**Short questions to answer**

1. Define the term first ionization energy.
2. Explain what is meant by a covalent bond.
3. Define the term relative isotopic mass.
4. What is meant by the term electronegativity?
5. Draw a dot and cross diagram to show the bonding in MgCl2 (outer electrons only).
6. Draw a ‘*dot-and-cross*’ diagram to show the bonding in a molecule of CH3C*l*. Show **outer** electrons only.
7. A modern model of the atom arranges electrons into orbitals, sub-shells and shells. What is the maximum number of electrons which can be found in a) a 2p orbital? B) the 3s sub-shell? c) the 4th shell?
8. What element can be identified with the first six successive ionisation energies shown below, in kJ mol–1 (first 18 elements only).

738, 1451, 7733, 10541, 13629, 17995