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Started on Monday, 7 March 2022, 3:08 PM

State Finished

Completed on Monday, 7 March 2022, 3:28 PM

Time taken 19 mins 57 secs

Marks 17.00/25.00

Grade 68.00 out of 100.00

Question 1

Correct Mark 1.00 out of 1.00

Which one is NOT a characteristic of client-server architecture?

Select one:

- ☐ a. The server(s) is always ON
- ☐ b. The server has permanent IP address
- ☐ c. Every client can only communicate with a dedicated server
- ☒ d. Every end system can act both as client and server ✓

The correct answer is: Every end system can act both as client and server

Question 2

Correct Mark 1.00 out of 1.00

Which one is NOT a characteristic of peer-to-peer (P2P) architecture?

Select one:

- ☐ a. The server(s) in P2P network is not always ON
- ☐ b. Every peer or end system can act both as client and server
- ☐ c. Every peer that joins the network can communicate with each other
- ☒ d. The server in P2P network has permanent IP address ✓

The correct answer is: The server in P2P network has permanent IP address

Question 3

Correct Mark 1.00 out of 1.00

The transport layer protocol used by DNS:

Select one:

- ☐ a. SCP
- ☐ b. TCP
- ☒ c. UDP ✓
- ☐ d. RTP

The correct answer is: UDP

Question 4

Correct Mark 1.00 out of 1.00

This thing happens only in HTTP non-persistent connection:

Select one:

- ☒ a. Only one object can be sent in a single TCP connection ✓
- ☐ b. Several objects can be sent in a single TCP connection
- ☐ c. TCP connection is closed after all objects referred in the base html have been sent
- ☐ d. Multiple TCP connections are not required to download several objects

The correct answer is: Only one object can be sent in a single TCP connection

Question 5

Partially correct Mark 2.00 out of 8.00

A client accesses a website which landed in an index.html page. It turns out that the index.html page contains references to 1 css file, 1 javascript file, and 10 jpeg images. How many RTTs are required by the client to load the whole page by using the following HTTP method:

NOTE:

- Just write the total RTTs in number.
- Assume 2-way handshake for TCP connection establishment, and ignore file transmission time and TCP closing)

- a. Non-persistent with non-parallel: 24 ✗ RTT
- b. Non-persistent with 3 parallel connections: 8 ✗ RTT
- c. Persistent with non-pipeline: 14 ✓ RTT
- d. Persistent with pipeline 3 requests (assume requests and response can be pipelined at the same time): 5 ✗ RTT

Question 6

Correct Mark 1.00 out of 1.00

A HTTP Request contains *If-modified-since: <date>* field, and it turns out that the cache-copy in the browser is out-of-date (e.g. there is change after the *<date>*) of cache-copy). What response is sent by the server then?

Select one:

- ☐ a. HTTP 304 Not Modified + Data
- ☐ b. HTTP 200 OK (no Data)
- ☒ c. HTTP 200 OK + Data ✓
- ☐ d. HTTP 304 Not Modified (no Data)

The correct answer is: HTTP 200 OK + Data

Question 7

Correct Mark 1.00 out of 1.00

Which is one of the advantages of web caching using proxy server?

Select one:

- ☐ a. Increase outbound traffic in the organization's access link
- ☐ b. Easier to monitor the traffic in the organization
- ☒ c. Improve effectiveness of content delivery for poor content provider ✓
- ☐ d. Increase latency of client's request to the remote server

The correct answer is: Improve effectiveness of content delivery for poor content provider

Question 8

Correct Mark 1.00 out of 1.00

Which one is NOT the HTTP/3's feature?

Select one:

- ☐ a. Using UDP as transport protocol
- ☒ b. Re-transmission is handled by the transport protocol ✓
- ☐ c. Security is included
- ☐ d. Congestion control is handled by the HTTP/3

Your answer is correct.

