

Questions from Lecture notes:

Lecture 1:

1. How is TCP different than UDP?

Select one or more correct answers:

- a. UDP requires a setup between client and server processes
- b. TCP provides reliable data transfer between sending and receiving process
- c. TCP does not have flow control and UDP has
- d. UDP provides unreliable data transfer between sending and receiving process
- e. TCP does not have congestion control and UDP has

Correct answers: b and d

2. Why UDP exists?

Select one or more correct answers:

- a. We need it for reliable data transfer
- b. We need it because it has no data loss
- c. We need it for applications where speed is more important than no data loss
- d. It has no purpose TCP is enough

Correct answers: c

Lecture 2:

3. What are the layers of the OSI model in order?

Select one or more correct answers:

- a. physical layer, data-link layer, network layer, transport layer, session layer, presentation layer, application layer
- b. network layer, transport layer, session layer, presentation layer, application layer, physical layer, data-link layer
- c. physical layer, data-link layer, session layer, presentation layer, network layer, transport layer, application layer
- d. physical layer, data-link layer, network layer,, application layer, transport layer, session layer, presentation layer
- e. physical layer, data-link layer, network layer, transport layer, presentation layer, application layer

Correct answers: a

4. Some operating systems are Little Endian and some are Big Endian

- a. True
- b. False
- c. All systems are Little Endian
- d. All systems are Big Endian

Correct answers: a

Lecture 3:

5. Which layers are the same in TCP/IP and OSI models?

- a. Transport layer
- b. Session layer
- c. Presentation layer
- d. Physical layer
- e. They do not have layers that are the same

Correct answers: a

6. Which are network layer protocols in the OSI model?

- a. HTTP, LAN, UDP
- b. DNS, IPv4, TCP
- c. IPv4, IPv6, ICMP
- d. IPv4, IPv6, FTP
- e. FTP, DNS, SMTP

Correct answers: c

7. Which are application layer protocols in the OSI model?

- a. HTTP, HTTPS, DHCP
- b. DNS, IPv4, TCP
- c. IPv4, IPv6, ICMP
- d. IPv4, IPv6, FTP
- e. FTP, DNS, SMTP

Correct answers: a and e

8. Which are physical layer protocols in the OSI model?

- a. HTTP, LAN, UDP
- b. DNS, IPv4, TCP
- c. IPv4, IPv6, ICMP
- d. LAN, USB, Ethernet
- e. LAN, DNS, SMTP

Correct answers: d

Lecture 4:

9. How DNS works?

- a. DNS is a protocol which automatically assigns IP addresses
- b. The computer sends the URL you type to a DNS server and gets the IP address.
- c. DNS is a protocol that changes source and destination IP addresses
- d. The computer sends the FQDN from the URL you type to a DNS server and gets the ip address for the FQDN.
- e. None of the above

Correct answers: d

Lecture 5:

10. What is ARP?

- a. It is Address Resolution Protocol
- b. It is a protocol for data-link layer
- c. It is similar with DNS just on local LAN's
- d. None of the above

Correct answers: a, b, c

Lecture 7:

11. What is an IP?

- a. A network layer protocol in the OSI model
- b. 32-bit identifier for host
- c. A transport layer protocol in the OSI model
- d. 32-bit identifier for router interface
- e. None of the above

Correct answers: a, b, d

Lecture 8:

12. Why is udp lighter than tcp?

- a. It is not, tcp is lighter
- b. Because it contains only 28 bytes plus the app data
- c. Because it does not need the destination IP
- d. Because it does not need the checksum

Correct answers:b

13. Select the true statments about IP checksum:

- a. Is the 16-bit result of the sum of the header words in the IP
- b. It is used in both IPv4 and IPv6 protocols
- c. It is used only in IPv4, in IPv6 the check is done in the data-link layer and transport layer
- d. It is used to detect errors in datagram header

Correct answers: a,c,d

Lecture 9:

14. Why is useful Poisoned reverse?

- a. It is not
- b. It can help avoid Distance Vector Routing protocols running in infinite loops
- c. It helps Routing Protocols find the route faster
- d. Because it sends routing table to all the routers
- e. None of the above

Correct answers: b

Lecture TCP Chapter 3:

15. Select the true statements about network-assisted congestion control:

- a. Routers provide feedback to end systems
- b. No explicit feedback from the network
- c. It is used by TCP
- d. None of the above

Correct answers: a

Network Devices questions:

16. Which of the following devices is a component of a computer which connects him to the networking device?

- a. Bridge
- b. Hub
- c. Nic card
- d. Gateway
- e. None of the above

Correct answers: c

17. Which of the following devices modulates digital signals into analog signals?

- a. Bridge
- b. Hub
- c. Switch
- d. Modem
- e. None of the above

Correct answers: d

18. Which of the following devices broadcast the packet received to all hosts?

- a. Bridge
- b. Hub
- c. Switch
- d. Modem
- e. None of the above

Correct answers: b

19. Which of the following devices connects two LAN segments?

- a. Hub
- b. Bridge
- c. Repeater
- d. Switch
- e. Modem
- f. None of the above

Correct answers: b

20. Which of the following devices are OSI layer 2 devices?

- a. Router
- b. Hub
- c. Bridge
- d. Repeater
- e. Switch
- f. Modem
- g. None of the above

