CAMBRIDGE
International Education

Cambridge IGCSE™

PHYSICS **0625/62**

Paper 6 Alternative to Practical **February/March 2026**

MARK SCHEME

Maximum Mark: 40

Published

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, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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 [Turn over

Question	Answer	Marks
1(a)(i)	any **one** from: zero / tare balance before measurement ; subtract mass reading from before cylinder placed on balance ; place cylinder on centre of balance ;	**1**
1(a)(ii)	91	**1**
1(a)(iii)	(measure) from bottom of meniscus ;	**1**
	(measure) with eye level with water surface / meniscus **OR** perpendicular viewing (of scale) / view (scale) at a right angle ;	**1**
1(b)(i)	1.8 (g)	**1**
1(b)(ii)	0.75 (cm^3)	**1**
1(b)(iii)	2.4 ;	**1**
	g / cm^3 ;	**1**
1(c)	any **two** from: measuring cylinder with smaller scale divisions / better resolution ; measure diameter/radius of ball **and** calculate volume ; use more glass balls (so there is a greater change in volume) ; repeat **and** calculate mean ;	**2**

Question	Answer	Marks
2(a)(i)	any **two** from: ruler close to spring	**1**
	ruler parallel to spring / ruler vertical / ruler at right angle to bench eye level with reading / read perpendicular use marker / pointer / set square / horizontal ruler to align spring with ruler	**1**
2(a)(ii)	answer recorded to nearest mm between 17 (mm) and 33 (mm) ;	**1**
	two appropriate horizontal lines drawn from spring to ruler to show length ;	**1**
2(b)	first *x* value correct ;	**1**
	last *x* value correct ;	**1**
2(c)(i)	correct labels and units: *L* / N (y-axis) against *x* / mm (x-axis) ;	**1**
	suitable scale filling more than half the graph grid in both directions, beginning from origin ;	**1**
	five plots located within half a small square ;	**1**
	line of best fit with balance of points, and single, thin continuous line ;	**1**
2(c)(ii)	if candidate line within 1 small square of origin: yes, (because line is) straight line through origin ; otherwise: no, (because line is) not a straight line / not through origin ;	**1**

Question	Answer	Marks
3(a)(i)	both *V* recorded correctly 2.4 V and 2.3 V ;	**1**
3(a)(ii)	both *I* recorded correctly 0.32 A and 0.30 A ;	**1**
3(a)(iii)	7.5 Ω ;	**1**
	7.7 Ω;	**1**
	independent mark: both answers to 2sf;	**1**
3(a)(iv)	statement matching results, expect yes;	**1**
	if yes: within limits of experimental accuracy / within 10% / the value are close ; if no: not within limits of experimental accuracy / greater than 10% difference / the values are far apart ;	**1**
3(a)(v)	value equal to either of their *R* values or between their two *R* values or X ;	**1**
3(b)(i)	any **one** from: eas**ier** to read / no need to process divisions on scale instant reading / shorter response time to a change in current **smaller** divisions on scale / **higher** resolution pointer doesn't stick no (chance of) parallax error less / no zero error	**1**
3(b)(ii)	0.29(0) ;	**1**
3(c)	to prevent: heating of resistors / wires / circuit OR circuit / wires / resistors becoming warm OR circuit / wires / resistors overheating;	**1**
	prevents the battery discharging ;	**1**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>4</td><td>MP1 apparatus:
thermometer <u>and</u> stop-watch</td><td>1</td></tr>
<tr><td></td><td>MP2 method:
measure starting temperature and temperature after given time
OR
measure starting temperature and time to drop to given temperature / room temp</td><td>1</td></tr>
<tr><td></td><td>MP3 repeat for different starting temperatures</td><td>1</td></tr>
<tr><td></td><td>MP4 control variable:
constant volume of water or control variable is volume of water</td><td>1</td></tr>
<tr><td></td><td>MP5 table:
columns, with units, for starting temperature and dependent variable
<table>
<tr><td>starting temperature / °C</td><td>final temperature / °C</td></tr>
<tr><td></td><td></td></tr>
</table>
OR
<table>
<tr><td>starting temperature / °C</td><td>time (to drop to given temperature) / s</td></tr>
<tr><td></td><td></td></tr>
</table></td><td>1</td></tr>
<tr><td></td><td>MP6 analysis:
any one from:
• compare readings to see if change in initial temperature produces change in dependent variable
• compare readings to see if change in initial temperature produces change in rate of cooling
• plot (line) graph (with axes specified)</td><td>1</td></tr>
</table>

Question	Answer	Marks
4	MP7 **additional point:** any **one** from: • at least 5 starting temperatures used • repeat for each value of independent variable and take average • room temperature constant • description of calculating rate of cooling from results • use lid every time	**1**