



Cambridge IGCSE™

PHYSICS**0625/61**

Paper 6 Alternative to Practical

October/November 2020

MARK SCHEME

Maximum Mark: 40

Published

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

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This document consists of **8** printed pages.

Question	Answer	Marks
1(a)(i)	$l = 3.1(\text{cm})$ and $w = 2.7(\text{cm})$	1
1(a)(ii)	$V = 27, 26.8, 26.78, 26.784$	1
1(a)(iii)	$m_A = 51 \text{ g}$	1
1(a)(iv)	$\rho_A = 1.9(0)$ or 1.89	1
	g/cm^3	1
1(b)(i)	$V = 32(\text{cm}^3)$	1
1(b)(ii)	$\rho_B = 1.88$ to 2 or 3 significant figures	1
1(c)	Statement to match results.	1
	Justification to match results and to include the idea of within (or beyond) the limits of experimental accuracy.	1
1(d)	3rd box ticked	1
	5th box ticked	1

Question	Answer	Marks
2(a)	21 (°C)	1
2(b)(i)	Table 2.1 times 0 and 180; units s and °C	1
2(b)(ii)	$\Delta\theta_1 = 16$ (°C)	1
2(b)(iii)	$R_1 = 0.089$ or 0.09	1
2(c)(i)	Table 2.2 completed ecf from (b)(i) allowed	1
2(c)(ii)	$\Delta\theta_2$ present and R_2 present with unit °C/s	1
2(d)(i)	$D_1 = 64$ $D_2 = 48$	1
2(d)(ii)	Conclusion to match results	1
	Justification to match conclusion with correct evidence given from results	1
2(e)(i)	Prevent parallax error owtte	1
2(e)(ii)	To obtain even temperature throughout owtte	1

Question	Answer	Marks
3(a)	$h_0 = 1.5 \text{ cm}$ OR 15 mm	1
3(b)	m values 3.55, 1.66, 1.08, 0.80, 0.64	1
3(c)	Graph: Axes correctly labelled and right way round	1
	Suitable scales	1
	All plots correct to $\frac{1}{2}$ small square	1
	Good line judgement, thin, continuous line	1
3(d)	Method clearly shown on graph	1
	u_1 correct to $\frac{1}{2}$ small square	1
3(e)	f values from 13.5 to 16.4 cm	1
3(f)	Any two from: Use dark room / bright object Move screen slowly to find best image Mark centre of lens position on lens holder Place metre rule on bench / clamp rule in position Ensure object, lens and screen are vertical Ensure object and lens at same height from bench	2

Question	Answer	Marks
4	MP1 Correct circuit diagram to include test wire, power source, ammeter and voltmeter	1
	MP2 Correct symbols used for ammeter and voltmeter.	1
	MP3 At least 3 different metals (or alloys) suggested	1
	MP4 Measure potential difference and current. Work out resistance	1
	MP5 Repeat with at least two more wires of different material.	1
	MP6 Key variables: Any one from: Length of wire Diameter / thickness / cross-sectional area of wire	1
	MP7 Table with columns for material, potential difference, current and resistance with units V, A, Ω .	1

Additional graph notes:

Note: The principle to apply here is ‘could I draw a significantly better line, using these points, under examination conditions?’ If the answer is definitely ‘yes’, do not award the mark.

Note: If candidate’s scale consists of actual readings at equal intervals this will produce a perfect straight line! The only mark available in this case is the first (axes right way round and labelled) So maximum 1.

If axes are wrong way round, the other 3 marks are still available.