

MARK SCHEME

GCSE

CHEMISTRY

AQA - COMBINED SCIENCE

C8 - TEST 1

CHEMICAL ANALYSIS

Beginner

Mark schemes

1.	(a) black	1	
	(b) limewater <i>accept calcium hydroxide (solution)</i>	1	
			[2]
2.	(i) any two from: <ul style="list-style-type: none">• A has four colours(*)• B has three colours(*) <i>(*) if first two bullets not stated accept A has more colours (than B) or B has less colours (than A) for 1 mark only</i>• A / B have two colours the same• B has one different colour	2	
	(ii) chromatography	1	
			[3]
3.	(a) fermentation	1	
	(b) (i) turns cloudy / milky / white <i>ignore bubbles</i> because carbon dioxide is produced <i>allow CO₂ produced</i>	1	
	(ii) filter paper	1	
			[4]
4.	(a) to improve the appearance of the drink because they are permitted colours	1	
	(b) (i) chromatography	1	
	(ii) three / 3	1	
	(iii) because one colour / spot / E102 <u>matched</u>	1	

because the other / two colours / spots / E104 and E110 did not match
if no other mark awarded allow because the drink did not contain
E104 and E110 **or** because the drink contained E102 for **1** mark
accept only E102 matched for **2** marks

1

[6]

5.

(a) (wear safety) goggles

allow (wear) safety glasses

allow (wear) eye protection

allow keep ethanol away from flame or in a water bath

allow use tweezers or a glass rod to remove leaf from ethanol / water

ignore gloves

1

(b) iodine solution

1

(c) blue-black

1

(d) separate

1

mobile

1

in this order only

(e) $\frac{17}{110}$

allow 0.154545 or correctly rounded answer

1

= 0.15

allow an answer from an incorrect calculation correctly given to 2 significant figures

1

*an answer of 0.15 scores **2** marks*

(f) carotene

1

[8]

6.

(a) start line drawn in ink

1

(so) line would run

1

start line below solvent level

1

(so) samples would wash off	1
(b) red and blue	
<i>both colours needed</i>	1
(c) yellow	
travels furthest up the paper	1
(d) distance moved by red ink 13 ± 1	
<i>measurements in cm max 1 mark for mps 1 and 2</i>	1
distance from start line to solvent front 44 ± 1	1
correct substitution	1
<i>allow ecf from Table 4</i>	
correct answer	1
<i>range if correct is 0.27 to 0.33</i>	
to 2 significant figures	1
(e) moves further or nearer the top of the paper	1
	[13]