



COMBINED SCIENCE

0653/52

Paper 5 Practical Test

October/November 2017

MARK SCHEME

Maximum Mark: 30

Published

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This document consists of **3** printed pages.

Question	Answer	Marks				
1(a)	quality of drawing using at least half the box ; root correctly labelled ; shoot correctly labelled ;	3				
1(b)(i)	sensible measurement in mm ;	1				
1(b)(ii)	correct measurement in mm ;	1				
1(b)(iii)	magnification correctly calculated ;	1				
1(c)(i)	<table border="1"> <tr> <td>biuret</td> <td>iodine</td> </tr> <tr> <td>purple ;</td> <td>blue-black ;</td> </tr> </table>	biuret	iodine	purple ;	blue-black ;	2
biuret	iodine					
purple ;	blue-black ;					
1(c)(ii)	reducing sugar, protein and starch ;; all 3 for 2 marks, 1 or 2 named for 1 mark	2				

Question	Answer	Marks										
2(a)(i)	<table border="1"> <thead> <tr> <th>solution</th> <th>observation</th> </tr> </thead> <tbody> <tr> <td>ammonium sulfate</td> <td>no reaction / no ppt. ;</td> </tr> <tr> <td>copper sulfate</td> <td>blue ppt ;</td> </tr> <tr> <td>iron(III) sulfate</td> <td>brown / orange ppt ;</td> </tr> <tr> <td>zinc sulfate</td> <td>white ppt ;</td> </tr> </tbody> </table>	solution	observation	ammonium sulfate	no reaction / no ppt. ;	copper sulfate	blue ppt ;	iron(III) sulfate	brown / orange ppt ;	zinc sulfate	white ppt ;	4
solution	observation											
ammonium sulfate	no reaction / no ppt. ;											
copper sulfate	blue ppt ;											
iron(III) sulfate	brown / orange ppt ;											
zinc sulfate	white ppt ;											
2(a)(ii)	red litmus goes blue ;	1										
2(b)	different coloured ppts. / different results ; same coloured ppts. as NaOH or ammonia ; ammonia from ammonium (as with NaOH) / no ammonia from ammonium (unlike NaOH) ;	3										
2(c)(i)	bubbles / effervescence ;	1										

Question	Answer	Marks
2(c)(ii)	should have added dilute nitric acid or dilute hydrochloric acid before adding the barium chloride ;	1
3(a)(i)	θ recorded at $t = 0$ for 200 cm ³ ;	1
3(a)(ii)	for 200 cm ³ ; t values correct ; all values of temperature recorded ; θ values decreasing ;	3
3(b)	larger change over 180 s for 100 cm ³ beaker ;	1
3(c)	to allow maximum temperature of hot water to be recorded / wtte ;	1
3(d)	statement matching temperature changes and justification referring to results ; justification referring to temperature changes <u>in the same time</u> ;	2
3(e)	any two from: room temperature / <u>initial</u> water temperature / same volume(s) of water / keep thermometer the same depth ;;	2