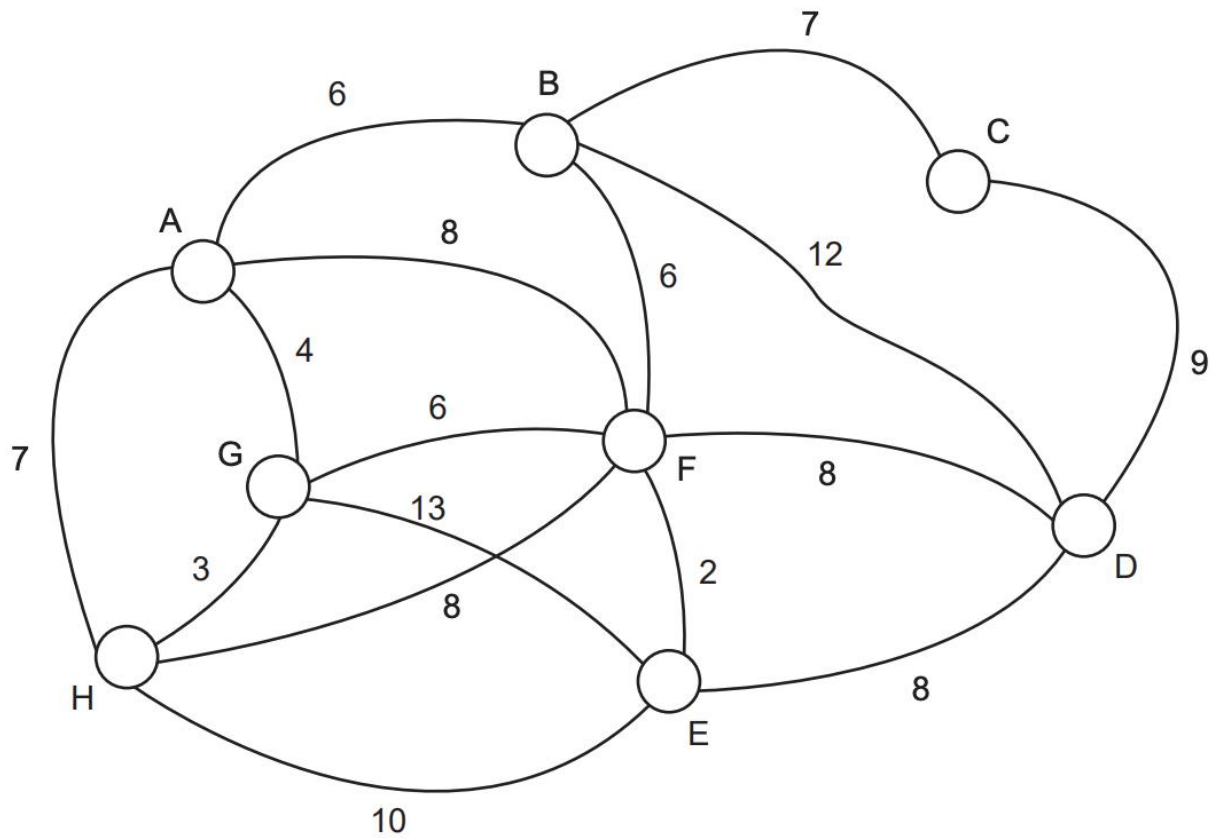


Question 10**(9 marks)**

The network shown below represents the cycle tracks connecting the various points of interest on an island. The numbers indicate the distance between points of interest to the nearest 100 metres.



- (a) Each morning all tracks must have a safety check. Is it possible to check all individual tracks by an Eulerian trail? Justify your answer. (2 marks)

- (b) Rubbish bins at each point of interest are emptied daily. The rubbish truck leaves from position C and must return to C after emptying all rubbish bins.
- (i) What name is given to the type of path taken by the rubbish truck? (2 marks)

(ii) The rubbish truck wants to follow the path of least distance. State the path and its length. (3 marks)

(c) A tourist at G wishes to travel to C but path AG is closed for maintenance. Determine the shortest path possible and its length. (2 marks)