Practice Question Set For A-Level
Subject : Chemistry
Paper-1 Topic: Inorganic 1

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

Which of the following is a correct statement about the trend in atomic radius across Period 3 of the Periodic Table?

A	radius increases because the atoms have more electrons	⬭
B	radius decreases because nuclear charge increases	⬭
C	radius increases because shielding (screening) increases	⬭
D	radius decreases because shielding (screening) decreases	⬭

(Total 1 mark)

Q2.

Which element is in the f-block of the Periodic Table?

A	Palladium	⬭
B	Phosphorus	⬭
C	Platinum	⬭
D	Plutonium	⬭

(Total 1 mark)

Q3.

Which elements are shown in increasing order of the stated property?

A	Atomic radius: phosphorus, sulfur, chlorine.	⬭
B	First ionisation energy: sodium, magnesium, aluminium.	⬭
C	Electronegativity: sulfur, phosphorus, silicon.	⬭
D	Melting point: argon, chlorine, sulfur.	⬭

(Total 1 mark)

Downloaded from www.merit-minds.com

Q4.

(a) Explain why the atomic radii of the elements decrease across Period 3 from sodium to chlorine.

(2)

(b) Explain why the melting point of sulfur (S_8) is greater than that of phosphorus (P_4).

(2)

(c) Explain why sodium oxide forms an alkaline solution when it reacts with water.

(2)

(d) Write an ionic equation for the reaction of phosphorus(V) oxide with an excess of sodium hydroxide solution.

(1)

(Total 7 marks)

Downloaded from www.merit-minds.com

Q5.

This question is about Period 3 of the Periodic Table.

(a) Deduce which of Na^+ and Mg^{2+} is the smaller ion.
Explain your answer.

Smaller ion _____

Explanation _____

_____

_____

_____

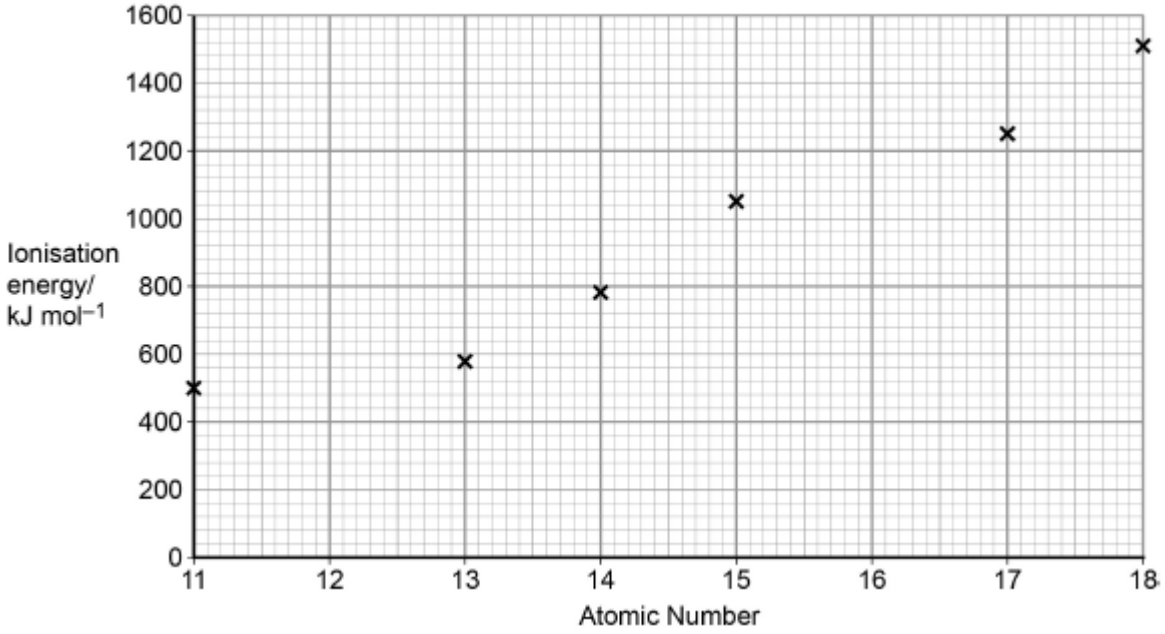
(2)

(b) Write an equation to represent the process that occurs when the first ionisation energy for sodium is measured.

_____

(1)

(c) The first ionisation energies of some Period 3 elements are shown in the following graph.



Complete the graph by plotting the approximate first ionisation energy values for magnesium and sulfur.

Explain why the first ionisation energy of sulfur is different from that of phosphorus.

_____

_____

_____

Downloaded from www.merit-minds.com

(4)
(Total 7 marks)

Downloaded from www.merit-minds.com