

## Post-Class Quiz: Telecommunication & Network Security Domain

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1. What type of network is more likely to include Frame Relay, Switched Multi-megabit Data Services (SMDS), and X.25?
  - A. Local area network (LAN)
  - B. Wide area network (WAN)
  - C. Intranet
  - D. Internet
2. Which is not one of the four main components of a data communication system? (Per S. Hansche.)
  - A. Terminal or computer
  - B. Network software or operating system
  - C. Domain name service (DNS)
  - D. Communications adapter
3. Which can be considered the most vulnerable component on a local area network (LAN) because it usually has weak security features?
  - A. Routers
  - B. Network Adapters (NICs)
  - C. Communications Channel
  - D. Personal Computer (PC)
4. What provides a physical connection between the network cabling and the computer's internal bus?
  - A. Switch
  - B. Hub
  - C. Router
  - D. Network interface card (NIC)
5. Efficient network bridges are also known as:?
  - A. Hubs
  - B. Routers
  - C. Repeaters
  - D. Switches

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6. Which network device can Forward, Filter, and Flood?
- A. Switch
  - B. Router
  - C. Hub
  - D. Repeater
7. What network device can forward message traffic based on the applications being used?
- A. Hub
  - B. Switch (Layer 2)
  - C. Layer 3 Switch
  - D. Layer 4 Switch
8. What type of cabling is considered the most difficult to tap?
- A. Wireless
  - B. Twisted pair wiring
  - C. Optical fiber
  - D. Thick co-axial cabling
9. The IEEE 802.11 standard defines all but which as an 802-compatible media access control (MAC) layer?
- A. Frequency-hopping spread spectrum (FHSS)
  - B. Infrared
  - C. Direct sequence spread spectrum (DSSS)
  - D. Microwave
10. \_\_\_\_\_ communications rely on clocking systems at the sending and receiving ends to sync, rather than stop and start bits.
- A. Asynchronous
  - B. Analog
  - C. Synchronous
  - D. Digital

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11. Parity bits are typically used for \_\_\_\_\_.
- A. Error checking
  - B. Clock synchronization
  - C. Input/output
  - D. Checksum
12. Which typically has higher data rate?
- A. Asynchronous communications
  - B. Synchronous communications
  - C. Copper
  - D. Coaxial
13. This type of communication has an infinite number of states (or values).
- A. Digital
  - B. Analog
  - C. Serial
  - D. Batch
14. Which is a good example of a circuit switched network?
- A. POTS (Plain Old Telephone System)
  - B. Frame relay
  - C. Voice over Internet protocol (VoIP)
  - D. X.25

15. Which type of network makes better use of network resources?
- A. Packet switched
  - B. Circuit switched
  - C. Dedicated
  - D. Point-to-point
16. If a site needed sporadic access to another network, which would be the best choice?
- A. SVC (secondary virtual circuit)
  - B. SVC (switched virtual circuit)
  - C. TVC (temporary virtual circuit)
  - D. PVC (permanent virtual circuit)
17. Which of the following is not a good candidate for a ring topology network?
- A. Fiber distributed data interface (FDDI)
  - B. Token Ring
  - C. 10BaseT
  - D. 100BaseF
18. Which network topology offers the highest reliability and availability?
- A. Bus
  - B. Star
  - C. Ring
  - D. Mesh
19. \_\_\_\_\_ uses CSMA/CD (Carrier Sensing Multiple Access with Collision Detection)
- A. Token Ring
  - B. Ethernet
  - C. FDDI
  - D. ATM

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20. True or false: We can expect the number of collisions on an Ethernet network to rise linearly as traffic increases.

- A. True
- B. False

21. Match the correct network connection speed to the correct standard.

Standard	Speed
802.11	?
802.11b	?
802.11g	?

