

Question 6 (Answer: **B**)

- In NH_4^+ the nitrogen's lone pair forms the fourth N–H bond, so that is one coordinate bond.
- The cyanide ion holds a $\text{C}\equiv\text{N}$ triple bond: one σ and two π .
- So one coordinate bond and two π bonds.

Question 24 (Answer: **C**)

- No element changes oxidation number, so it is not a redox reaction – statement 1 fails.
- NH_3 has a lone pair, which squeezes the H–N–H angle to about 107° .
- In NH_4^+ that lone pair becomes a bond, so the angle opens to 109.5° – statement 2 holds.