

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

## **MARK SCHEME for the October/November 2006 question paper**

### **0625 PHYSICS**

**0625/05** Paper 5 (Practical), maximum raw mark 40

This mark scheme is published as an aid to teachers and students, 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.

The grade thresholds for various grades are published in the report on the examination for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2006 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



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- 1 (a)  $m$  in g, sensible value (10 – 50) [1]
- (b)  $l$  in cm, sensible value (6 – 10) [1]  
At least 3 measurements taken [1]
- (c) Average calculated (method) [1]
- (d) At least 30 cm of string used [1]  
 $c$  value sensible in cm (8 – 13 cm) [1]
- (e) correct  $V$  (ignore unit, ecf) [1]
- (f)  $V_r$  less than  $V$  by up to 10% and whole number [1]
- (g) correct  $d$  (ecf) [1]  
1/2/3 significant figures [1]

[Total: 10]

- 2 (a) – (d) Table: [1]  
5 sets of  $t$  and  $T$  values [1]  
Correct  $T$  [1]  
Consistent 3 or consistent 4 significant figures for  $T$  [1]
- (e) Graph: [1]  
Sensible  $T$  scale, labelled, plots covering more than  $\frac{1}{2}$  grid [1]  
Plots to  $\frac{1}{2}$  square [1]  
Well judged line [1]  
Line thin [1]  
All plots to within  $\pm 0.05s$  on line [1]
- (f) statement NO and [1]  
Reason not straight line through origin OR it is a curve [1]
- (g) one of: [1]  
Repeats  
More swings  
More  $d$  values/larger range  
Small/constant amplitude [1]

[Total: 10]

- 3 (a) – (i) & (k) – (p) Trace: [1]  
Neat and complete [1]  
Normal at  $90^\circ$  (by eye) [1]  
**GJ** at  $30^\circ (\pm 2^\circ)$  [1]  
**AG** = 11.4cm – 11.6 cm [1]  
 $P_3P_4$  distance  $\geq 5$  cm [1]
- (j) candidate's  $r_1$  correct to  $\pm 2^\circ$  [1]
- (q) candidate's  $r_2$  correct to  $\pm 2^\circ$  [1]  
 $R$  values  $28^\circ - 32^\circ$  and  $47^\circ - 51^\circ$  (ignore unit) [1]
- (r) bases [1]  
Pins may not be vertical (or words to that effect) [1]

[Total: 10]

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- 4 (b) – (c) table complete, temperatures decreasing [1]  
 Temperatures to nearest 1°C [1]
- (d) sensible  $V$  (150 – 250) [1]  
 $\text{cm}^3$  (or ml) [1]
- (e) second table complete, temperatures decreasing [1]
- (f) correct conclusion (see readings) [1]  
 Justification quoting temperature difference [1]
- (g) Variables:  
 Three from:  
 Volume of water  
 Initial temperature  
 Room temperature  
 Same beaker for each experiment  
 Position of thermometer  
 Draughts/sunlight  
 Humidity [3]

[Total: 10]