1. 1 & 2 Mbps
2. 4 & 8 Mbps
3. 11 Mbps
4. 54 Mbps

- A. 1-3-4
- B. 4-3-1
- C. 1-3-3
- D. 1-4-4
- E. 3-4-4

22. Which of the following could give information about a wireless network away?

- A. Beacon Frames
- B. Broadcasts
- C. Multicasts
- D. Unitcasts

23. Spread spectrum system typically transmits \_\_\_\_ power over \_\_\_\_ frequency (ies).

- A. High, a range of
- B. High, a single
- C. Low, a range of
- D. Low, a single

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24. True or False: If your site fails to purchase a minimum CIR (Committed Information Rate) on a Frame Relay network, your network connection will be very slow when the network is busy.

A. True

B. False

25. True or False: ATM cells are larger than Ethernet frames.

A. True

B. False

26. Which is not a type of service available with ATM?

A. MBR (Minimum Bit Rate)

B. CBR (Constant Bit Rate)

C. UBR (Unspecified Bit Rate)

D. ABR (Available Bit Rate)

27. Which is not one of the three elements needed when implementing a secured remote access?

A. Accurately authenticating users

B. Appropriate physical security to site

C. Protect against eavesdroppers

D. Restrict authorized users to necessary network services

28. MAC (Media Access Control) and LLC (Logical Link Control) have been designated to which TCP/IP Model?

A. Physical

B. Data-Link Layer

C. Network Layer

D. Transport Layer

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29. \_\_\_\_ manages data transmission between devices so that the transmitting device does not send more data than the receiving device can process.
- A. Error Correction
  - B. Stop Bits
  - C. Flow Control
  - D. Sequence Numbers
30. Which Transport Layer protocol is “reliable”?
- A. TCP
  - B. BGP
  - C. UDP
  - D. ICMP
31. The application “ping” utilizes ICMP messages at which TCP/IP Model layer?
- A. Data-Link Layer
  - B. Network Layer
  - C. Transport Layer
  - D. Application Layer
32. \_\_\_\_ is when a layer 3 packet is modified to fit into a layer 2 network with different characteristics.
- A. Segmentation
  - B. Fragmentation
  - C. Reassembly
  - D. Packetization

33. Which has the flags used for a TCP 3-way handshake?
- A. Syn ->: Syn-Fin <-: Ack ->
  - B. Ack ->: Syn-Ack <-: Syn ->
  - C. Syn ->: Syn-Ack <-: Ack ->
  - D. Syn ->: Ack <-: Ack ->
34. In IP v4, which routing protocol is used to allow hosts to participate in multicasting?
- A. OSPF (Open Shortest Path First)
  - B. IGMP (Internet Group Management Protocol)
  - C. RIP (Routing Information Protocol)
  - D. BGP (Border Gateway Protocol)
35. ARP and RARP are used to map ...
- A. MAC addresses to DNS hostnames
  - B. MAC address to IP address
  - C. IP addresses to DNS hostnames
  - D. DNS hostname to NetBIOS
36. Use the unique response from a given system to identify the operating system running on a host is also known as \_\_\_\_\_.
- A. Casing
  - B. OS fingerprinting
  - C. Phreaking
  - D. Phishing
37. True or False: network mappers and port scanners are passive devices on a network.
- A. True
  - B. False



38. Which is the best defense against network sniffing?
- A. Use of switches (over hubs)
  - B. Use of wired networks (not wireless)
  - C. Use of gateway
  - D. Encryption
39. IP spoofing attacks utilizing local network trust are difficult for attackers to perpetrate from a remote network since:
- A. The reply packets are never seen by the attacker
  - B. It is difficult to craft packets
  - C. It is difficult to craft MAC address
  - D. The 3-way handshake has passed
40. True or False: In a Layer 2 switch environment, for transmission control protocol (TCP) session hijacking, users must be on a local area network (LAN) segment to see all communications between client and server.
- A. True
  - B. False
41. A Smurf attack takes advantage of which of the following?
- A. ICMP messages to a network's broadcast address
  - B. SYN buffers on a host
  - C. Overlapping IP fragments
  - D. Oversized ICMP packets
42. Stateful filtering firewalls typically also include which other functionality?
- A. Routing
  - B. Repeating
  - C. Bridging
  - D. Proxying

