

Cambridge International Examinations Cambridge Ordinary Level

PHYSICS

5054/41 May/June 2016

Paper 4 Alternative to Practical MARK SCHEME Maximum Mark: 30

Published

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Page 2	2	Mark Scheme	Syllabus	Paper				
		Cambridge O Level – May/June 2016	5054	41				
(a)	Ins	ny 2: nsert another cell/decrease the resistance of the variable resistor/increase oltage of power supply						
(b)	Tat	ble drawn with headings (Current and Number of paperclips)		B1				
	Uni	t for current (Amps)		B1				
	Coi	Correct data in table						
(a)	(i)	10.7366		C1				
		10.7 s		B1				
	(ii)	1.07s		B1				
	(iii)	 Time for one oscillation very small/difficult to measure/time for tens swings is more accurate gives an average 		B1				
		Comparison of 0.2 s to <i>T</i> i.e. is a large proportion is significant		B1				
(b)	(i)	Table completed		B0				
	(ii)	axes labelled quantity and unit		B1				
		scales linear		B1				
		points plotted accurately		B1				
		best fit curve drawn		B1				
	(iii)	As N increases, T increases		B1				
	(iv)	(0.65 ± 0.01)s Unit needed		B1				

smooth/introduces another variable/result for (b)(iv) not valid. B1

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				Cambridge O Level – May/June 2016	5054	41			
3	(a)	22.	8			C1			
		23	23g (2 significant figures only)						
	(b)	(i)	Ме	asuring cylinder/burette/graduated cylinder		B1			
		(ii)	1	Liquid P		B1			
				Only liquid P is denser than water		B1			
		(ii)	2	B because liquid P is denser than oil.		B1			
	(c)	Wood is less dense than water but more dense than oil/density of wood between 0.9 and 1.0							
4	(a)	The	Thermometer/pyrometer						
	(b)	Wa	Water in test tubes and thermometer/pyrometer						
		Lef	Left for a period of time/pyrometer connected to galvanometer						
				gs of initial and final temperatures/temperature fall/readings tal vanometer	ken from	B1			
	(c)	Sar Sar	ne v ne i ne l	volume of water nitial starting temperature ength of time / pyrometer must be an equal distance e test tubes.		B2			