The correct answer is: Re-transmission is handled by the transport protocol

Question 9

Incorrect Mark 0.00 out of 1.00

When a local DNS does have a record or cache of the requested domain name, the follow up message will be sent out to:

Select one:

- ☐ a. client
- ☐ b. Root DNS server
- ☒ c. Authoritative DNS server ✗
- ☐ d. TLD DNS server

The correct answer is: client

Question 10

Correct Mark 1.00 out of 1.00

When a local DNS doesn't have any cache or record of the requested domain name, the follow up message will be sent out to:

Select one:

- ☒ a. Root DNS server ✓
- ☐ b. client
- ☐ c. Authoritative DNS server
- ☐ d. TLD DNS server

The correct answer is: Root DNS server

Question 11

Correct Mark 1.00 out of 1.00

DNS record type that is used to translate an alias domain name into its canonical name:

Select one:

- ☐ a. MX
- ☐ b. NS
- ☐ c. A
- ☒ d. CNAME ✓

The correct answer is: CNAME

Question 12

Incorrect

Mark 0.00 out of 1.00

When an Authoritative DNS server receives a query by using *iterative* method, say for a domain name *abc.org*, the response section contains this information:

Select one:

- ☒ a. abc.org's authoritative name server and its IP address ❌
- ☐ b. .org's authoritative name server's IP address
- ☐ c. .org's TLD server domain name and its IP address
- ☐ d. abc.org's IP address

The correct answer is: abc.org's IP address

Question 13

Correct

Mark 1.00 out of 1.00

When a Root DNS server receives a query by using *recursive* method, say for a domain name *abc.org*, the response section contains this information:

Select one:

- ☒ a. abc.org's IP address ✔️
- ☐ b. abc.org's authoritative name server and its IP address
- ☐ c. .org's TLD server domain name and its IP address
- ☐ d. .org's authoritative name server's IP address

The correct answer is: abc.org's IP address

Question 14

Correct

Mark 1.00 out of 1.00

The protocol used by email client to connect with email server, in which all the messages are kept in the server and the user state is also kept for every session:

Select one:

- ☐ a. SNMP
- ☐ b. SMTP
- ☐ c. HTTP
- ☒ d. IMAP ✔️

The correct answer is: IMAP

Question 15

Correct

Mark 1.00 out of 1.00

What SMTP *RCPT TO* command does?

Select one:

- ☒ a. defines the recipient's email address to the email server ✔️
- ☐ b. let the email recipient knows this email is sent to him/her
- ☐ c. writes the *To:* field within the email header lines
- ☐ d. tells the destination of the email server

The correct answer is: defines the recipient's email address to the email server

Question 16

Correct

Mark 1.00 out of 1.00

One of the differences between HTTP and SMTP:

Select one:

- ☐ a. HTTP only uses non-persistent while SMTP only uses persistent connections
- ☐ b. HTTP uses command-response interaction while SMTP uses query-response interaction
- ☐ c. SMTP pulls the message from the server while HTTP push the message to the server
- ☒ d. HTTP encapsulates each object in its own response message while SMTP sends multiple objects in multipart message ✓

The correct answer is: HTTP encapsulates each object in its own response message while SMTP sends multiple objects in multipart message

Question 17

Correct

Mark 1.00 out of 1.00

One of the tit-for-tat principle in BitTorrent:

Select one:

- ☐ a. a node sends chunks also to the other peers beside the top four and the randomly selected peer
- ☒ b. a node do not send chunks to the other peers beside the top four and the randomly selected peer ✓
- ☐ c. a node re-evaluate the top four peers every 30 secs
- ☐ d. every 30 secs, a node chocked the current top four peers and unchocked other four peers randomly

The correct answer is: a node do not send chunks to the other peers beside the top four and the randomly selected peer

Question 18

Correct

Mark 1.00 out of 1.00

One of the similarities between socket programming by using UDP and TCP transport service:

Select one:

- ☒ a. Both server and client create a socket to send and receive packet ✓
- ☐ b. Sender has to explicitly attach destination IP address and port number in the packet
- ☐ c. The server waits for connection establishment request from client
- ☐ d. When a client is connected, a new socket is created by a server to communicate with that particular client

The correct answer is: Both server and client create a socket to send and receive packet