



Cisco CCNA Exam Assessment

Networking Fundamentals

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CCIE Routing & Switching

- + Familiarity & Hands-On Experience With All CCNA-Related Topics

Course Prerequisites

Course Objectives

- + Assess your knowledge of all CCNA-related topics within the “Network Fundamentals” category

Important Information About This Course

- + What this course is...and isn't.
- + When should I take this course?
- + How did you choose the topics for the questions?
- + How can I best use this assessment?
- + How will you assess me on Cisco IOS CLI knowledge?

Question Types

- + A Demonstration Of Question Types & How You Can Answer Them



Multiple Choice (Text)

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Sample

+ Your name is...?
[1.1.b]

☐

A. Bob

☐

B. Sally

☐

C. John

☐

D. Skippy

☐

E. All these answers are correct

ANSWER

+ Your name is...?
[1.1.b]

☐

A. Bob

☐

B. Sally

☐

C. John

☒

D. Skippy

☐

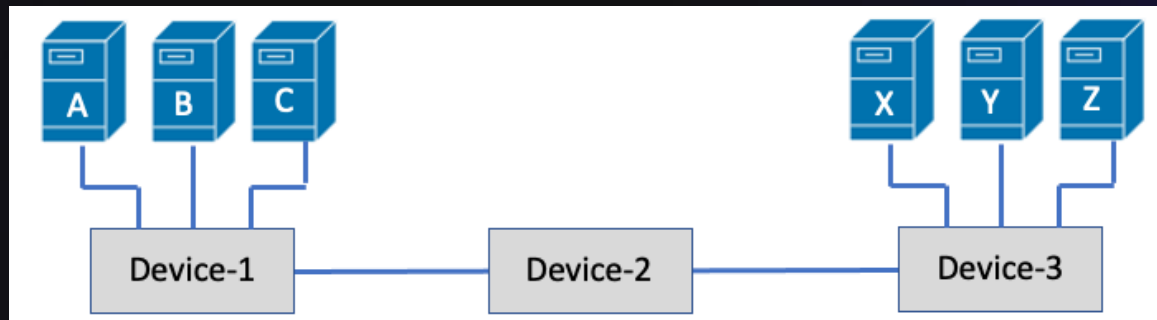
E. All these answers are correct



Multiple Choice (With Graphic)

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SAMPLE



+ Given the following graphic, Servers-A, B, and C are in different broadcast domains. If Server-A explodes, which of the following will happen? (Select two answers)? [1.9.a]

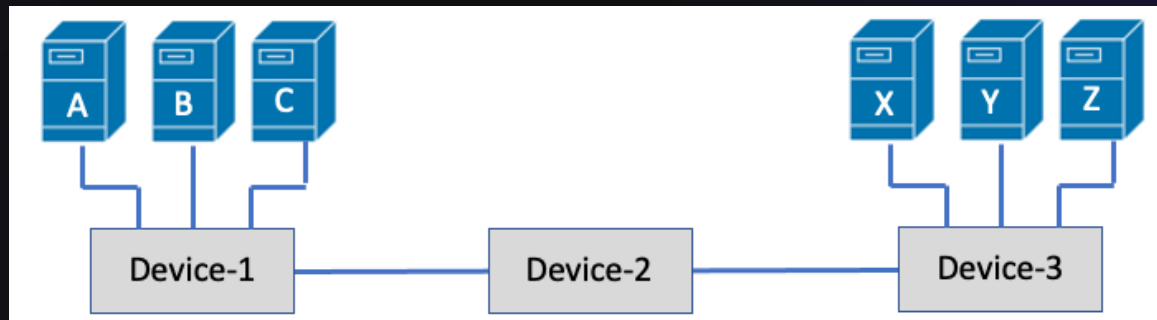
☐ A. You will get fired

☐ C. The Police will be called

☐ B. You will get a promotion

☐ D. Money will rain down from the sky

ANSWER



+ Given the following graphic, Servers-A, B, and C are in different broadcast domains. If Server-A explodes, which of the following will happen? (Select two answers)? [1.9.a]

☒ A. You will get fired

☒ C. The Police will be called

☐ B. You will get a promotion

☐ D. Money will rain down from the sky



Reorder Questions

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SAMPLE

+ Place the items below into their correct order. [OSI Model]

