

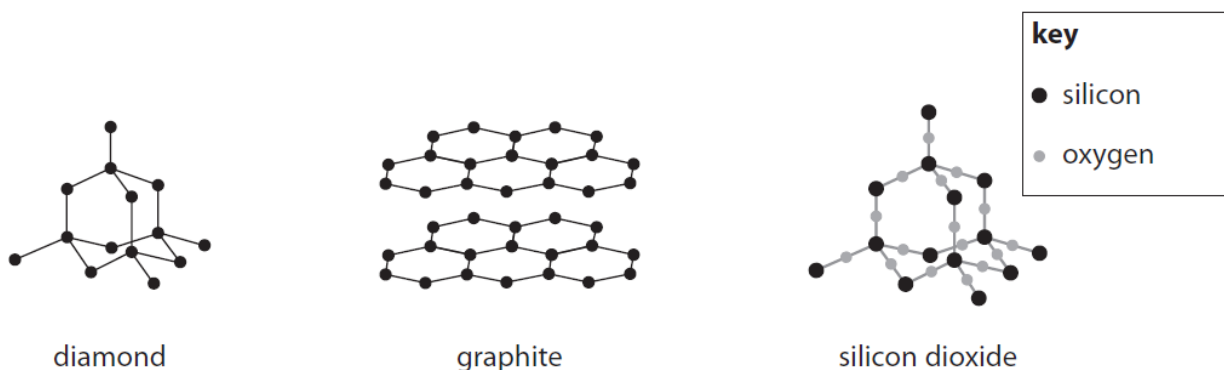
MELTING POINT OF SILICON DIOXIDE

Paper: 1C
Question: 7(a)

Question

Diamond, graphite and silicon dioxide all have giant covalent structures.

The diagram shows the structures of these three substances.



Explain why silicon dioxide has a high melting point.

(2)

Mark Scheme

<p>An explanation that links together the following two points:</p> <p>M1 (silicon dioxide has) many/strong (covalent) bonds</p> <p>M2 (therefore) a large amount of (heat/thermal) energy is required to break the bonds/ overcome the forces</p>	<p>ACCEPT strong (electrostatic) forces of attraction between the nuclei of atoms and the bonding electrons</p> <p>IGNORE more energy</p> <p>Any mention of intermolecular forces/forces between molecules or ions/ionic bonding /metallic bonding scores 0 out of 2</p>
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