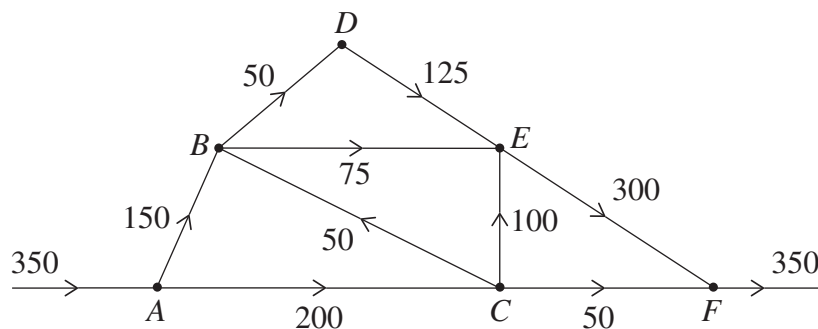**Question 30** (3 marks)

The network diagram shows a series of water channels and ponds in a garden. The vertices *A*, *B*, *C*, *D*, *E* and *F* represent six ponds. The edges represent the water channels which connect the ponds. The numbers on the edges indicate the maximum capacity of the channels.
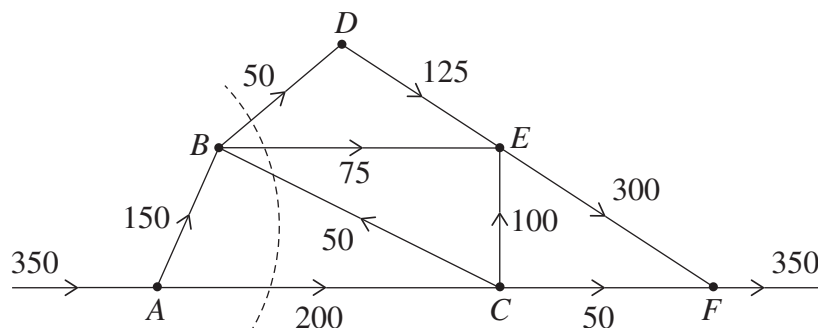

(a)   Determine the maximum flow of the network.   **2**

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(b)   A cut is added to the network, as shown.   **1**

Is the cut shown a minimum cut? Give a reason for your answer.

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