

# UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

## MARK SCHEME for the May/June 2006 question paper

### 0625 PHYSICS

0625/05

Paper 5, maximum raw mark 40

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

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 minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the *Report on the Examination* for this session.

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

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



Page 1	Mark Scheme	Syllabus	Paper
	IGCSE – May/June 2006	0625	05

- 1 (a)  $M$  in g, sensible value [1]  
average  $m$  value correct [1]
- (b)  $h$  in mm, sensible value [1]  
 $t$  value correct (in mm) [1]
- (c)  $l$  and  $w$  in mm, sensible values (93 – 97, 53 – 57) [1]  
Calculation of  $V$ , unit  $\text{mm}^3$  [1]
- (d)  $d$  value correct [1]  
unit  $\text{g}/\text{mm}^3$  [1]  
2/3 sf [1]
- (e) estimate of  $V_a$  10 000 – 20 000  $\text{mm}^3$  (2/3 sf only) [1]
- [TOTAL: 10]**
- 2 (a) Diagram: [1]  
All correct symbols [1]  
Power source, lamp and ammeter in series [1]  
Voltmeter in parallel with lamp [1]
- (b) (i)  $I_1$  to 2 dp [1]  
 $V_1$  to at least 1 dp [1]
- (ii) Correct calculation of  $R_1$  [1]
- (c) (i)  $I_2$  and  $V_2$  present [1]
- (ii)  $R_2 < R_1$  [1]  
all units correct [1]  
both  $R$  to 2/3 sf [1]
- [TOTAL: 10]**
- 3 (a) diagram or description showing [1]  
ends at same height above bench [1]
- (b)-(f) five complete sets of  $F$  and  $d$  readings [1]  
 $1/d$  values: 1.11, 1.18, 1.25, 1.33, 1.43 [1]  
consistent 2/3 sf [1]
- (g) Graph: [1]  
 $F$  axis suitable [1]  
Plots correct to  $\frac{1}{2}$  sq [1]  
Well judged, thin line [1]
- (h) triangle method using at least  $\frac{1}{2}$  line [1]  
correct  $G$  value [1]
- (i) Correct  $W$  in range 80 – 150 g, with correct unit and 2/3 sf [1]
- [TOTAL: 10]**

Page 2	Mark Scheme	Syllabus	Paper
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4 Trace:

- (a)-(i), (k) and (l) Neat and complete [1]
- (b) Normal at  $90^\circ$  (by eye) [1]
- (c)  $EFN = 30^\circ \pm 2^\circ$  [1]
- (f)  $P_3 P_4$  distance  $\geq 5$  cm [1]
- (k)  $FI = b$  to 2 mm [1]
- (l) IJ correctly drawn at  $90^\circ$  [1]
- (h) Candidate's  $a$  distance correct to 2 mm [1]
- (m)(j) Candidate's  $b$  &  $c$  distances correct to 2 mm [1]
- (n)  $n$  value correct [1]  
 2/3 sf and no unit [1]

[TOTAL: 10]