

**Cambridge International Examinations** Cambridge International General Certificate of Education

PHYSICAL SCIENCE

Paper 5 Practical Test MARK SCHEME Maximum Mark: 40 0652/05 For examination from 2019

Specimen

This document consists of 6 printed pages.



## ${\overset{\odot}{\subseteq}}$ Generic Marking Principles

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These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

**GENERIC MARKING PRINCIPLE 1:** Marks must be awarded in line with: the specific content of the mark scheme or the generic level descriptors for the guestion • the specific skills defined in the mark scheme or in the generic level descriptors for the guestion the standard of response required by a candidate as exemplified by the standardisation scripts. **GENERIC MARKING PRINCIPLE 2**. Marks awarded are always whole marks (not half marks, or other fractions). **GENERIC MARKING PRINCIPLE 3:** Marks must be awarded **positively**: marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the • scope of the syllabus and mark scheme, referring to your Team Leader as appropriate marks are awarded when candidates clearly demonstrate what they know and can do marks are not deducted for errors marks are not deducted for omissions . answers should only be judged on the guality of spelling, punctuation and grammar when these features are specifically assessed by the guestion as indicated by the mark scheme. The meaning, however, should be unambiguous. **GENERIC MARKING PRINCIPLE 4:** Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors. **GENERIC MARKING PRINCIPLE 5:** Marks should be awarded using the full range of marks defined in the mark scheme for the guestion (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

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## **GENERIC MARKING PRINCIPLE 6:**

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

## mark scheme abbreviations

rn over						
Ŀ	note:	additional marking guidance				
	any [number] from:	accept the [number] of valid responses				
	max	indicates the maximum number of marks				
	()	the word/phrase in brackets is not required but sets the context				
Page 3 of 6	underline	actual word given must be used by candidate (grammatical variants excepted)				
	owtte	or words to that effect				
	ora	or reverse argument				
	avp	any valid point				
	ecf	error carried forward				
	ignore	mark as if this material was not present				
	allow	accept the response				
	not	do not allow				
	/	alternative responses for the same marking point				
	;	separates marking points				

© UC	Question	Answer	Marks	Guidance		
LES 201	1(a)(i)	white ppt. ; ppt. dissolves/ppt. soluble in excess/colourless solution formed ;	2			
6	1(a)(ii)	Zn <sup>2+</sup> /zinc/zinc (II);		not: Zn ecf: this mark is linked to one correct observation in <b>(a)(i)</b>		
	1(b)(i)	filtrate: green/turquoise/blue ; residue: brown/black/grey ;		award 1 mark max if colours reversed		
	1(b)(ii)	(light) blue ppt. ; dark(er) blue solution/deep blue solution/dissolves to give dark blue (solution) ;	2			
	1(b)(iii)	Cu <sup>2+</sup> /copper/copper (II) ;	1	not: Cu		
	1(c)(i)	add aqueous sodium hydroxide/aqueous ammonia solution ;	1			
p	1(c)(ii)	red-brown ppt. (insoluble in excess) ;	1			
age 4	Outotion					
of 6			IVIdIKS	Guidance		
	2(a)(I)	Initial temperature (of water) recorded to hearest 0.5 °C;	1			
	2(a)(ii)	sensible temperature increase recorded ;	1	note: see supervisor's results		
	2(a)(iii)	sensible temperature decrease recorded ;	1	note: see supervisor's results		
	2(a)(iv)	sensible temperature recorded (slight or no change);	1	note: see supervisor's results		
	2(b)	all temperature changes and signs correct ;	1			
	2(c)	no repeats ; temperature changes very small ;	2	avp		
	2(d)(i)	labelled table ;	1			

© UC	Question	Answer			Marks	Guidance
LES 2016	2(d)(ii)		aqueous barium nitrate	aqueous silver nitrate	2	
		observation	no reaction	white ppt		
		conclusion	not sulfate	chloride present		
		or				
			observation	conclusion		
		aqueous barium nitrate	no reaction	not sulfate		
		aqueous silver nitrate	white ppt	chloride present		
		both observations ; both conclusions ;				
Page	Question	Answer			Marks	Guidance
5 of 6	3(a)(i)	current / recorded < 1A , and to 2 s.f. :			1	
0,	3(a)(ii)	both values present with $l = 10.0$ cm and V less than 1 V;			1	
	3(a)(iii)	<i>R</i> value correct for $l = 10$ cm and to $0.1\Omega$ ;			1	
-	3(a)(iv)	all <i>V</i> recorded ; <i>V</i> values increasing (for increasing length) ; consistent two or three significant figures for <i>R</i> ;			3	
	3(a)(v)	so that the wire does not become hot/as battery or cell may run down ;			1	allow: because resistance of wire may increase
	3(b)(i)	vertical axis labelled with sensible linear scale and more than half of the grid ; at least four plots correct to $\pm 1\!\!/_2$ small square ;			2	
	3(b)(ii)	good best fit straight line judgement ;			1	
[Turn	3(c)	relationship: <i>R</i> proportional to <i>l</i> ; justification: straight line through the origin ;			2	

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Question	Answer	Marks	Guidance
4(a)(i)	21° ± 2 or 69° ± 2 ;	1	
4(a)(ii)	0.54 ;	1	
4(b)	<pre>apparatus apparatus to measure volume/mass/weight/height; method – max 3 minimum of 5 different volumes/masses/weights/heights of water; range of volumes/masses/weights/heights; repeats; tip bottle slowly; cap on bottle; measurements and processing – max 2 force or angle or other measured to just tip; averaging; graph of measured variable against volume of water; use of results highest measure of variable has greatest stability/graph explained in terms of stability;</pre>	6	<ul> <li>max 6 in total</li> <li>note: to gain 6 marks at least 1 mark must</li> <li>come from each: <ul> <li>apparatus</li> <li>method</li> </ul> </li> <li>measurements and processing</li> <li>use of results</li> </ul>