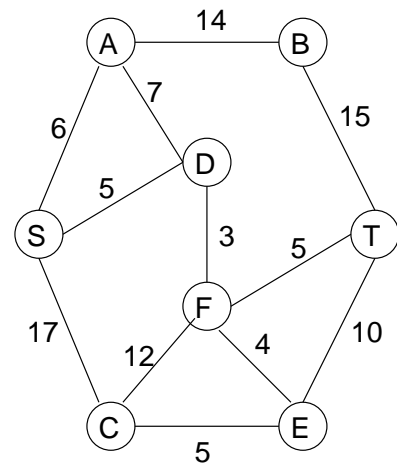


- 6. a) Describe and compare packet-switching and circuit-switching.
- b) Describe and compare virtual circuits and datagrams (as implementations).
- c) Classify the IP interior gateway protocol and describe its operation.
- d) What are ARP and RARP, how are they used and why?

- 7. a) What does the maximum flow between a pair of nodes in a graph for which the capacities are data transmission rates represent?
- b) For the graph at right, use Malhotra's algorithm (layer graphs) to determine the maximum flow between S and T. Show your work and supply the final flow assignment as well as the value of the maximum flow between S and T. All edges are bidirectional with capacities as shown.



- c) Identify a set of edges forming a minimum cut in the graph.
- 8. a) What services does the transport layer provide?
 - b) What are the particular problems the transport layer must deal with and what are typical mechanisms it employs to overcome them?
 - c) Why is the 3-way handshake used at the transport layer and not at the datalink layer?
 - d) What are upward and downward multiplexing at the transport layer? Why are they used?

BONUS: Give a question suitable to the material and supply an answer for it.

SIGN HERE: I have not discussed the contents of this test with anyone who was taking it, nor anyone who took it before I did, nor will I discuss it with anyone who has not taken it until they have turned it in.

I have received no help on this test from others. SIGNED & DATED: _____