

- Briefly discuss the relationship between the electron configuration of an element and its position in the Periodic Table.

Marks
6

Carbon and lead are both in Group 14. One is a non-metal and the other is a metal. Outline one physical and one chemical characteristic of a non-metal and a metal and explain the reason for the trend from one to another in Group 14.

	Non-metal	Metal
Physical characteristic		
Chemical characteristic		

Explanation for trend in Group 14

- Silicon and carbon are both in Group 14 and form dioxides. Carbon dioxide is a gas at room temperature while silicon dioxide (sand) is a solid with a high melting point. Describe the bonding in these two materials and explain the differences in properties they show.

Marks
3

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- In the Periodic Table given, hydrogen is placed at the top of Group 1. List reasons for and against placing hydrogen in this position.

For:**Against:****THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.**

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- The element titanium is used as a structural material for bone in joint replacement surgery. Discuss the properties of titanium that make it suitable for this application.

Marks
3

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