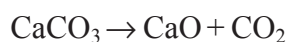


5. Limestone is heated in a lime kiln to convert the calcium carbonate into calcium oxide.



(a) Explain, in terms of bond breaking and bond making, why this reaction is endothermic.

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(3)

(b) Calculate the maximum mass of calcium oxide that can be obtained from 25 tonnes of calcium carbonate.
(Relative atomic masses: C = 12; O = 16; Ca = 40)

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(3)

(c) Limestone is one raw material used for the extraction of iron in the blast furnace. The heat of the furnace causes it to decompose forming calcium oxide. Write the balanced equation to show how the calcium oxide reacts in the blast furnace.

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(2)

(Total 8 marks)

Q5

TOTAL FOR PAPER: 30 MARKS

END