

Question 1

1(a)(i)	phosphate	1
1(a)(ii)	ammonium sulfate	1
1(a)(iii)	0.24 (mg)	1
1(b)	flame test / description of flame test (1) yellow flame colour (1)	2
1(c)	improved plant growth	1
1(d)	sewage: contains microbes which cause <u>disease</u> (1) phosphates: deoxygenation of water (1)	2

Question 2

2(b)(i)	reversible reaction	1
2(b)(ii)	blue	1
	pink	1
2(c)(i)	cobalt < zinc < magnesium < barium if 2 marks not scored, 1 mark for all reversed / one consecutive pair reversed	2
2(c)(ii)	100 (°C)	1

Question 3

3(a)	electrons: 17 (1) neutrons: 20 (1) protons: 17 (1)	3
3(b)	to kill bacteria (1)	1

Question 4

4(e)	M1 cobalt(II) chloride M2 anhydrous	2
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Question 5

5(f)	cobalt	1
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