Correct answers: c, e

21. Which of the following devices are OSI layer 1 devices?

- a. Router
- b. Hub
- c. Bridge
- d. Repeater
- e. Switch
- f. Modem
- g. None of the above

Correct answers: b, d, f

22. Which of the following devices are OSI layer 3 devices?

- a. Router
- b. Hub
- c. Bridge
- d. Repeater
- e. Switch
- f. Modem
- g. None of the above

Correct answers: a

23. Which of the following devices has the functionality of a bridge and a router?

- a. Router
- b. Hub
- c. Bridge
- d. Repeater
- e. Switch
- f. Brouter
- g. Modem
- h. None of the above

Correct answers: f

24. Which of the following devices connects networks with different protocols?

- a. Router
- b. Hub
- c. Bridge
- d. Repeater
- e. Switch
- f. Brouter
- g. Gateway
- h. Modem
- i. None of the above

Correct answers: g

25. Modulator and demodulator as combined is known as:

- a. Modulus
- b. Modem
- c. Mod switch
- d. Mod access
- e. Router
- f. None of the above

Correct answers: b

Questions from reference books:

26. Which of the following statements are true about NAT?

- a. NAT is a process of changing the source and destination IP addresses.
- b. NAT is a network protocol
- c. NAT can increase the security of LAN devices
- d. None of the above

Correct answers a,b and c

27. How is a hub different from a switch?

Select one or more correct answers:

- a. A hub works at physical layer
- b. A switch works at data-link layer
- c. A hub can send and receive data at the same time
- d. A switch stores mac address table
- e. None of the above

Correct answers: a, b, c and d

28. Which of the following addresses are reserved?

Select one or more answers

- a. 0.0.0.0
- b. 1.1.1.1
- c. 256.256.256.256
- d. 189.9.0.0
- e. 255.255.255.255
- f. None of the above

Correct answers: a and e

29. What is true about guided media and unguided media?

- a. With guided media, the waves propagate in the air
- b. With unguided media, the waves propagate in the air
- c. With guided media, the waves are guided along a solid medium
- d. With unguided media, the waves are guided along a solid medium
- e. None of the above

Correct answers: b and c

30. What differs between DSL internet access and hyber fiber-coaxial internet access?

- a. Fiber-coaxial uses existent phone line
- b. A telephone call and an internet connection can share the DSL link at the same time
- c. DSL makes use of existent cable television infrastructure
- d. Fiber-coaxial network is divided into a downstream chanel and an upstream chanel.
- e. None of the above

Correct answers: b and d

31. What is store and forward transmission?

- a. It means storing the first bits of a packet before forwarding to the outbound link.
- b. It means at every step storing all bits of all packets and forward them to the outbound link
- c. It means that the packet switch must recieve the full packet before sending to the outbund link
- d. None of the above

Correct answers: c

32. What is the formula of an end delay of transpotation? (N -1 routes between source and destination, the packet has L bits, transmission rate R bits/sec)

- a. Delay = $N * R * L$
- b. Delay = $(L * N) / R$
- c. Delay = $N * R / L$
- d. Delay = $(R * L) / N$
- e. Delay = $N * (L / R)$
- f. None of the above

Correct answers: b and e

33. How many usable ip addresses are available in the 192.168.0.0/24 network?

- a. 128
- b. 512
- c. 127
- d. 256
- e. 129
- f. 254

Correct answers: f

34. Is the address 51.32.180.128 an available address in the 51.32.180.128/26 network?
- a. No
 - b. Yes
 - c. The ip is a reserved ip address, it is not available for any network
 - d. None of the above

Correct answers: a

35. Why do we need a broadcast reserved IP address?
- a. Routing Information Protocol uses broadcast IP to map the topology of the network.
 - b. We do not need it with the current technology
 - c. DHCP uses broadcast IP to dynamically assign an IP address to computers on a network.
 - d. None of the above

Correct answers: a and c

36. How is an FQDN different from an URL?
- a. FQDN contains DNS namespace and URL doesn't
 - b. An URL contains a FQDN
 - c. An URL contains an application layer protocol
 - d. A FQDN contains an URL
 - e. None of the above

Correct answers: b and c

37. Select which of the following statements are true about HTTP?
- a. Stands for HyperText TransferProtocol
 - b. It has a secure version called HTTPS
 - c. Uses TCP as transport protocol
 - d. It is not a stateless protocol
 - e. None of the above

Correct answers: a,b,c

38. Select which of the following statements are true about FTP?
- a. Stands for File Transfer Protocol
 - b. It uses UDP as transport protocol
 - c. It uses 2 TCP connections
 - d. Throughout the session it does not care about user state
 - e. None of the above

Correct answers: a,c

39. What a router processor does?

- a. Executes routing protocols
- b. Maintains routing tables
- c. Computes forwarding table for router
- d. None of the above

Correct answers: a,b,c

40. Select which of the following statements are true about the Link Layer in the OSI model?

- a. It is implemented in the nic card of the device
- b. One of the error detection methods is checksum
- c. It adds the IP address as a header to the data-gram
- d. One of the error detection methods is parity bit
- e. None of the above

Correct answers: a,b,d