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State Finished

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Time taken 35 mins 1 sec

Marks 23.00/52.00

Grade **44.23** out of 100.00

Question 1 Correct Mark 1.00 out of 1.00

Hosts or end systems are the devices being hooked up to the Internet.

Select one:

- True** ✓
 False

Correct, hosts or end systems are the devices being hooked up to the Internet.

The correct answer is 'True'.

Question 2 Correct Mark 1.00 out of 1.00

It is not mandatory for the big Internet Service Providers (ISPs) to be interconnected to each other.

Select one:

- True
 False ✓

access ISPs in turn must be interconnected, so that any two hosts can send packets to each other

Correct, the internet is all about connecting end systems, so the ISPs must also be interconnected to each other.

The correct answer is 'False'.

Question 3

Correct Mark 1.00 out of 1.00

One important characteristic of cable Internet access is that it is a dedicated broadcast medium.

Select one:

- True
- False ✓

cable internet access: SHARED broadcast medium

Correct, one important characteristic of cable Internet access is that it is a shared broadcast medium.

The correct answer is 'False'.

Question 4

Correct Mark 1.00 out of 1.00

Terrestrial radio channels are an attractive medium because they can potentially carry a signal for long distances.

Select one:

- True ✓
- False

terrestrial radio channels: require no physical wire to be installed

Correct, terrestrial radio channels are an attractive medium because they require no physical wire to be installed, can penetrate walls, provide connectivity to a mobile user, and can potentially carry a signal for long distances.

The correct answer is 'True'.

Question 5

Incorrect Mark 0.00 out of 1.00

In the Internet, every end system has a shared address called an IP address.

Select one:

- True ✗
- False

every end system has UNIQUE address called IP address

I'm sorry, in the Internet, every end system has a unique address called an IP address.

The correct answer is 'False'.

Question 6

Correct Mark 1.00 out of 1.00

The end-to-end routing process is analogous to a car driver who uses maps to get the directions.

Select one:

- True
- False ✓

Correct, the end-to-end routing process is analogous to a car driver who does not use maps but instead prefers to ask for directions.

The correct answer is 'False'.

Question 7

Partially correct Mark 4.00 out of 6.00

Please match the following statement with the correct terms

One of the protocols in network layer

ICMP ✓

One of the protocols in link layer

Ethernet ✓

A term used for a packet at the link layer that consists of datagram that has been encapsulated with link layer header. **frame**

Segment ✓

Layer that sets the message format between a sender and a receiver **application**

Link ✗

Layer that is responsible in creating logical end-to-end connection between sender and receiver **transport**

Transport ✗

A process of adding headers header from application layer down to link layer, which is done at the sender side before sending a packet. **encapsulation**

Encapsulation ✓

Your answer is partially correct.

You have correctly selected 4.

The correct answer is: One of the protocols in network layer → ICMP, One of the protocols in link layer → Ethernet, A term used for a packet at the link layer that consists of datagram that has been encapsulated with link layer header. → Frame, Layer that sets the message format between a sender and a receiver → Application, Layer that is responsible in creating logical end-to-end connection between sender and receiver → Transport, A process of adding headers header from application layer down to link layer, which is done at the sender side before sending a packet . → Encapsulation

Question 8

Not answered Marked out of 4.00

Host A and Host B is connected by 2 links with distance **300 km** and **500 km** respectively. Those 2 links are connected by a packet switch in which **processing delay** in the packet switch is **1 msec** and **transmission rate** in each link is **1 Mbit/s**. Assuming there is no queueing delay and **propagation speed** in each link is **2 x 10^8 m/s**. What is the **end-to-end delay** when Host A sends a **packet** with **4 KByte** size to Host B (in **second**)?

NOTES:

- You can use this simple unit conversion $1 \text{ KByte} = 1000 \text{ Byte}$ and $1 \text{ Mbit} = 1000 \text{ Kbit}$, or $1 \text{ KByte} = 2^{10} \text{ Byte}$ and $1 \text{ Mbit} = 2^{20} \text{ bit}$
- Just write the numbers

Answer: 

The correct answer is: 0.069

Question 9

Not answered Marked out of 4.00

Ketika sebuah paket tiba di router, ada 1 paket yang baru setengahnya terkirim dan 4 paket lainnya sedang mengantre di buffer. Paket dikirimkan berdasarkan urutan antrian. Anggap semua paket berukuran 1 KByte dan rate transmisi adalah 1 Mbps. Hitung delay antrian (queueing delay) dari paket yang baru datang tersebut (dalam satuan **detik** atau **second**)!

CATATAN:

Dapat menggunakan asumsi $1 \text{ Kbit} = 10^3 \text{ bit}$ dan $1 \text{ Mbit} = 10^6 \text{ bit}$ atau $1 \text{ Kbit} = 2^{10} \text{ bit}$ dan $1 \text{ Mbit} = 2^{20} \text{ bit}$

Answer: 

The correct answer is: 0.036

Question 10

Incorrect Mark 0.00 out of 1.00

A process **sends messages into**, and receives messages from, the network through a hardware interface **called a socket**.

Select one:

- True X
- False

socket: software

I'm sorry, a process sends messages into, and receives messages from, the network through a software interface called a socket.

The correct answer is 'False'.

Question 11

Correct Mark 1.00 out of 1.00

In the client-server architecture, clients directly communicate with each other.

Select one:

- True
- False ✓

Correct, in the client-server architecture, clients do not directly communicate with each other.

The correct answer is 'False'.

Question 12

Correct Mark 1.00 out of 1.00

A proxy server is both a server and a client at the same time.

