	Centre Number	Candidate Number

Candidate Name _____

CAMBRIDGE INTERNATIONAL EXAMINATIONS
Joint Examination for the School Certificate
and General Certificate of Education Ordinary Level

PHYSICS

PAPER 3 Practical Test
ANSWER BOOKLET

5054/3

OCTOBER/NOVEMBER SESSION 2002

2 hours

TIME   2 hours

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this answer booklet.

FOR EXAMINER'S USE	
1	
2	
3	
4	
TOTAL	

This answer booklet consists of 7 printed pages and 1 blank page.

UNIVERSITY *of* CAMBRIDGE
Local Examinations Syndicate

[Turn over

Section A

1 **(a)** record of the position of the centre of mass of the metre rule

(b) record of the measurements used to determine x and y

calculation of x and y

(c) calculation of M using $M = \dfrac{x}{y} \times 100$ grams

(d) **(i)** record of l

(ii) record of w

(iii) record of t

(e) **(i)** calculation of V using $V = lwt$

(ii) calculation of ρ using $\rho = M/V$

2 **(a)** record of θ_1

record of V_1

(b) record of θ_2

(c) record of V_2

(d) **(i)** record of m_W

(ii) record of m_I

(e) calculation of L using $m_I L + m_I c \theta_2 = m_W c (\theta_1 - \theta_2)$

where $c = 4.2 \, \text{J} / (\text{g} \, °\text{C})$

(f) statement of precautions taken to ensure that your value of L was as precise as possible

[Turn over

3 **(a)** diagram of the circuit that has been set up for you

(b) **(i)** record of V_{AB}

(ii) record of V_{BC}

(iii) record of V_{AC}

(c) calculation of I using $I = \dfrac{V_{AB}}{R}$

where $R = 1000\,\Omega$

(d) record of V_{AB}

record of V_{BC}

record of V_{AC}

(e) explanation of how your observations indicate that the resistance of the LDR increases when covered
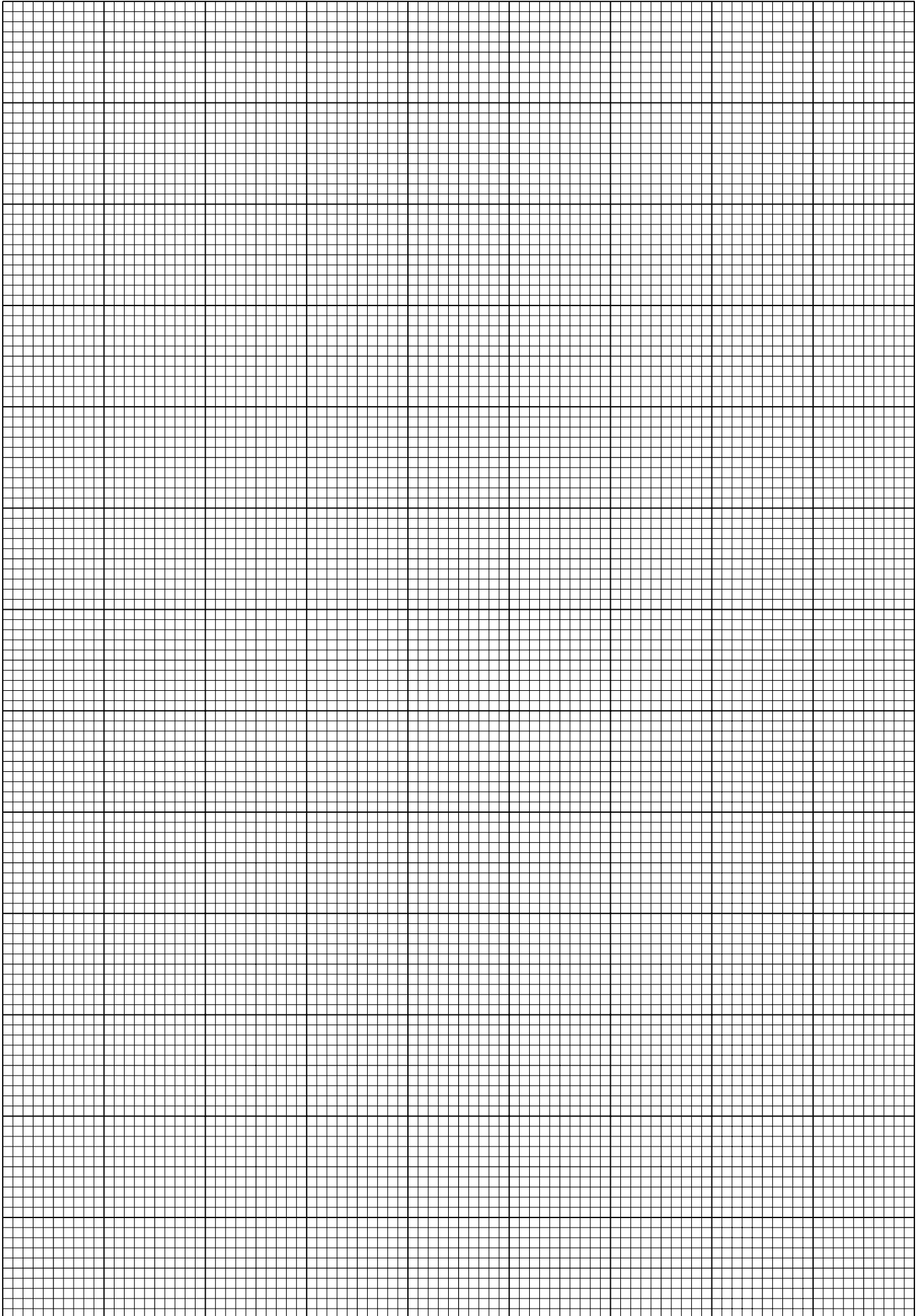
Section B

4

A _____**B**

[Turn over

(b) (c) and **(d)**   table of values of *i*, *r*, sin *i* and sin *r*

i /°	*r* /°	sin *i*	sin *r*

(e) using the grid on page 7, plot a graph of sin *i* against sin *r*

(f) determination of *G*

8

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