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Question 25 (Answer: **C**)

- Brass is a mixture of metals, not a compound, so it still conducts electricity.
- In any metal it is the delocalised *electrons* that move, not the atoms.
- Brass is harder than copper because its different-sized atoms stop the layers sliding.

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Question 26 (Answer: **A**)

- A pure metal has identical atoms in regular layers that can slide over one another.
- Brass contains zinc atoms of a different size, which disrupt those layers.
- The layers can no longer slide, so brass is stronger and harder than pure copper.

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4(a)(i)	4CO
4(a)(ii)	chromium will need to be separated from iron
4(b)	alloy
4(c)(i)	–2
4(c)(ii)	M1 use of –14 **or** 7 × –2 M2 +6
4(c)(iii)	M1 mol $(NH_4)_2Cr_2O_7$ = 1.26 / 252 = 0.005(00) M2 mol of N_2 = 0.005(00) M3 vol of N_2 = 0.005 × 24000 = 120 (cm^3)

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Question 28 (Answer: **C**)

- A pure metal has identical atoms in regular layers that slide over each other easily.
- An alloy mixes in atoms of a different size, distorting those layers.
- The layers can no longer slide, so the alloy is harder; brass is copper with *zinc*, not tin.