Select one:

- True ✓ proxy is a server: receiving a request from browser
 False proxy is a client: sending the requests to an origin server at the same time

Correct, a proxy server is both a server when receiving a request from browser and a client when sending the requests to an origin server at the same time.

The correct answer is 'True'.

Question 13

Incorrect Mark 0.00 out of 1.00

HTTP defines how Web clients request Web pages from Web servers and how servers transfer Web pages to clients.

Select one:

- True HTTP:
 False ✗ web clients request web pages from web servers
server transfer web pages to client

I'm sorry, HTTP defines how Web clients request Web pages from Web servers and how servers transfer Web pages to clients.

The correct answer is 'True'.

Question 14

Incorrect

Mark 0.00 out of 1.00

When a user types a URL for some website, the browser creates a UDP socket that will be used to send the HTTP request.

Select one:

- True ✗
- False

user types URL → browser creates TCP socket

I'm sorry, when a user types a URL for some website, the browser creates a TCP socket that will be used to send the HTTP request.

The correct answer is 'False'.

Question 15

Incorrect

Mark 0.00 out of 1.00

DNS translates IP addresses to their underlying hostnames.

Select one:

- True ✗
- False

DNS translates hostnames to their IP address

I'm sorry, DNS translates hostnames to their underlying IP addresses.

The correct answer is 'False'.

Question 16

Correct

Mark 1.00 out of 1.00

DNS is used to perform load distribution among replicated servers, such as replicated Web servers.

Select one:

- True ✓
- False

Correct, DNS is used to perform load distribution among replicated servers, such as replicated Web servers.

The correct answer is 'True'.

Question 17

Correct Mark 1.00 out of 1.00

SMTP encapsulates each object in its own SMTP response message.

Select one:

- True
- False ✓

SMTP place all message objects into one message

Correct, SMTP places all of the message's objects into one message.

The correct answer is 'False'.

Question 18

Incorrect Mark 0.00 out of 1.00

POP3 protocol creates remote folder in the mail server and associates any arrived messages into specific folder.

Select one:

- True ✗
- False

I'm sorry, SMTP protocol creates remote folder in the mail server and associates any arrived messages into specific folder.

The correct answer is 'False'.

Question 19

Incorrect Mark 0.00 out of 1.00

A DHCP server serves DHCP request from 4 clients. How many sockets are created by that DHCP server to serve the request from those 4 clients

Answer: 4

1

The correct answer is: 1

Question 20

Incorrect Mark 0.00 out of 1.00

A DNS server serves DNS query from 5 clients. How many sockets are created by that DNS server to serve the request from those 5 clients

Answer: 10

1

The correct answer is: 1

Question 21

Incorrect Mark 0.00 out of 1.00

SYN flag in the first packet that is sent by a client to close a TCP connection has a value of 1.

Select one:

OPEN

- a. FALSE
- b. TRUE ✗

The correct answer is: FALSE

Question 22

Correct Mark 1.00 out of 1.00

FIN flag in the first packet that is sent by a client to initiate a TCP connection has a value of 1.

Select one:

- a. TRUE
- b. FALSE ✓ FIN flag equals 1 in the TCP closing message

The correct answer is: FALSE

Question 23

Correct Mark 1.00 out of 1.00

One of the possible services that can be offered by a link-layer protocol includes the guarantee of reliable delivery.

Select one:

- True ✓
- False

Correct, one of the possible services that can be offered by a link-layer protocol includes the guarantee of reliable delivery.

The correct answer is 'True'.

Question 24

Incorrect

Mark 0.00 out of 1.00

Over a given link, a transmitting node transmits the datagram into the link.

Select one:

- True ✗
- False

I'm sorry, over a given link, a transmitting node encapsulates the datagram in a link-layer frame and transmits the frame into the link.

The correct answer is 'False'.

Question 25

Correct

Mark 1.00 out of 1.00

One simple checksumming method is to simply sum k-bit integers of data and use the resulting sum as the error-detection bits.

Select one:

- True ✓
- False

Correct, one simple checksumming method is to simply sum k-bit integers of data and use the resulting sum as the error-detection bits.

The correct answer is 'True'.

Question 26

Correct

Mark 1.00 out of 1.00

In an even parity scheme, the sender simply includes one additional bit and chooses its value such that the total number of 1s in the $d + 1$ bits is even.

Select one:

- True ✓
- False

Correct, in an even parity scheme, the sender simply includes one additional bit and chooses its value such that the total number of 1s in the $d + 1$ bits is even.

The correct answer is 'True'.

Question 27

Correct Mark 1.00 out of 1.00

More than two nodes can transmit frames at the same time. At this point, the transmitted frames collide at all of the receivers.

Select one:

- True ✓
- False

Correct, more than two nodes can transmit frames at the same time. At this point, the transmitted frames collide at all of the receivers.

The correct answer is 'True'.

Question 28

Correct Mark 1.00 out of 1.00

The polling protocol requires one of the nodes to be designated as a master node. The master node polls each of the nodes in a FIFO fashion.

Select one:

- True
- False ✓

Correct, the polling protocol requires one of the nodes to be designated as a master node. The master node polls each of the nodes in a round-robin fashion.

The correct answer is 'False'.

Question 29

Correct Mark 1.00 out of 1.00

An adapter's MAC address has a hierarchical structure and doesn't change no matter where the adapter goes while IP address has a flat structure which changed based on the network.

