Examiners' Report
Principal Examiner Feedback

Summer 2025

Pearson Edexcel International GCSE in Chemistry (4WSD3) Unit 3CR

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Question 1

Q01ai – 74% of candidates were able to score the mark in this question. Errors were usually because of candidates not following the instruction to use the outline of the Periodic table in the question.

Q01aii – 56% of candidates scored the mark. Errors were usually because of candidates not following the instruction to use the outline of the Periodic table in the question.

Q01aiii – 67% of candidates were able to score the mark in this question. Errors were usually because of candidates not following the instruction to use the outline of the Periodic table in the question.

Q01bi – 66% of candidates were able to score the mark.

Q01bii – 61% of candidates score both marks. Errors were usually due to candidates placing more than two electrons on the first electron shell.

Q01c – 42% of candidates score both marks. Over half of all candidates did not score at all. Errors were usually due to calculating an average of the mass numbers or trying to complete an empirical formulae calculation.

Question 2

Q02ai – 97% of candidates scored the mark.

Q02aii – 90% of candidates scored the mark.

Q02aiii – 87% of candidates scored the mark..

Q02b – 37% of candidates scored all three marks with a further 35% scoring two marks. Most candidates were able to identify gas particles as having the highest amount of energy and that they were randomly arranged.

Question 3

Q03a – 20% of candidates were able to give the correct ion. This should be a recall question from the specification. Incorrect answers were very varied. It was also common to see this response left blank.

Q03b – 37% of candidates were able to provide a suitable pH value. Errors were usually for giving a pH linked to a strong alkali eg 12, or a weak acid.

Q03c – 45% of candidates were able to score the mark. The most common error was potassium hydroxide.

Q03d – 47% of candidates were able to score all three marks. The most common error was linked to candidates using a mixture of atomic numbers and mass numbers for the different elements in potassium carbonate. 43% of candidates did not score at all.

Q03e – 68% of candidates did not score on this question. 16% were able to score both marks. The most common incorrect answer was test tube D. Candidates described the darker colour in the tube and linked it to having had a greater reaction than the other options, rather than knowing that potassium carbonate is a soluble salt.

Question 4

Q04a – 29% of candidates scored both marks with 50% of candidates not scoring. The most common error was to select Q. Candidates would then go on to explain that 100 °C was the boiling point for pure water rather than realising that P had the smallest range of temperatures.

Q04b – 15% of candidates scored the maximum of four marks with 32% of candidates not scoring. M3 was the least scored mark with many candidates not being clear that the water **vapour** had to condense rather than just water condensing. M1would also be lost due to candidates not making it clear enough that they were heating the solution at the start of the process.

Question 5

Q05a – 68% of candidates scored both marks. Common errors included carbon dioxide or an acid.

Q05bi – Less than half of candidates were able to identify galvanisation.

Q05bii – 19% of candidates scored both marks with over half of candidates not scoring at all. Common misconceptions were linked to lower-level responses of zinc being a barrier and preventing oxygen and water from reaching the iron.

Q05ci – 38% of candidates scored the mark. Neutralisation was a common incorrect answer.

Q05cii – 6% of candidates scored both marks while 84% of candidates did not score at all. This was usually due to an incorrect formula for iron. Many candidates started the equation correctly but then gave Fe_2 as one of the products. Another common error was not recognising the sulfate group as SO_4 and therefore using S incorrectly eg FeS.

This proved to be one of the more challenging questions for candidates.

Question 6

Q06a – 27% of candidates were able to correctly give the name of the homologous series. The most common incorrect answer was to state they were hydrocarbons.

Q06b – 8% of candidates were able to score all three marks but three quarters of candidates did not score at all. Many candidates tried to link carbon dioxide as the cause for acid rain.

Q06ci – 36% of candidates scored both marks with almost half of candidates not scoring. Some candidates read the answer lines incorrectly and gave their responses the wrong way round.

Q06cii – 5% of candidates scored all three marks while 57% did not score at all. M1 was most likely to be scored.

Q06di – 39% of candidates scored both marks with just over half of candidates not scoring at all. Some candidates were confused between isomers and isotopes. Other candidates tried to state the same general formula instead of correctly stating the same molecular formula for M1.

Q06dii – 19% of candidates scored both marks while just over half of candidates did not score. Common errors were to include a double bond in at least one of the drawings or to draw 2-methyl-butane twice. Some also redrew pentane but with a 90° angle in the carbon chain with the misconception that this would show branching.

Question 7

Q07ai – 17% of candidates scored both marks but 76% of candidates did not score at all. Common misconceptions were linked to taking specific measurements eg measuring the volume of copper(II) sulfate. Very few candidates suggested M3.

This proved to be one of the more challenging questions for candidates.

Q07aii – 44% of candidates were able to score the mark for this question.

Q07aiii – 8% of candidates were able to score the mark for this question. There was a significant variation of suggested colour changes. Some errors were linked to the bromine water test for alkenes while others were linked to iodine.

This proved to be one of the more challenging questions for candidates.

Q07b – 23% of candidates were able to score either six or seven marks while a third of candidates did not score at all. The most common score was six. Common errors in part (i) were due to using an incorrect mass of solution. The most common error in part (ii) was to give an answer of +95.

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