You drive home

You drive to work

You scream at your boss

You drink coffee

You yell at your cat

You get dressed

You get fired

ANSWER

+ Place the items below into their correct order. [OSI Model]

You get dressed

1

You drink coffee

2

You drive to work

3

You scream at your boss

4

You get fired

5

You drive home

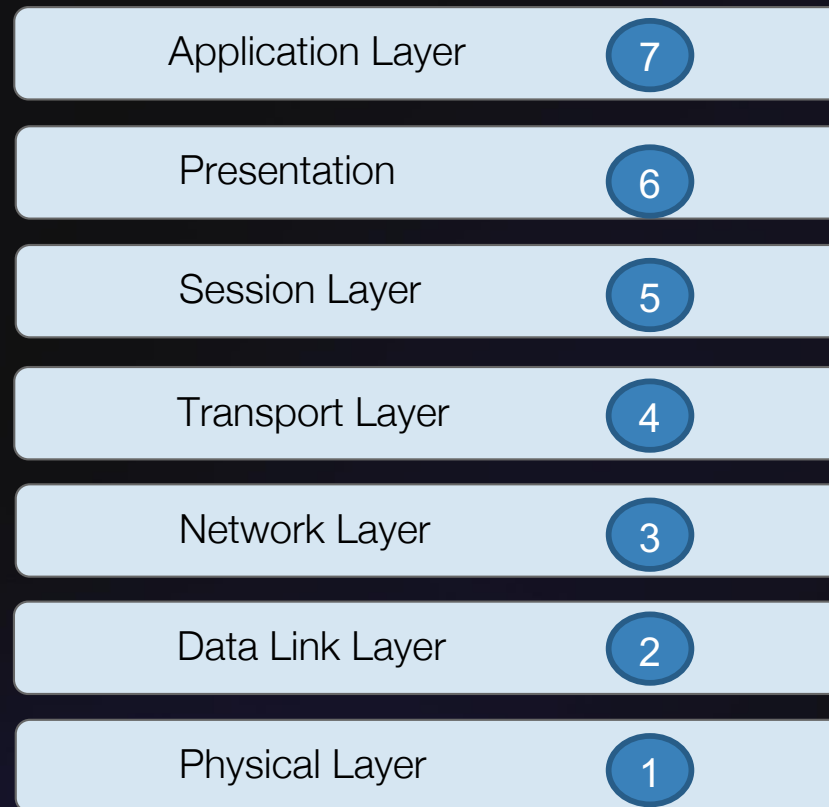
6

You yell at your cat

7

ANSWER

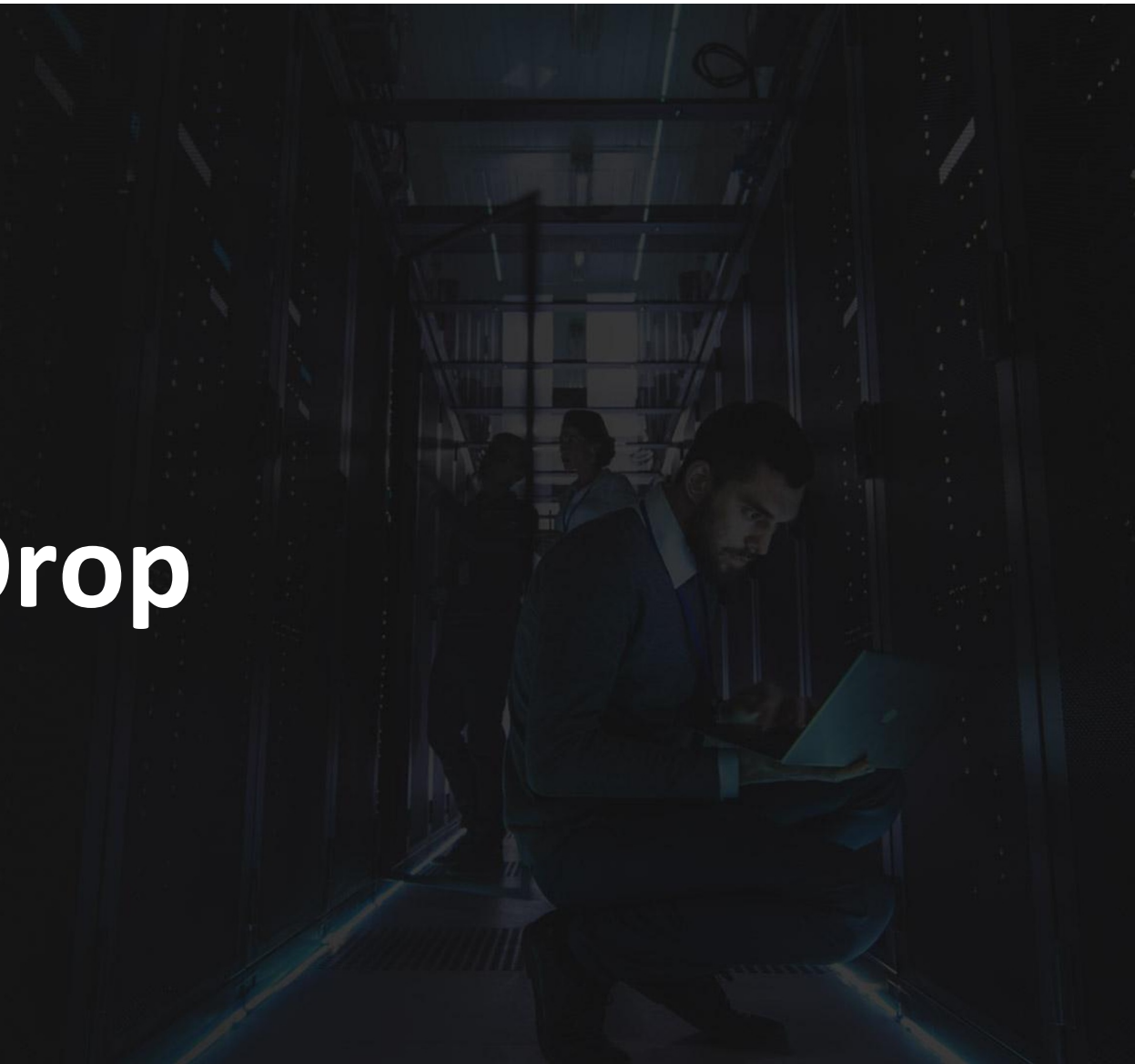
+ Place the OSI Layers into their correct order (Layer-7 on top) [OSI Model]





Drag-And-Drop

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SAMPLE

+ Pair the correct answers together. [OSI Model]

Your hair is

Your height is

Your weight is

Your bank balance is

2' 3"

\$5.00

Brown

799-pounds

ANSWER

+ Pair the correct answers together. [OSI Model]

Your hair is

Brown

Your height is

2' 3"

Your weight is

799-pounds

Your bank balance is

\$5.00



Thanks for Watching!



Core Networking Basics, Device Roles, & Networking Models

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Question-1

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Question-1

+ What does the acronym
“LAN” stand for?

[Core Networking Basics]

☐

A. Level Adjusted Network

☐

B. Local Autonomous Network

☐

C. Line Area Node

☐

D. Local Area Network

ANSWER

+ What does the acronym
“LAN” stand for?

[Core Networking Basics]

☐

A. Level Adjusted Network

☐

B. Local Autonomous Network

☐

C. Line Area Node

☒

D. Local Area Network



Question-2

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Question-2

- + Which types of networks typically require leasing the services of a network service provider?
(Select two answers)

[Core Networking Basics]

☐

A. LAN

☐

B. MAN

☐

C. PAN

☐

D. WAN

☐

E. SAN

ANSWER

+ Which types of networks typically require leasing the services of a network service provider?

(Select two answers)

[Core Networking Basics]