Select one:

- True
- False ✓

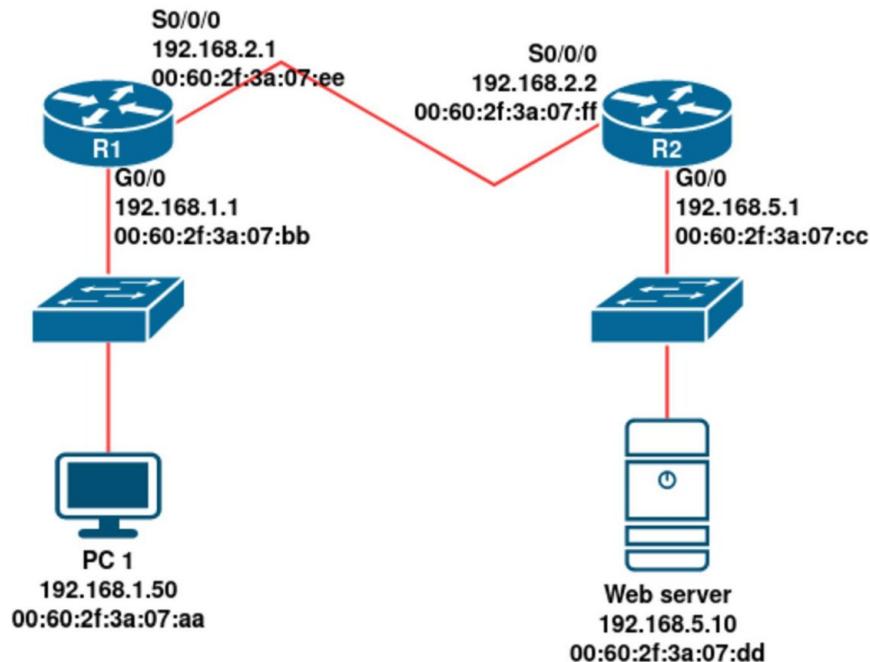
Correct, an adapter's MAC address has a flat structure and doesn't change no matter where the adapter goes while IP address has a hierarchical structure which changed based on the network.

The correct answer is 'False'.

Question 30

Incorrect

Mark 0.00 out of 1.00



What is the destination MAC address of the Ethernet frame as it leaves the web server when an HTTP response is sent to PC1?

Select one:

- a. 00:60:2F:3A:07:AA X
- b. 00:60:2F:3A:07:EE
- c. 00:60:2F:3A:07:CC
- d. 00:60:2F:3A:07:BB

The correct answer is: 00:60:2F:3A:07:CC

Question 31

Incorrect

Mark 0.00 out of 1.00

Routers operate only up through layer 2 while a switch operates up through layer 3.

Select one:

- True X
- False

routers: layer 3
switch: layer 2

I'm sorry, routers operate up through layer 3 while a switch operates only up through layer 2.

The correct answer is 'False'.

Question 32

Correct Mark 1.00 out of 1.00

A switch is not only "collision-less" but is also a bona-fide store-and-forward packet switch.

Select one:

- True ✓
- False

Correct, a switch is not only "collision-less" but is also a bona-fide store-and-forward packet switch.

The correct answer is 'True'.

Question 33

Incorrect

Mark 0.00 out of 6.00

Please match the objective of cryptography solution with the corresponding cryptography notation. The cryptography notation is defined as follows:

- m = message
- K_s = Symmetric key
- K_{s+} = Sender's public key
- K_{s-} = Sender's private key
- K_{r+} = Receiver's public key
- K_{r-} = Receiver's private key
- $H(m)$ = hashed of a message
- MAC = Message Authentication Code

Ensuring

integrity and

authenticity of
a message by

using public  key
cryptography

Sender: $m, K_{r+}(m)$; Receiver: $\text{verify}(m = K_{r-}(K_{r+}(m)))$



Ensuring
confidentiality
of a message
by using
combination
of symmetric
and public key
cryptography

Choose...



Ensuring
confidentiality,
integrity and
authenticity of
a message by  using public
key
cryptography

Sender: $K_{r+}(m)$; Receiver: $K_{r-}(K_{r+}(m))$



Ensuring
confidentiality
of a message
by using
public key
cryptography

Choose...



Ensuring integrity and authenticity of a message by using message digest and public key cryptography

Sender: $Ks(m, Ks-(H(m)))$, $Kr+(Ks)$; Receiver: $Kr-(Kr+(Ks))$, $Ks(Ks(m, Ks-(m)))$, $H(m)$, verify($m = Ks+(Ks-(m))$) ✓



Ensuring integrity and authenticity of a message by using symmetric key cryptography

Sender: $Ks(m, Ks-(m))$, $Kr+(Ks)$; Receiver: $Kr-(Kr+(Ks))$, $Ks(Ks(m, Ks-(m)))$, verify($m = Ks+(Ks-(m))$) ✓



Your answer is incorrect.

The correct answer is: Ensuring integrity and authenticity of a message by using public key cryptography → Sender: $m, Ks-(m)$; Receiver: verify($m = Ks+(Ks-(m))$), Ensuring confidentiality of a message by using combination of symmetric and public key cryptography → Sender: $Ks(m), Kr+(Ks)$; Receiver: $Kr-(Kr+(Ks)), Ks(Ks(m))$, Ensuring confidentiality, integrity and authenticity of a message by using public key cryptography → Sender: $Ks(m, Ks-(m)), Kr+(Ks)$; Receiver: $Kr-(Kr+(Ks)), Ks(Ks(m, Ks-(m)))$, verify($m = Ks+(Ks-(m))$), Ensuring confidentiality of a message by using public key cryptography → Sender: $Kr+(m)$; Receiver: $Kr-(Kr+(m))$, Ensuring integrity and authenticity of a message by using message digest and public key cryptography → Sender: $m, Ks-(H(m))$; Receiver: $H(m)$, verify($H(m) = Ks+(Ks-(H(m)))$), Ensuring integrity and authenticity of a message by using symmetric key cryptography → MAC(Ks, m)

Question 34

Incorrect Mark 0.00 out of 1.00

Stateful packet filtering firewall filters a packet based on header field of a packet and the connection status table.

