Question 1 (7 marks)
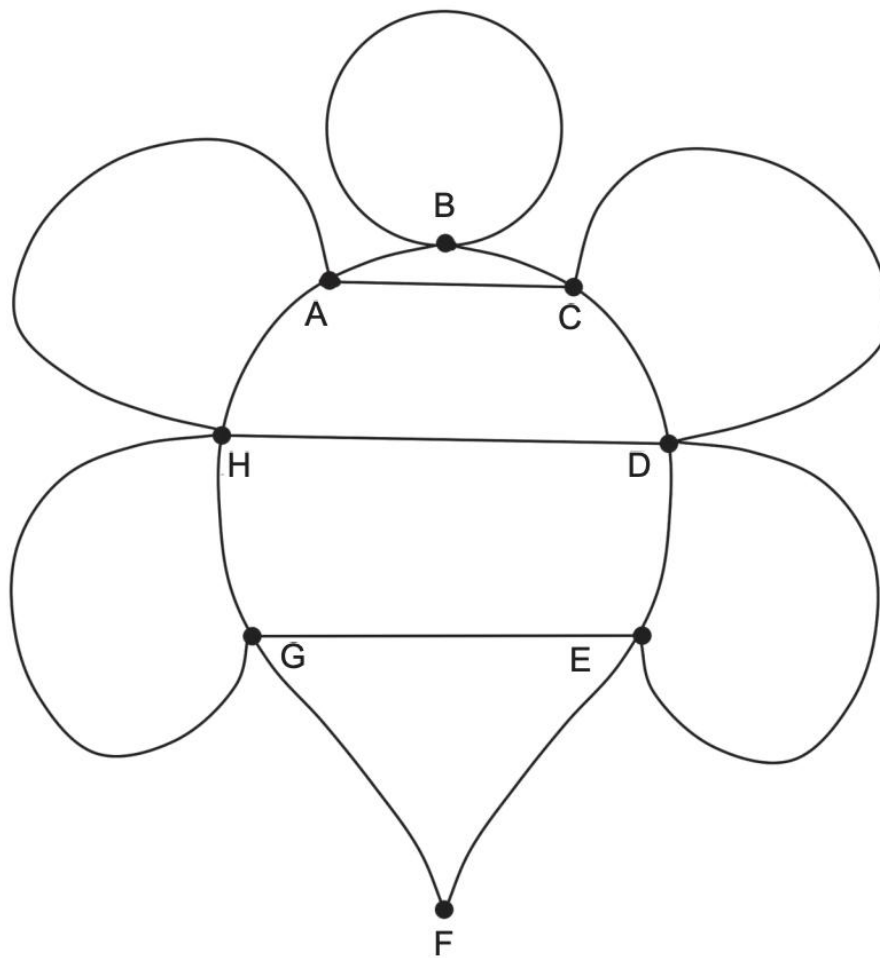
The network below shows the different paths around a botanical exhibition.

(a)   Explain why this is **not** a simple graph. (1 mark)

(b)   Is this network Eulerian or semi-Eulerian? Justify your response. (2 marks)

(c)   Use Euler's formula to prove that this network is planar.   (2 marks)

(d)   A visitor to the exhibition has taken her child in a pram and wishes to walk along every path exactly once to see all the floral displays, excluding the walk back to the car park. If the only car parks are located next to D and F, where would you suggest they park? Use mathematical reasoning to support your answer.   (2 marks)