Elements, compounds, Mixtures

Mark Scheme 4

Level	IGCSE(9-1)
Subject	Chemistry
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2C)
Topic	Principles of Chemistry
Sub-Topic	Elements, Compounds, Mixtures
Booklet	Mark Scheme 4

Time Allowed: **40 minutes**

Score: **/33**

Percentage: **/100**

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

Question number	Answer	Notes	Marks
1 (a)	**M1** (X) – (stirring/glass/ plastic) rod **M2** (Y) – Bunsen (burner)	Accept stirrer Reject metal	2
(b) (i)	**C** (solvent)		1
(ii)	**B** (solution)		1
(c) (i)	2		1
(ii)	3		1
(d)	evaporated / went into the air	accept boils accept turns into vapour	1

Question number			Answer	Notes	Marks
1	a	i	B (2)		1
	b		FR AND FG FR and FG/they/colourings/dyes/spots/OWTTE AND line up/match/correspond with/travel same distance(s) as / have same R_f values as AND SR and SG/safe colourings/red and green colourings	Choice can be indicated by ticks or other marks or Yes M2 DEP on M1 correct or missing Ignore references to FB unless incorrect Ignore references to FR and FG containing/being the same as SR and SG	1 1

(Total for Question 1 = 3 marks)

Question number	Answer	Accept	Reject	Marks
1 (a)	filtration	filtering		1
(b)	(simple) distillation	distilling	fractional distillation	1
(c)	dissolving			1
(d)	chromatography			1
(e)	**fractional** distillation	fractionally distil(ling)	just distillation / simple distillation	1
			Total	**5**

Question number	Answer	Notes	Marks
2 (a)	B A D C		1 1 1 1
(b)	Mixture Compound Mixture		1 1 1
		Total	7

<table>
<tr><th colspan="3">Question number</th><th>Answer</th><th>Notes</th><th>Marks</th></tr>
<tr><td>1</td><td>(a)</td><td></td><td>
<table>
<tr><td></td><td></td><td>Quantity</td><td>Unit</td></tr>
<tr><td>A</td><td>balance</td><td>mass</td><td>M1</td></tr>
<tr><td>B</td><td>clock</td><td>M2 time</td><td>s</td></tr>
<tr><td>C</td><td>gas syringe</td><td>M3 volume</td><td>M4 cm^3</td></tr>
<tr><td>D</td><td>ruler</td><td>M5 length</td><td>M6 cm</td></tr>
</table>
</td><td>Accept other correct metric units, such as
M1 kg / mg
Ignore imperial units such as lb / oz
Reject units impossible in a laboratory, such as t and m^3

M4 dm^3 / ml / l

M6 mm / m

Do not penalise use of capital letters, such as KG / CM
Accept word equivalents, such as gram(s), second(s), centimetre(s)

M5 alternatives - accept distance / height / width / depth / diameter

Do not penalise references to specific examples, such as volume of gas / length of line</td><td>6</td></tr>
<tr><td></td><td>(b)</td><td></td><td>C (ruler)</td><td></td><td>1</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Total for Question 1</td><td>7</td></tr>
</table>

Question number	Answer	Accept	Reject	Marks
2 (a) (i)	D	d		1
(ii)	A	a		1
(b)	**M1** - B	b		1
	M2 - the spots do not line up (with any of the blue, red or yellow spots)	the colours do not match (with any one of blue, red or yellow)	contains other colours	1
	M2 dependant on **M1**	the spots are not the same (as those for blue, red or yellow)		
			Total	**4**