4 - Metallic bonding

1. Which statement best describes the attraction present in metallic bonding?

A. the attraction between nuclei and electrons

B. the attraction between positive ions and electrons

C. the attraction between positive ions and negative ions

D. the attraction between protons and electrons

(Total 1 mark)

2. Which is a correct description of metallic bonding?

A. Positively charged metal ions are attracted to negatively charged ions.

B. Negatively charged metal ions are attracted to positively charged metal ions.

C. Positively charged metal ions are attracted to delocalized electrons.

D. Negatively charged metal ions are attracted to delocalized electrons.

(Total 1 mark)

3. What are responsible for the high electrical conductivity of metals?

A. Delocalized positive ions

B. Delocalized valence electrons

C. Delocalized atoms

D. Delocalized negative ions

(Total 1 mark)

4. The elements sodium, aluminium, silicon, phosphorus and sulfur are in period 3 of the periodic table.

Describe the metallic bonding present in aluminium and explain why aluminium has a higher melting point than sodium.

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(Total 3 marks)

5. State **two** physical properties associated with metals and explain them at the atomic level.

(Total 4 marks)