Select one:

- True
 False ✗

The correct answer is 'True'.

Question 35

Correct

Mark 1.00 out of 1.00

Proses encryption atau decryption menggunakan skema asymmetric cryptography lebih lambat dari pada symmetric cryptographhy

Select one:

- True ✓
- False

The correct answer is 'True'.

Question 36

Correct

Mark 1.00 out of 1.00

Algoritma enkripsi DES membutuhkan public dan private keys, dan algoritma RSA hanya dapat digunakan untuk enkripsi

Select one:

- True
- False ✓

DES adalah symmetric key, jadi tidak memiliki public-private key pair. RSA juga dapat digunakan untuk digital signature

The correct answer is 'False'.



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Started on Monday, 14 February 2022, 3:08 PM

State Finished

Completed on Monday, 14 February 2022, 3:38 PM

Time taken 29 mins 51 secs

Marks 20.00/25.00

Grade **80.00** out of 100.00

Question 1

Correct Mark 1.00 out of 1.00

WiFi can be utilized to connect the edge network to the ISP:

Select one:

- a. False ✓
- b. True

The correct answer is: False

Question 2

Correct Mark 1.00 out of 1.00

Which one is NOT an *end system*?

Select one:

- a. Network Printer
- b. Server
- c. IP Phone
- d. Switch ✓

The correct answer is: Switch

Question 3

Incorrect

Mark 0.00 out of 1.00

Which one is NOT a component of edge network?

Select one:

- a. Core router
- b. Edge router
- c. Server ✗
- d. IP Phone

The correct answer is: Core router

Question 4

Correct

Mark 1.00 out of 1.00

Mobile access network that connects an end system to the internet via cellular network is known as:

Select one:

- a. Personal Area Wireless Access
- b. Public Area Wireless Access
- c. Wide Area Wireless Access ✓
- d. Local Area Wireless Access

The correct answer is: Wide Area Wireless Access

Question 5

Correct

Mark 1.00 out of 1.00

A type of network topology in which every node is connected to a centralized hub:

Select one:

- a. Mesh
- b. Ring
- c. Star ✓
- d. Bus

The correct answer is: Star

Question 6

Correct

Mark 1.00 out of 1.00

Connection among ISPs within the same level (e.g. among Tier 1 ISPs or among Tier 2 ISPs) is known as...

Select one:

- a. Peering link ✓
- b. Customer link
- c. Shared link
- d. Backbone link

The correct answer is: Peering link

Question 7

Incorrect

Mark 0.00 out of 1.00

A type of network provider that can bypass all ISP hierarchies to reach the customer:

Select one:

- a. Tier 1 X
- b. Content Provider Network
- c. Tier 2 (Regional)
- d. Tier 3 (Access)

The correct answer is: Content Provider Network

Question 8

Correct

Mark 1.00 out of 1.00

One main function of packet switch is **routing** which means...

Select one:

- a. Determining route to destination host ✓
- b. Forwarding packet to the next node (router or host)
- c. Forwarding packet to the destination host
- d. Determining route to the next host

The correct answer is: Determining route to destination host

Question 9

Correct

Mark 1.00 out of 1.00

One of the advantages in packet switching over circuit switching is...

Select one:

- a. No congestion in the network
- b. End-to-end path has been determined
- c. Dedicated resource for the communicating parties
- d. Allows resource sharing ✓

The correct answer is: Allows resource sharing

Question 10

Correct

Mark 1.00 out of 1.00

One main functions of packet switch is **forwarding** which means...

Select one:

- a. Forwarding packet to the destination host
- b. Forwarding packet to the next node (router or host) ✓
- c. Determining route to the next host
- d. Determining route to destination host

$$\begin{aligned}1 \text{ css} + 1 \text{ js} + 10 \text{ jpg} &= 12 \\2\text{-way handshake} &= 12 \times 2 = 24 + 2 \text{ RTT} = 26\end{aligned}$$

The correct answer is: Forwarding packet to the next node (router or host)

Question 11

Correct

Mark 2.00 out of 2.00

Host A and Host B are connected by 2 links with distance **300 km** and **500 km** respectively.

Those 2 links are connected by a packet switch in which **processing delay** in the packet switch is **1 msec** and **transmission rate** in each link is **1 Mbit/s**. Assuming there is no queueing delay and **propagation speed** in each link is **$2 \times 10^8 \text{ m/s}$** . What is the **end-to-end delay** when Host A sends a **packet** with **4 KByte** size to Host B (in **second**)?

NOTES:

- You can use this simple unit conversion $1 \text{ KByte} = 1000 \text{ Byte}$ and $1 \text{ Mbit} = 1000 \text{ Kbit}$, or $1 \text{ KByte} = 2^{10} \text{ Byte}$ and $1 \text{ Mbit} = 2^{20} \text{ bit}$
- Just write the numbers

Answer: 0.069



assuming $1 \text{ KByte} = 1000 \text{ Byte}$ and $1 \text{ Mbit} = 1000 \text{ Kbit}$

The correct answer is: 0.069

A = 300km
B = 500km
trans rate = 1 Mbit/s
prop speed = $2 \times 10^8 \text{ m/s}$
Host A send packet = 4KBytes = 4000bytes

Q: end-to-end delay?

