MC questions for Unit 6

Question 1

Traditional Ethernet has a data rate of _____ Mbps.

A. 1
B. 10
C. 100
D. 1000

Question 2

The protocol for obtaining the physical address of a node when IP address is known is

called _____.

A. TCP
B. DHCP
C. ARP
D. Ethernet

Question 3

How many bits are there in the Ethernet address?

A. 64
B. 48
C. 32
D. 16

Question 4

The service provided by Ethernet is _____.

A. connection-oriented and reliable
B. connection-oriented and unreliable
C. connectionless and reliable
D. connectionless and unreliable

Question 5

This question explores the self-learning algorithm of switches. Consider a switch with hosts A and B connected to it (and the other ports empty). The switch has just started operation. A sends a frame to B and, then B replies by sending a frame to A. *Check ALL statements that CORRECTLY describe what happens when the second frame (send from B back to A) is processed by the switch.*

- [ ] The switch broadcasts the frame to reach A.
- [ ] The switch does not learn anything new.
- [x] The switch learns the port for B.
- [x] The switch forwards the frame directly to A.

Question 6

A tree is a graph that satisfies some conditions. *Check ALL of them*.

- [x] There is a path between every two vertices of the graph.
- [ ] The edges of the graph are directed.
- [x] There is no cycle in the graph.
- [ ] There is a special vertex of the graph called the root.

Question 7

A spanning tree for a graph G is a subgraph (denoted by H) of G that satisfies some conditions. *Check ALL of them.*

- [x] There is a path between every two vertices of H.
- [ ] The edges of H are directed.
- [ ] There is no cycle in G.
- [x] H contains every vertex of G.
- [ ] H contains every edge of G.
- [x] There is no cycle in H.
- [ ] There is a special vertex of H called the root.

Question 8

This question explores the spanning tree algorithm for switches. Consider four switches numbered 1, 2, 3, and 4 that are joined in that order in a circle (i.e., switch 4 is connected back to switch 1). *Check ALL statements that are TRUE concerning the spanning tree that is computed.*

- [ ] The path from switch 3 to the root goes via switch 4.
- [ ] The link between switch 2 and switch 3 is turned off to break loops by the spanning tree algorithm.
- [x] The root of the spanning tree is switch 1.
- [x] The link between switch 4 and switch 3 is turned off to break loops by the spanning tree algorithm.