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43. What type of firewall can easily implement method controls for protocols, such as restricting “HTTP PUT”?
- A. Stateless filtering firewalls
  - B. Stateful filtering firewalls
  - C. Application level gateways (Proxy firewalls)
  - D. Bastion host
44. How are circuit gateways (or generic proxies) different than application level gateways?
- A. Same as stateful filtering firewalls, except possible to block on UDP ports
  - B. Similar to application level gateways, except no understanding of higher-level protocol using copied between connections
  - C. Circuit gateways are installed as bridges
  - D. Vulnerable to fragmentation attacks while Application gateways are not
45. True or False: Internet protocol (IP) and transmission control protocol (TCP) header information is (generally) preserved between client and server with stateful filtering firewalls
- A. True
  - B. False
46. A system where a user authenticates, is disconnected, and the receiving system connects back to a number in a pre-defined database is also known as which?
- A. Callback
  - B. Call forward
  - C. Remote Access
  - D. Port knocking
47. True or False: Point-to-point protocol (PPP) supports multiple protocols in a session?
- A. True
  - B. False

48. Which protocol is not used between a NAS (Network Access Server) and an authentication server?
- A. RADIUS
  - B. CHAP**
  - C. DIAMETER
  - D. TACACS+
49. A sockets (SOCKS) gateways can be classified as which type of firewall?
- A. Stateless filtering
  - B. Stateful filtering
  - C. Circuit-level**
  - D. Application proxy
50. RFC 1918 extended IP v4 with the introduction of non-routable addresses in support of which technology below?
- A. IPSec
  - B. NAT**
  - C. DMZ
  - D. DCE
51. What type of network address translation (NAT) where the transmission control protocol (TCP) ports are not preserved?
- A. Static (one-to-one)
  - B. Dynamic (many-to-one)**
52. In what way the 3-tier configuration model for firewall deployment differs from the 2-tier model?
- A. A bastion host sits between the 2 firewalls
  - B. Separate firewalls are used to control traffic generated by the web servers connecting to transaction and database servers**
  - C. The web servers in the DMZ can initiate traffic to the internal network
  - D. A guard in between router and firewall.
53. \_\_\_\_ tunnels NetBEUI and IPX protocols.

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- A. PPTP
  - B. IPsec
  - C. SSL
  - D. VPN
54. True or False: When using IPsec, ESP (Encapsulated Security Payload) must be used in conjunction with AH (Authenticated Header).
- A. True
  - B. False
55. True or False: Even if a user uses an IPsec VPN in transport mode, an eavesdropper can glean connection information (to whom, when, how often, how much) about the user to their IPsec destination.
- A. True
  - B. False
56. Which IPsec mode encapsulates the entire IP packet between nodes.
- A. Transport
  - B. PPP
  - C. Tunnel
  - D. GRE
57. Absolute prioritization is best used for?
- A. Lower bandwidth services
  - B. Higher bandwidth services
58. \_\_\_\_\_ has/have evaluators attempt to circumvent the security features of a system.
- A. Vulnerability Assessments
  - B. Penetration testing
  - C. Intrusion Detection Systems
  - D. Intrusion Prevention Systems
59. File transfer protocol (FTP) is a challenging protocol to control with firewall because:

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- A. Passive mode uses changing source ports
  - B. The server initiates the data channel connection to client
  - C. The data channel is at a fixed port
  - D. The data channel is a changing port
60. This standard provides port-level authentication for any wired or wireless Ethernet systems:
- A. IEEE 802.1
  - B. IEEE 802.1X
  - C. IEEE 802.11
  - D. IEEE 802.11x