Link 1:
trans rate = L/Trans = $4000/1 = 32 \text{ milisec}$
pop speed = $300\text{km} / 2 \times 10^8 = 1,5 \text{ m/s}$

Link 2:
trans rate = L/Trans = $4000/1 = 32 \text{ milisec}$
pop speed = $500\text{km} / 2 \times 10^8 = 2,5 \text{ m/s}$

$$\begin{aligned}\text{total: } L_1 + L_2 + \text{processing delay} \\&= (32 + 1,5) + (32+2,5) + 1 \\&= 33,5 + 34,5 + 1 \\&= 69 \text{ ms} = 0,069 \text{ s}\end{aligned}$$

Question 12

Correct

Mark 1.00 out of 1.00

Which one does not affect queueing delay?

Select one:

- a. propagation speed ✓
- b. packet arrival rate
- c. transmission rate
- d. packet size

The correct answer is: propagation speed

Question 13

Correct

Mark 1.00 out of 1.00

Which condition is NOT possible in relation between Bandwidth and Throughput?

Select one:

- a. Bandwidth \geq Throughput
- b. Bandwidth $<$ Throughput ✓
- c. Bandwidth $>$ Throughput
- d. Bandwidth = Throughput

The correct answer is: Bandwidth $<$ Throughput

Question 14

Correct

Mark 1.00 out of 1.00

Which one is the result of packet loss in real time applications over UDP (e.g. audio or video streaming)?

Select one:

- a. packet retransmission
- b. high latency
- c. low throughput
- d. quality degradation ✓

The correct answer is: quality degradation

Question 15

Correct

Mark 1.00 out of 1.00

Which layer performs data compression and message translation?

Select one:

- a. Transport layer
- b. Application layer
- c. Presentation layer ✓
- d. Session layer

The correct answer is: Presentation layer

Question 16

Incorrect

Mark 0.00 out of 1.00

Which layer produces the data from user to be transferred over the network?

Select one:

- a. Session layer
- b. Transport layer ✗
- c. Presentation layer
- d. Application layer

The correct answer is: Application layer

Question 17

Correct

Mark 1.00 out of 1.00

Which layer is responsible for bit rate control?

Select one:

- a. Transport layer
- b. Link layer
- c. Physical layer ✓
- d. Network layer

The correct answer is: Physical layer

Question 18

Correct

Mark 1.00 out of 1.00

TCP/IP model was developed by OSI.

Select one:

- a. True
- b. False ✓

The correct answer is: False

Question 19

Correct

Mark 1.00 out of 1.00

TCP/IP model combines Application, Presentation and Session layers into just Application layer.

Select one:

- a. True ✓
- b. False

The correct answer is: True

Question 20

Correct

Mark 1.00 out of 1.00

A type of malware that encrypts victim's files, database or even computer (e.g. as a kind of hostage), and the hacker ask some money from the victim to release them (from encryption):

Select one:

- a. trojan horse
- b. rootkit
- c. ransomware ✓
- d. spyware

The correct answer is: ransomware

Question 21

Correct

Mark 1.00 out of 1.00

A disorganized form of attack on one or more unknown networks executed by amateurs or hackers with restrictive skills:

Select one:

- a. external attacks
- b. unstructured attacks ✓
- c. structured attacks
- d. internal attacks

The correct answer is: unstructured attacks

Question 22

Correct

Mark 1.00 out of 1.00

A programming tool that allows creation, customization and distribution of malware:

Select one:

- a. rootkit
- b. exploit kits ✓
- c. botnets
- d. man-in-the-middle

The correct answer is: exploit kits

Question 23

Incorrect

Mark 0.00 out of 1.00

A type of malware that can start infecting a system (i.e. computers or networks) and replicating itself without any activation by user:

Select one:

- a. virus 
- b. botnets
- c. worm
- d. exploit kits

The correct answer is: worm

Question 24

Incorrect

Mark 0.00 out of 1.00

Any impact (be it financial loss, loss of reputation, etc) that an organization or anybody can suffer due to any security threat abusing known vulnerability:

Select one:

- a. attack
- b. vulnerability 
- c. risk
- d. threat

The correct answer is: risk



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Started on Monday, 7 March 2022, 3:07 PM

State Finished

Completed on Monday, 7 March 2022, 3:27 PM

Time taken 20 mins

Marks 14.00/25.00

Grade **56.00** 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. Every end system can act both as client and server ✓
- c. Every client can only communicate with a dedicated server
- d. The server has permanent IP address

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. Every peer or end system can act both as client and server
- b. Every peer that joins the network can communicate with each other
- c. The server(s) in P2P network is not always ON
- 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. RTP
- c. TCP
- d. UDP ✓

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

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

Question 5

Partially correct

Mark 4.00 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)

- non-persistent: requires 2 RTT
- a. Non-persistent with non-parallel: 26 ✓ RTT $1 \text{ css} + 1\text{js} + 10\text{jpg} = 12$
 $2\text{-way handshake} = 12 \times 2 = 24 + 2\text{RTT} = 26$
- b. Non-persistent with 4 parallel connections: 8 ✗ RTT parallel: $2\text{RTT} + (12/4) \times 2\text{RTT} = 2 + 6 = 8$
- c. Persistent with non-pipeline: 14 ✓ RTT $2\text{RTT} + 12\text{RTT} = 14\text{ RTT}$
- d. Persistent with pipeline 4 requests (assume requests and response can be pipelined at the same time): 52 ✗ RTT $2\text{RTT} + (12/4) = 2 + 3 = 5$

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 200 OK (no Data)
- b. HTTP 304 Not Modified + 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 NOT the advantages of web caching using proxy server?

