

## 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]

## 2.2.1 Electron Structure MCQ

4. What is the electron configuration for an  $\text{Mg}^{2+}$  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><b><u>Examiner's Comments</u></b></p> <p>Nearly all candidates responded with the correct response of C.</p>
			<b>Total</b>	<b>1</b>	
2			A	1	<p><b><u>Examiner's Comments</u></b></p> <p>This question discriminated well with less than half the candidates obtaining the correct answer. Answer option D was a common distractor.</p>
			<b>Total</b>	<b>1</b>	
3			C	1	<p><b><u>Examiner's Comments</u></b></p> <p>Many candidates did not take into account the trend across periods, with A being a common incorrect answer.</p>
			<b>Total</b>	<b>1</b>	
4			B	1	
			<b>Total</b>	<b>1</b>	