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

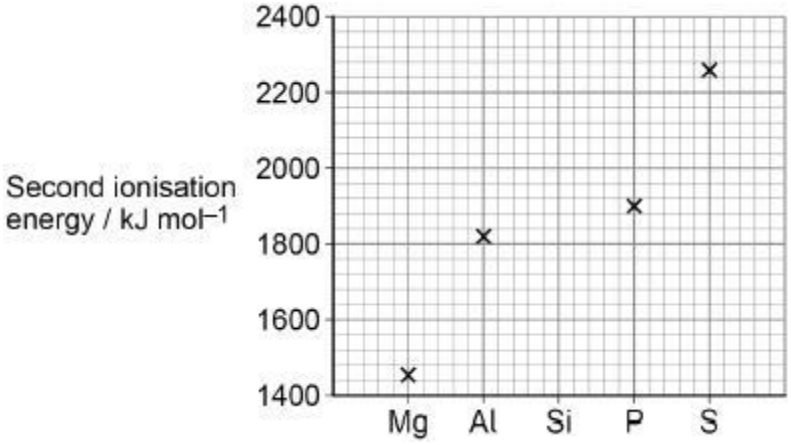
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Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Q1.

This question is about Period 3 elements.

The graph shows the **second** ionisation energies of some elements in Period 3.



(a) Draw a cross (x) on the graph above to show the **second** ionisation energy of silicon.

(1)

(b) Identify the element in Period 3, from sodium to argon, that has the highest **second** ionisation energy.

Give an equation, including state symbols, to show the process that occurs when the **second** ionisation energy of this element is measured.

If you were unable to identify the element you may use the symbol **Q** in your equation.

Element _____

Equation

_____

(2)

(c) Explain why the atomic radius decreases across Period 3, from sodium to chlorine.

_____

_____

_____

_____

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(2)

(d) Identify the element in Period 3, from sodium to chlorine, that has the highest electronegativity.

_____

(1)

(e) Phosphorus burns in air to form phosphorus(V) oxide.
Give an equation for this reaction.

_____

(1)

(Total 7 marks)

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Q2.

This question is about 2-bromopropane.

(a) Define the term electronegativity.

Explain the polarity of the C–Br bond in 2-bromopropane.

Electronegativity _____

_____

_____

Explanation _____

_____

_____

(3)

(b) Outline the mechanism for the reaction of 2-bromopropane with an **excess of ammonia**.

(4)

(c) Draw the skeletal formula of the main organic species formed in the reaction between a **large excess of 2-bromopropane** and ammonia.

Give a use for the organic product.

Skeletal formula

Use _____

(2)

(Total 9 marks)

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