Select one:

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

The correct answer is: Easier to monitor the traffic in the organization

Question 8

Incorrect

Mark 0.00 out of 1.00

Which one is NOT the advantages of HTTP/2 over HTTP/1.1?

Select one:

- a. Packet loss recovery does not stall all object transmission
- b. The object is divided into frames and performs interleaving frame transmission to mitigate HoL blocking ✗
- c. Backward compatibility with HTTP/1.1, i.e. methods, status codes and most headers are unchanged
- d. Transmission order of requested objects based on client-specified object priority

Your answer is incorrect.

The correct answer is: Packet loss recovery does not stall all object transmission



Started on Friday, 8 October 2021, 8:05 AM

State Finished

Completed on Friday, 8 October 2021, 8:55 AM

Time taken 49 mins 57 secs

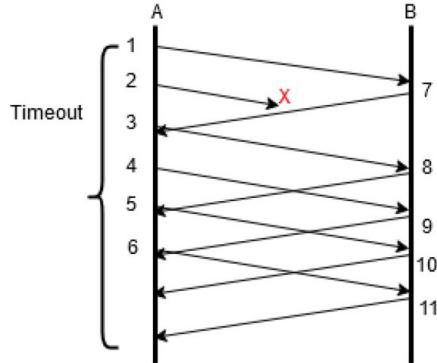
Marks 25.00/25.00

Grade 100.00 out of 100.00

Question 1

Correct

Mark 5.00 out of 5.00



yang 140 gagal, trs retransmission buat
yang 140
waktu di 11 artinya 120 - 200 udah
kekirim Semua
makanya dia minta buat 220

Host A mengirimkan serangkaian segmen TCP ke host B dengan pola seperti gambar di atas. Segmen yang dikirimkan oleh host A semua memiliki ukuran yang sama, yaitu 20 byte, dan *sequence number* awal (pada nomor 1) adalah 120. Tentukan nilai *sequence number* dan ACK number pada segmen-segmen selanjutnya dengan melengkapi tabel berikut:

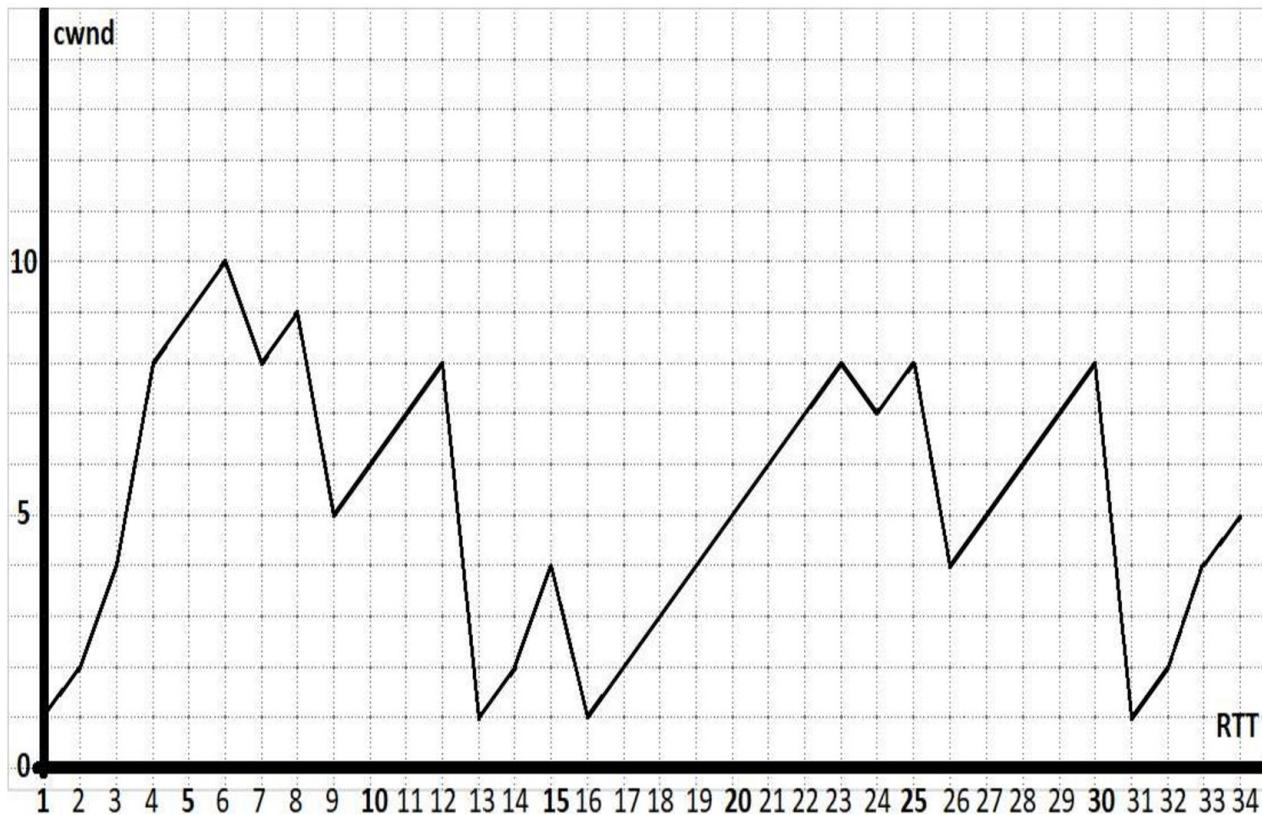
Seq	ACK
1 = 120	7 = 140 ✓
2 = 140 ✓	8 = 140 ✓
3 = 160 ✓	9 = 140 ✓
4 = 180 ✓	10 = 140 ✓
5 = 200 ✓	11 = 220 ✓
6 = 140 ✓	



Question 2

Correct

Mark 20.00 out of 20.00



Gambar di atas mengilustrasikan evolusi dari TCP congestion window menggunakan TCP Reno. Sumbu x menyatakan *transmission round* dalam satuan RTT, sedangkan sumbu y menggambarkan ukuran *congestion window* (cwnd) dalam satuan MSS (Maximum Segment Size). Pada kondisi awal, cwnd = 1, dan ssthresh = 8.

