

Post-Class Quiz: Telecommunication & Network Security Domain

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

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

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