

Salts Past Paper Answers GCSE AQA**1.**

Question	Answers	Extra information	Mark	AO / Spec. Ref.
01.1	any one from: <ul style="list-style-type: none">metal(metal) hydroxide(metal) carbonatealkali	allow named example allow correct formula ignore base allow ammonium hydroxide allow ammonium carbonate allow soluble base allow ammonia	1	AO1 4.4.2.1 4.4.2.2 4.4.2.3
01.2	$\text{Ca}(\text{NO}_3)_2$	allow $\text{Ca}^{2+}(\text{NO}_3^-)_2$	1	AO2 4.4.2.2

Question	Answers	Mark	AO / Spec. Ref
01.3	Level 3: The method would lead to the production of a valid outcome. All key steps are identified and logically sequenced.	5–6	AO1 4.4.2.3
	Level 2: The method would not necessarily lead to a valid outcome. Most steps are identified, but the method is not fully logically sequenced.	3–4	
	Level 1: The method would not lead to a valid outcome. Some relevant steps are identified, but links are not made clear.	1–2	
	No relevant content	0	
	<p>Indicative content</p> <ul style="list-style-type: none"> • use magnesium oxide and sulfuric acid • add sulfuric acid to a beaker • warm sulfuric acid • add magnesium oxide • stir • continue adding until magnesium oxide is in excess <ul style="list-style-type: none"> • filter • using a filter paper and funnel • to remove excess magnesium oxide <ul style="list-style-type: none"> • heat solution in an evaporating basin • to crystallisation point • leave to crystallise • pat dry with filter paper <p>credit may be given for diagrams</p>		
Total		8	

2.

Question	Answers	Extra information	Mark	AO / Spec. Ref.
.1	any one from: <ul style="list-style-type: none"> • heat • stir 		1	AO3/3b 4.1.1.2 4.4.2.3
.2	filter	accept use a centrifuge accept leave longer (to settle)	1	AO3/3b 4.1.1.2 4.4.2.3
.3	any one from: <ul style="list-style-type: none"> • wear safety spectacles • wear an apron 		1	AO3/3b 4.1.1.2 4.4.2.3
.4	evaporation at A condensation at B		1 1	AO2/2 4.1.1.2
.5	100		1	AO2/1 4.1.1.2
Total			6	

3.

319 g(CuSO ₄) and 36 g(H ₂ O)		1
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4.

319 g(CuSO ₄) and 36 g(H ₂ O)		1
<p>any two changes from:</p> <ul style="list-style-type: none"> • limewater turns cloudy • solution turns blue • mass decreases • copper carbonate or (green) solid disappears • bubbles / fizzing / effervescence <p>explanation: because carbon dioxide is produced or copper sulfate is produced or calcium carbonate is produced</p>	<p>allow milky / white</p> <p>allow weight decreases</p> <p>explanation must be linked to their observation</p>	<p>2</p> <p>1</p>

5.

Answers	Extra Information	Mark
add copper oxide and (sulfuric) acid		1
excess (copper oxide)		1
filter (to remove excess)	ignore impurities	1
heat /boil / evaporate / leave (to crystallise)	do not accept to dryness	1

6.

(ii)	<p>any two from:</p> <ul style="list-style-type: none"> • (hydrogen) gas produced (or any indication of a gas such as bubbles etc.) • magnesium / solid disappears / goes into solution • gets hot 	<p>list principle applies for incorrect observations</p> <p>ignore just hydrogen produced ignore cloudiness / colour changes</p> <p>accept magnesium / magnesium sulfate / solid / it dissolves accept forms a liquid / solution</p> <p>allow exothermic ignore floats</p>	2
(iii)	<p>crystallisation</p> <p>or</p> <p>evaporation / heating / boiling / cooling</p>	<p>accept detailed answers such as: evaporate to half volume and then allow the solution to crystallise.</p> <p>ignore any references to filter</p>	1

7.

Answers	Extra information	Mark
add excess copper carbonate (to dilute hydrochloric acid)	accept alternatives to excess, such as 'until no more reacts'	1
filter (to remove excess copper carbonate)	reject heat until dry	1
heat filtrate to evaporate some water or heat to point of crystallisation	accept leave to evaporate or leave in evaporating basin	1
leave to cool (so crystals form)	<p>until crystals form</p> <p>must be in correct order to gain 4 marks</p>	1

