

***** EXAMINATION *****

HUBS VERSUS SWITCHES — UNDERSTAND THE TRADEOFFS

1. **A repeating hub is intended for:**
 - a) shared Ethernet
 - b) half-duplex Ethernet
 - c) networks where only one station can transmit at a time
 - d) All of the above

2. **When bus arbitration is occurring,**
 - a) frames are being repaired
 - b) corrupted transmitted frames are being discarded
 - c) data rates of transmitted frames are increased
 - d) None of the above

3. **Repeaters and repeating hubs:**
 - a) understand Ethernet frames
 - b) reduce distances between nodes
 - c) extend distances between nodes
 - d) All of the above

4. **A switching hub:**
 - a) is not a repeater
 - b) acts upon the content of the Ethernet frame it receives
 - c) forwards the frame to the appropriate port on the switch
 - d) All of the above

5. **A switch learns the addresses of the ports in the network by:**
 - a) sending a frame to the controller
 - b) polling the various ports
 - c) observing the source addresses of Ethernet frames sent to its ports
 - d) All of the above

6. **The length of twisted-pair segments cannot exceed:**
 - a) 100 meters
 - b) 200 meters
 - c) 300 meters
 - d) 400 meters

7. **The number of repeating hubs is usually restricted to:**
 - a) four
 - b) six
 - c) seven
 - d) eight

8. **The 5-4-3 rule states that there cannot be more than:**
 - a) five mixing segments, four repeaters, and three segments
 - b) five segments, four repeaters, and three mixing segments
 - c) five repeaters, four mixing segments, and three segments
 - d) five segments, four mixing segments, and three repeaters

9. **Fiber optics segments can be up to:**
 - a) 500 meters
 - b) 1000 meters
 - c) 2000 meters
 - d) 4000 meters

10. **To achieve larger network diameters at higher speeds,**
 - a) the only option may be switches
 - b) the only option may be more workstations
 - c) the only option may shorter cables
 - d) All of the above

11. **The time delay experience when data is sent from one point to**
 - a) another is the propagation time
 - b) another is the data latency
 - c) another is the finite polling
 - d) None of the above

12. **For twisted-pair wiring, the speed of electricity is about:**
 - a) 1.5 ns/meter
 - b) 3.5 ns/meter
 - c) 5.5 ns/meter
 - d) 7.5 ns/meter

13. **A valid Ethernet frame contains fields such as:**
 - a) preamble
 - b) start of frame
 - c) destination address
 - d) All of the above

14. **The minimum and maximum Ethernet frame is:**
 - a) 46 bytes and 1518 bytes
 - b) 64 bytes and 1518 bytes
 - c) 46 bytes and 1500 bytes
 - d) 64 bytes and 1500 bytes

15. **A two-port switch could also be called:**
- a) a bridge
 - b) a transceiver
 - c) a small network
 - d) None of the above
16. **The most popular industrial protocol is:**
- a) CSMA
 - b) ARCNET
 - c) Modbus and Optomux
 - d) Omnibus
17. **The problem with cut-through operations is the**
- a) switch only needs to know the destination address
 - b) failed frame check sequences are not resolved
 - c) destination addresses are available near the beginning of the frame
 - d) None of the above
18. **When operating at 100 Mbps,**
- a) switches are preferred
 - b) hubs are preferred
 - c) switches provide a lower cost
 - d) hubs increase data latency
19. **A broadcast is a transmission to:**
- a) a selected group of stations
 - b) all stations
 - c) all hubs
 - d) all repeaters
20. **A multicast is a transmission to:**
- a) a selected group of stations
 - b) all stations
 - c) all hubs
 - d) all repeaters

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