Edexcel AS Chemistry Exam practice answers

1: Atomic structure and the Periodic Table

1 (a) B (✓)

(b) The relative isotopicmass is the mass of a single isotope of an element (✓) relative to 1/12 the mass of a carbon-12 atom; (✓) the relative atomicmass is the weighted average mass of the isotopes of the element (✓)

(c) C (✓)

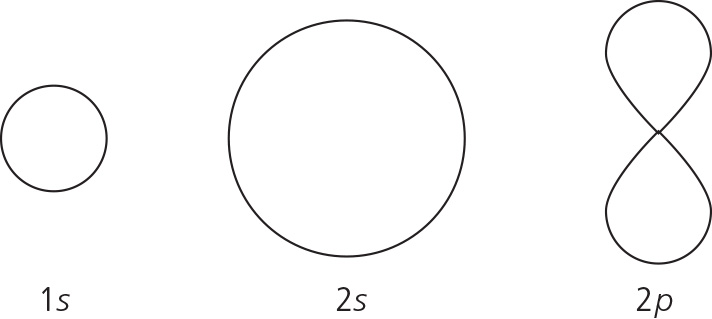
(d) Let x be the fraction of 69Ga

69.8 = 69*x* + 71(1 − *x*) (✓)

−2*x* = 69.8 − 71= −1.2 (✓)

*x* = 0.6 (or 60%) 69Ga and 40% 71Ga (✓)

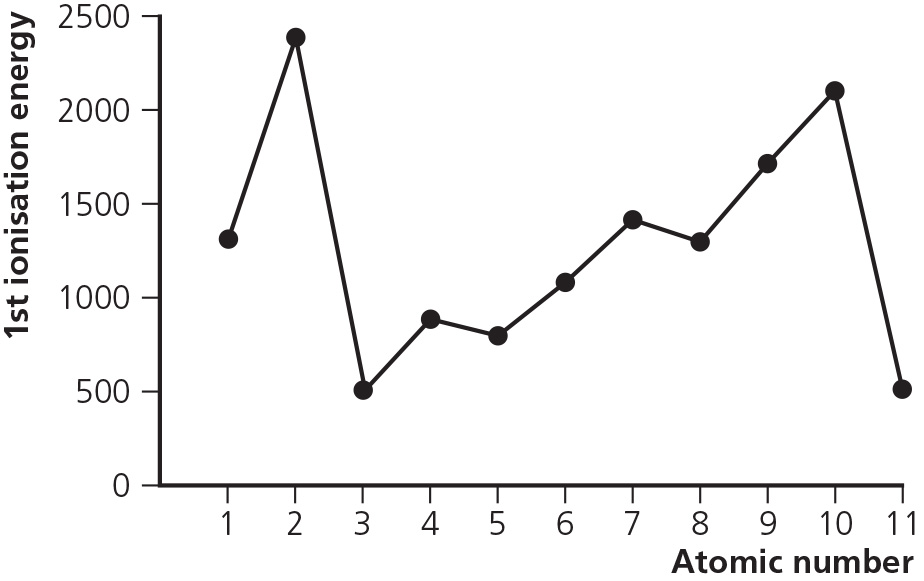
2 (a)

 (✓✓✓)

(b) (i) C (✓)

(ii) Group 4; (✓) a big jump in value; (✓) between the 4th and 5th ionisation energies (✓)

(c)



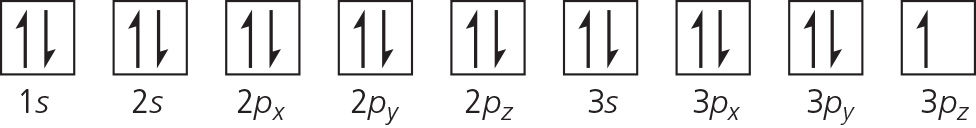
Axes labelled 1st IE on *y*-axis and atomic number on *x*-axis; (✓) correct relative positions of first three elements; (✓) rest of sketch (✓)

(d) (i) Electron removed from 2p; which is at higher energy level (✓)

(ii) Electron removed from one of a pair; so easier (✓)

(iii) 3s electron further from nucleus/ more shielded (✓)

(e)

 (✓)