 1 dp [1]
- (g) correct arithmetic for R [1]
 unit and 2/3 sf [1]
- (h) $V_a = 0, V_b = V$ [1]
- [Total: 10]**
- 4 (f)–(h) sensible x value (less than h) [1]
 sensible h value (typical block: 10 cm) [1]
 x to nearest mm [1]
 x and h with same unit [1]
- correct arithmetic for n [1]
- (i)–(j) second different h value [1]
- (k) correct method for average n [1]
 2/3 sf and no unit [1]
 both n values 1.4 – 1.6 [1]
- (l) two equal heights from bench (or other valid method) [1]
- [Total: 10]**