- Berapa THROUHPUT rata-rata mulai RTT ke 10 sampai RTT 15 dalam satuan cwnd/RTT (catatan: segment yang dikirim pada RTT ke 10 tidak ikut dihitung. Tulis jawaban dalam bentuk desimal)

4.4

- Tentukan durasi waktu (dalam durasi RTT) saat fase berikut terjadi, mengacu pada gambar di atas. CARA penulisan jawaban: misal fase x terjadi pada range RTT1-5, 8-11. Akan ada 2 input form, lalu tulis: 1-5 dan 8-11 pada masing-masing input form (tanpa spasi).

Fase	Durasi/Range RTT
Slow start	1-4 ✓ , 13-15 ✓ , 16-17 ✓ , 31-33 ✓
Congestion avoidance	4-6 ✓ , 9-12 ✓ , 17-23 ✓ , 26-30 ✓ , 33-34 ✓
Fast recovery	7-8 ✓ , 24-25 ✓

- Tentukan waktu (dalam RTT) saat paket yang dikirim hilang (lost), dan apakah paket yang hilang tersebut dideteksi berdasarkan timeout ataupun 3-duplicate ACK! CARA penulisan jawaban: tulis HANYA ANGKA RTT pada setiap input form yang tersedia.

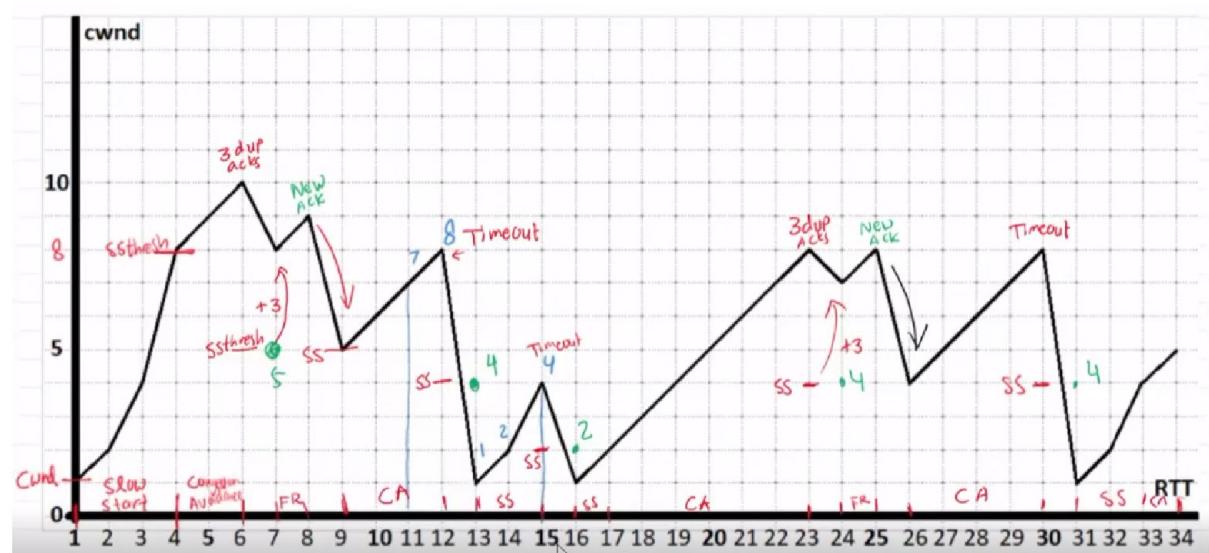
Lost event	RTT ke-
Timeout	12 ✓ , 15 ✓ , 30 ✓
3-duplicate ACK	6 ✓ , 23 ✓

- Tentukan waktu (dalam RTT) saat nilai *ssthresh* (*slow start threshold*) mulai berubah, dan tentukan nilai ssthresh yang baru tersebut! (Hint: nilai *ssthresh* mulai berubah pada *next transmission round* setelah terjadi lost event). CARA penulisan jawaban: tulis jawaban dengan format RTT,ssthresh_baru (koma untuk memisahkan nilai RTT dan ssthresh baru; tanpa spasi).



Misal ssthresh mulai berubah pada RTT = 10 dengan nilai ssthresh baru = 3, maka tulis jawaban 10,3 pada input form yang tersedia.

RTT,ssthresh_baru
7,5 ✓
13,4 ✓
16,2 ✓
24,4 ✓
31,4 ✓



Kalau slow start dia naik exp
Kalau CA naik linear

CA dimulai Ketika cwnd \geq ssthresh
timeout ditandai cwnd = 1
setelah timeout itu ss
liat slide lengkapnya





Home > My courses > [SI.Reg] Jaringan Komunikasi Data (A,B,C) Gasal 20... > Chapter 4. Network Layer (Data Plane) > Kuis Chapter 4 - Semua Kelas

Started on Tuesday, 19 October 2021, 8:01 AM

State Finished

Completed on Tuesday, 19 October 2021, 8:49 AM

Time taken 48 mins 33 secs

Marks 9.00/22.00

Grade **40.91** out of 100.00

Question 1 Incorrect Mark 0.00 out of 1.00

Routing is the task in the control plane while forwarding is the task in the data plane because the routing implements routing protocol while forwarding does not.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong
- d. The statement is wrong, and the reason is correct X
- e. Both of them is wrong

Your answer is incorrect.

