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Examiners' Report/ Principal Examiner Feedback

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IGCSE

IGCSE Chemistry (4335) Paper 1F

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Section A

Question 1
A common error on this question was to ignore the fact that symbols were required and give names in (a) and (b). In part (e) some candidates forgot that H and He make up the first period, and so gave the element from period 4.

Question 2
Almost all candidates picked up some marks in (a), although it was commonly thought that crude oil was burned rather than heated and that fractions freeze into a liquid. Part (b) was poorly answered with few candidates gaining both marks for the combustion products.

Question 3
While some candidates gave good answers to (a), many answers seemed to just be random gases. This could be said for (b), where candidates often gained one mark but could not identify both correct statements.

Question 4
Most candidates picked up one or two marks in (a), but black solids and white gases were often seen. There were very few correct answers to (b) and (c); in (b) it was rare to have the compound identified as an ammonium salt, in (c) there were many obvious guesses such as "fizzing".

Question 5
The word equation often yielded a mark (for the name of the salt made) and the test for carbon dioxide allowed some candidates to score much needed marks. It was rare to gain both marks in (c), but many candidates managed to come up with one method of increasing the rate (usually "heating"). Part (d) was not well answered, and many candidates who got the pH of carbonic acid correct still thought it would turn universal indicator red.

Question 6
Part (a) allowed most candidates to score one or two marks, but there were some totally blank answers and others that were very confused using substances that had nothing to do with iron production. Part (i) of (b) often resulted in a mark being gained, but (ii) proved more difficult for many candidates. Part (c) required formulae to be used/given and this proved a step too far for many.

Question 7
Many candidates gave a sensible attempt at the chemical name of rust and could name the two substances required for iron to rust (although threw a mark away by stating iron was needed for iron to rust). The methods of preventing rust in (c) often resulted in 1 mark being awarded.

Question 8
Candidates often gained at least 1 mark for the colours in (a) but only the best foundation tier candidates managed to gain marks in (b). One common misunderstanding is in the addition of excess of copper oxide to the acid (steps 2 and 3 in the question) – this does not produce a saturated solution (indeed, the copper

oxide is not dissolving - if it was then we would have copper oxide solution), saturation is achieved by the removal of water in step 5

Section B

General Comments

Questions in this section are targeted at grades D and C.

Question 9

This question was about atomic structure. It was disappointing to see so many errors in the completion of the table in part (a). When the term "relative" is used in a table, the expectation is that candidates will use numbers to match the 1 and –1 provided. Apart from errors with signs and using 0 and 1 in the wrong places, a surprising number of candidates used 2 in more than one box. Part (b) was better done, with most scoring at least 1 mark here; there was little confusion between mass number and relative atomic mass. In part (c), although isotopes were well known, not all gave the correct number of protons in boron-6.

Question 10

Most candidates included "blue" in part (a), although sometimes as the start instead of the end colour, and there was some use of colourless instead of white. In part (b), although most knew the term "fractional distillation", not all identified the difference in boiling point as the reason why they could be separated in the apparatus shown - some answers simply gave "heat"; the outline of how pure propanone and water could be separated was poorly done, with some confusing the water in the flask with that passing through the condenser. The correct choices were often made in (c).

Question 11

This question was about the reaction between sodium and oxygen. Few candidates scored full marks. Some referred to covalent bonding, others had the electron transfer the wrong way round, and many had the oxygen atom gaining only one electron. A substantial number of candidates did not write symbols for the species formed, giving electron configurations such as 2.8 and 2.7 or 2.8.

Question 12

This question was about the halogens. Candidates had mixed success - a disappointing number failed to score either mark in part (a). In part (b), although more than half the candidates correctly identified where chlorine gas would be formed, a great variety of wrong answers were seen in (ii) and (iii). Part (c) was generally well done, with few errors in the word equation where the halogen and halide names were wrongly used (such as "sodium bromine"); unfortunately many candidates ignored the reference to word equation and wrote chemical equations instead, most of which were not correct.

Question 13

This question was mostly about alkanes and alkenes. Many good answers were seen to most parts of this question. In part (e), several candidates did not seem to understand the meaning of "general formula" and wrote a specific formula (such as C_4H_{10}). In part (g), a surprisingly large number of candidates wrote "n" instead of selecting a letter from the table.

CHEMISTRY 4335, GRADE BOUNDARIES

Option 1: with Written Alternative to Coursework (Paper 3)

	A*	A	B	C	D	E	F	G
Foundation Tier				64	51	38	25	12
Higher Tier	74	62	50	39	25	18		

Option 2: with Coursework (Paper 04)

	A*	A	B	C	D	E	F	G
Foundation Tier				N/A	N/A	N/A	N/A	N/A
Higher Tier	N/A	N/A	N/A	N/A	N/A	N/A		

No candidates entered coursework so there are no grade boundaries for this option.

Note: Grade boundaries may vary from year to year and from subject to subject, depending on the demand of the question paper.

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