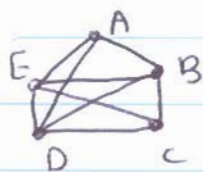


HW#5 - Eulerian & Hamiltonian graphs

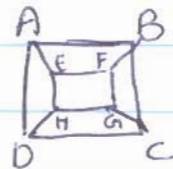
#1 10 Which of the following graphs are Eulerian or Hamiltonian, or both, and write down an Eulerian trail or a Hamiltonian cycle where possible.



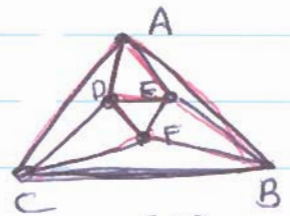
(1)



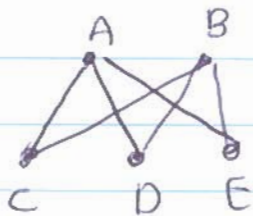
(2)



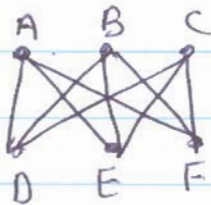
(3)



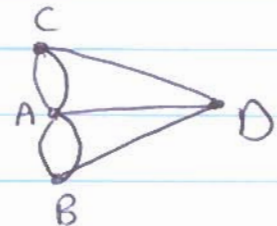
(7)



(4)



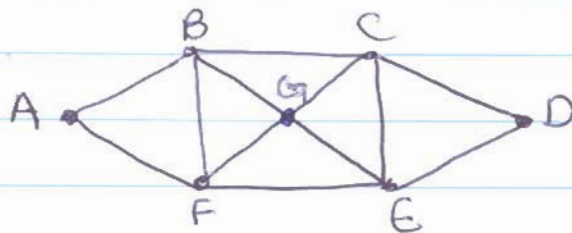
(5)



(6)

#2 5 (a) Show that the Eulerian graph below can be split into four cycles, no two of which have any edges in common.

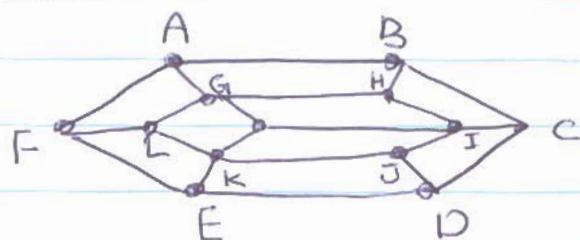
(b) How can these cycles be combined to form an Eulerian trail?



#3

Prove that any bipartite graph with an odd number of vertices cannot be Hamiltonian. Use this result to show that the following graph is not Hamiltonian

10



#4

Give an example of a graph of order 10 which is

10

- Hamiltonian but not Eulerian
- Eulerian but not Hamiltonian