The correct answer is: The statement is correct, the reason is correct but both of them don't have causal relation

Question 2 Correct Mark 1.00 out of 1.00

Ketika suatau datagram berukuran 3000 bytes akan ditransmisikan pada suatu link yang memiliki MTU sebesar 1500 bytes, maka fragment pertama dari datagram tersebut memiliki ukuran sebesar bytes

Answer: 1500



The correct answer is: 1500

Question 3

Correct

Mark 1.00 out of 1.00

DHCP provides additional information than acknowledged client IP address such as the IP address of first-hop router and DNS server name because the router and the DNS server ask the DHCP server to tell the client.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong ✓
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is correct.

The correct answer is: The statement is correct, and the reason is wrong

Question 4

Incorrect

Mark 0.00 out of 1.00

DHCP request dan offer menggunakan alamat 0.0.0.0 sebagai source dan alamat broadcast sebagai destination karena client belum mendapatkan IP address yang sah untuk digunakan dalam transaksi.

Select one:

- True ✗
- False

The correct answer is 'False'.

Question 5

Correct

Mark 1.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 1?

Answer: 27



The correct answer is: 27

Question 6

Correct

Mark 1.00 out of 1.00

A Fragmentation is conducted to divide an IP datagram into several fragments because the receiving host asks to do the fragmentation

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong ✓
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is correct.

The correct answer is: The statement is correct, and the reason is wrong

Question 7

Incorrect

Mark 0.00 out of 1.00

IPv4 address has 4 bytes length while IPv6 address has 6 bytes length because IPv6 also has 6 bytes header.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong ✗
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is incorrect.

The correct answer is: Both of them is wrong

Question 8

Incorrect

Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
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B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 16?

Answer: 170



The correct answer is: 166

Question 9

Correct

Mark 1.00 out of 1.00

Two hosts in the different subnet have different subnet masks because they have a different network address

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong
- d. The statement is wrong, and the reason is correct ✓
- e. Both of them is wrong

Your answer is correct.

The correct answer is: The statement is wrong, and the reason is correct

Question 10

Correct Mark 1.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 3?

Answer: 30



The correct answer is: 30

Question 11

Correct Mark 1.00 out of 1.00

IPv4 addressing menggunakan alamat sebanyak bits

Answer: 32



The correct answer is: 32

Question 12

Incorrect Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 12?

Answer: 165



The correct answer is: 161

Question 13

Incorrect Mark 0.00 out of 1.00

IPv4 memiliki header sebanyak bits

Answer: 4



The correct answer is: 160

Question 14

Incorrect Mark 0.00 out of 1.00

DHCP discover is sent to broadcast address while DHCP request is sent to server IP address because in DHCP discover state, the client does not know the server IP address.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is incorrect.

The correct answer is: The statement is wrong, and the reason is correct

Question 15

Correct Mark 1.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 2?

Answer: 25



The correct answer is: 25

Question 16

Incorrect Mark 0.00 out of 1.00

In NAT router, the interface on the LAN side has a private IP address while the interface on the WAN side has a public IP because the NAT router uses a translation table to save private-to-public IP address translation.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation X
- b. The statement is correct, the reason is correct but both of them don't have causal relation
- c. The statement is correct, and the reason is wrong
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is incorrect.

The correct answer is: The statement is correct, the reason is correct but both of them don't have causal relation

Question 17

Incorrect Mark 0.00 out of 1.00

DHCP is a network layer protocol that provides a dynamic assignment of IP address because DHCP is encapsulated in UDP segment not in TCP segment.

Select one:

- a. The statement is correct, the reason is correct and both of them have causal relation
- b. The statement is correct, the reason is correct but both of them don't have causal relation X
- c. The statement is correct, and the reason is wrong
- d. The statement is wrong, and the reason is correct
- e. Both of them is wrong

Your answer is incorrect.

The correct answer is: The statement is wrong, and the reason is correct

Question 18

Correct

Mark 1.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

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C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 4?

Answer: 29



The correct answer is: 29

Question 19

Incorrect

Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 6?

Answer: 32



The correct answer is: 0

Question 20

Incorrect Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
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B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 13?

Answer: 30



The correct answer is: 158

Question 21

Incorrect Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 5?

Answer: 0



The correct answer is: 128

Question 22

Incorrect

Mark 0.00 out of 1.00

Given network address = 204.15.5.0/24. Subnet the network in order to create the network with the host requirements: A:29 hosts, B:100 hosts, C:2 hosts, D:6 hosts.

Subnet	Subnet Mask (Prefix)	Subnet Address	First Host Address Available	Last Host Address Available
A	/.....(1)	204.15.5.....(5)	204.15.5.....(9)	204.15.5.....(13)
B	/.....(2)	204.15.5.....(6)	204.15.5.....(10)	204.15.5.....(14)
C	/.....(3)	204.15.5.....(7)	204.15.5.....(11)	204.15.5.....(15)
D	/.....(4)	204.15.5.....(8)	204.15.5.....(12)	204.15.5.....(16)

What is the correct answer for blank number 8?

Answer: 164



The correct answer is: 160