

Electron Structure (MCQ)

1. The electron configuration of element X is: $1s^22s^22p^63s^23p^4$

What is the formula of a compound formed when sodium reacts with element X?

- A NaX
- B NaX_2
- C Na_2X
- D Na_2X_3

Your answer

[1]

2. Which element has atoms with the greatest number of singly occupied orbitals?

- A C
- B Cl
- C Ca
- D Ga

Your answer

[1]

3. Electron configurations for atoms of different elements are shown below.

Which electron configuration represents the element with the largest first ionisation energy?

- A $1s^22s^2$
- B $1s^22s^22p^4$
- C $1s^22s^22p^6$
- D $1s^22s^22p^63s^2$

Your answer

[1]

4. What is the electron configuration for an Mg^{2+} ion?

- A. $1s^22s^2$
- B. $1s^22s^22p^6$
- C. $1s^22s^22p^63s^2$
- D. $1s^22s^22p^63s^23p^63d^4$

Your answer

[1]

END OF QUESTION PAPER

Mark scheme – Electron Structure (MCQ)

Question			Answer/Indicative content	Marks	Guidance
1			C	1	<p><u>Examiner's Comments</u></p> <p>Nearly all candidates responded with the correct response of C.</p>
			Total	1	
2			A	1	<p><u>Examiner's Comments</u></p> <p>This question discriminated well with less than half the candidates obtaining the correct answer. Answer option D was a common distractor.</p>
			Total	1	
3			C	1	<p><u>Examiner's Comments</u></p> <p>Many candidates did not take into account the trend across periods, with A being a common incorrect answer.</p>
			Total	1	
4			B	1	
			Total	1	