

Question 23 (Answer: **B**)

- An element that forms a negative ion has *gained* electrons, so it is a non-metal.
- Gaining one electron to form X^- means it had seven outer electrons – Group VII.
- Losing two to form Y^{2+} means it had two outer electrons – Group II.

Question 23 (Answer: **C**)

- Read the group from the column: Group I has one outer electron, Group II two, Group VII seven.
- Metals are on the left of the table and non-metals on the right.
- So a Group II element is a metal with two electrons in its outer shell.

Question 21 (Answer: **C**)

- Across a period the elements change from metals on the left to non-metals on the right.
- So electrical conductivity falls and the oxides change from basic to acidic.
- They do not simply change from gases to solids – sodium is already a solid.

Question 22 (Answer: **C**)

- Silicon is in Group IV, so X must also be in Group IV.
- More protons than silicon means X is *below* silicon in that group.
- Carbon is above it, and aluminium and phosphorus are in different groups – so germanium.

Question 25 (Answer: **B**)

- Oxygen (O_2) and sulfur (S_8) are both *simple molecular*, not giant covalent.
- Both are non-metals in Group VI, so both have six outer electrons.
- The giant covalent claim is therefore the incorrect statement.