MARK SCHEME for the June 2005 question paper

0625 PHYSICS

0625/05   **Paper 5 (Practical Test), maximum 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 initially instructed to award marks. It does 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*.

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

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Grade thresholds for Syllabus 0625 (Physics) in the June 2005 examination.

	maximum mark available	minimum mark required for grade:			
		A	C	E	F
Component 5	40	33	26	20	15

The threshold (minimum mark) for B is set halfway between those for Grades A and C.
The threshold (minimum mark) for D is set halfway between those for Grades C and E.
The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.
Grade A* does not exist at the level of an individual component.

June 2005

IGCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0625/05

PHYSICS
Practical Test

1 **(a)** **(i)** record of room temp (sensible value) **[1]**

      (ii) - **(v)**
      θ in °C, V in cm^3 **[1]**
      6 sets of readings with correct V 0, 20, 40, 60, 80, 100 **[1]**
      Temps decreasing **[1]**

      (vi) y axis labelled **[1]**
      y axis suitable (e.g. not '3' scale) and plots occupy more than ½ grid **[1]**
      all plots correct (-1 each error) (better than ½ sq) **[2]**
      well judged best fit line **[1]**

  (b) a sensible comment about heat loss to the surroundings **[1]**

                                                 [Total: 10]

2 **(a)** - **(f)** l values 50, 75, 100 **[1]**
      I in A, V in V, R in Ω, l in cm or m **[1]**
      all I to 1 dp or better **[1]**
      all V to 1 dp or better **[1]**
      all R values correct **[1]**
      consistent 2 or 3 sf for R **[1]**
      AC R value 2 x AB = AD ($\pm$ 1Ω) **[1]**
      AD R value 2 x AC = AB + AD ($\pm$ 1Ω) **[1]**

  (g) > AD **[1]**
      2 x AC ($\pm$ 1Ω) **[1]**

                                                 [Total: 10]

3 **(a)** - **(e)** 3 complete sets **[1]**
      average correct **[1]**
      correct T values from average t **[1]**
      correct T/m values **[1]**
      consistent 2 or 3 sf for T/m **[1]**
      T/m in s/g **[1]**

  (f) No **[1]**
      T/m not constant **[1]**

  (g) time 10 oscillations **[1]**
      then divide by 10 **[1]**
      <u>or</u> two t values
      divide by 2

                                                 [Total: 10]

4 **(a) – (l)** Traces

    3 traces, blocks correct positions **[1]**

    neat lines all present **[1]**

    all *r* less than *I* and correct side of normal **[1]**

    all emergent rays in approx correct positions (i.e. opposite side
    of normal to incident ray and approx parallel to incident ray) **[1]**

    For Block Position 1:

    WX distance at least 5 cm and W on EF **[1]**

    YZ distance at least 5 cm **[1]**

(i) – (n) first *r* value within $\pm$ 2° of trace **[1]**

    three *r* values equal to each other $\pm$ 2° **[1]**

    all *r* values 18° – 22° **[1]**

(m) *r* is constant/no effect **[1]**

[Total: 10]