☐

A. LAN

☒

B. MAN

☐

C. PAN

☒

D. WAN

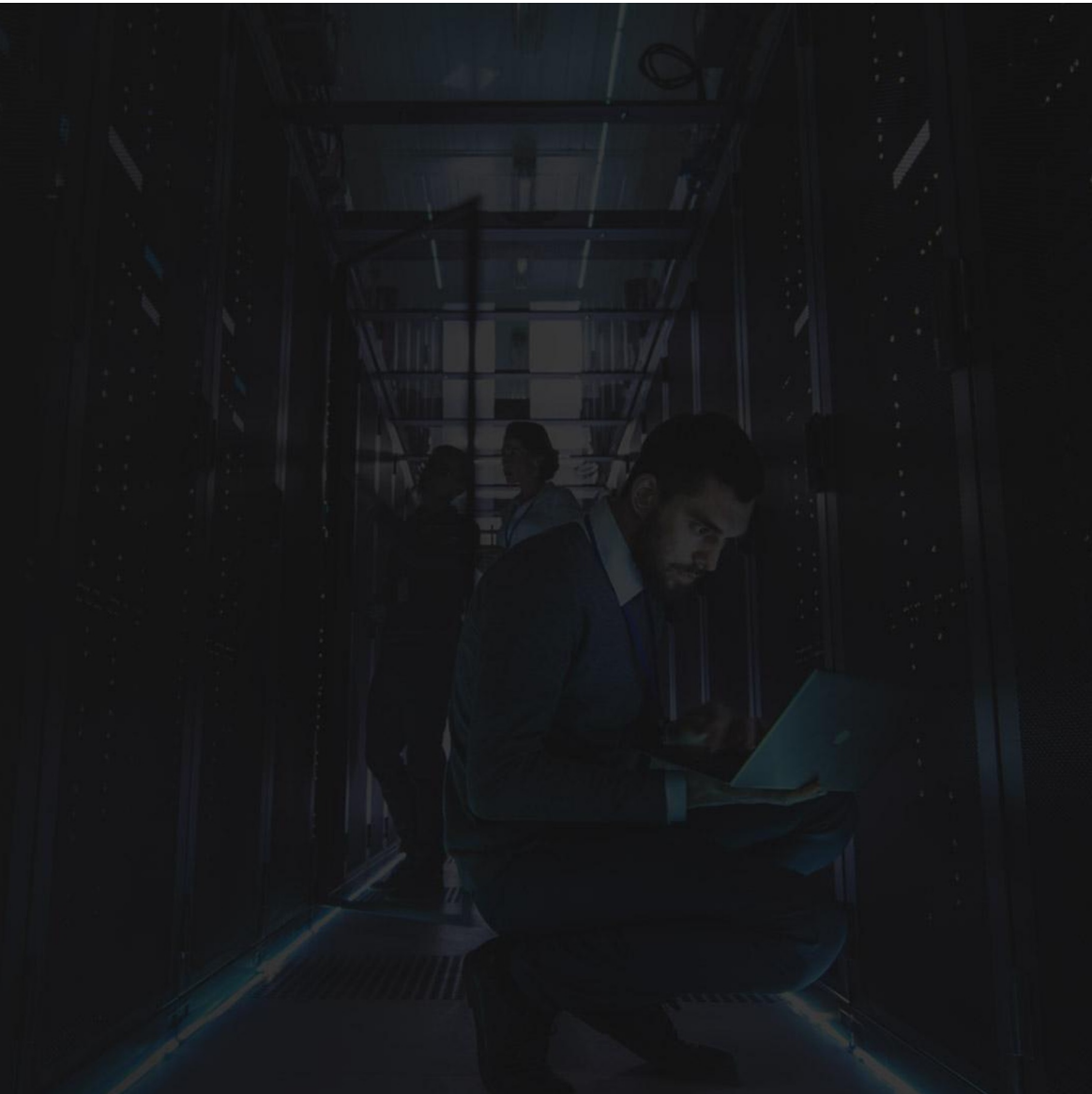
☐

E. SAN



Question-3

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Question-3

+ What does the acronym “NIC” stand for?

[Core Networking Basics]

☐

A. Network Interfacing Code

☐

B. Network Interface Card

☐

C. Node Internetworking Card

☐

D. Node Interface Card

☐

E. None of these answers are correct

ANSWER

+ What does the acronym “NIC” stand for?

[Core Networking Basics]

☐

A. Network Interfacing Code



B. Network Interface Card

☐

C. Node Internetworking Card

☐

D. Node Interface Card

☐

E. None of these answers are correct



Question-4

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Question-4

+ Which of the following is the most popular LAN protocol in Enterprise and Campus networks today?

[Core Networking Basics]

☐ A. Ethernet

☐ B. IP

☐ C. HDLC

☐ D. PPP

☐ E. OSPF

ANSWER

+ Which of the following is the most popular LAN protocol in Enterprise and Campus networks today?

[Core Networking Basics]



A. Ethernet



B. IP



C. HDLC



D. PPP

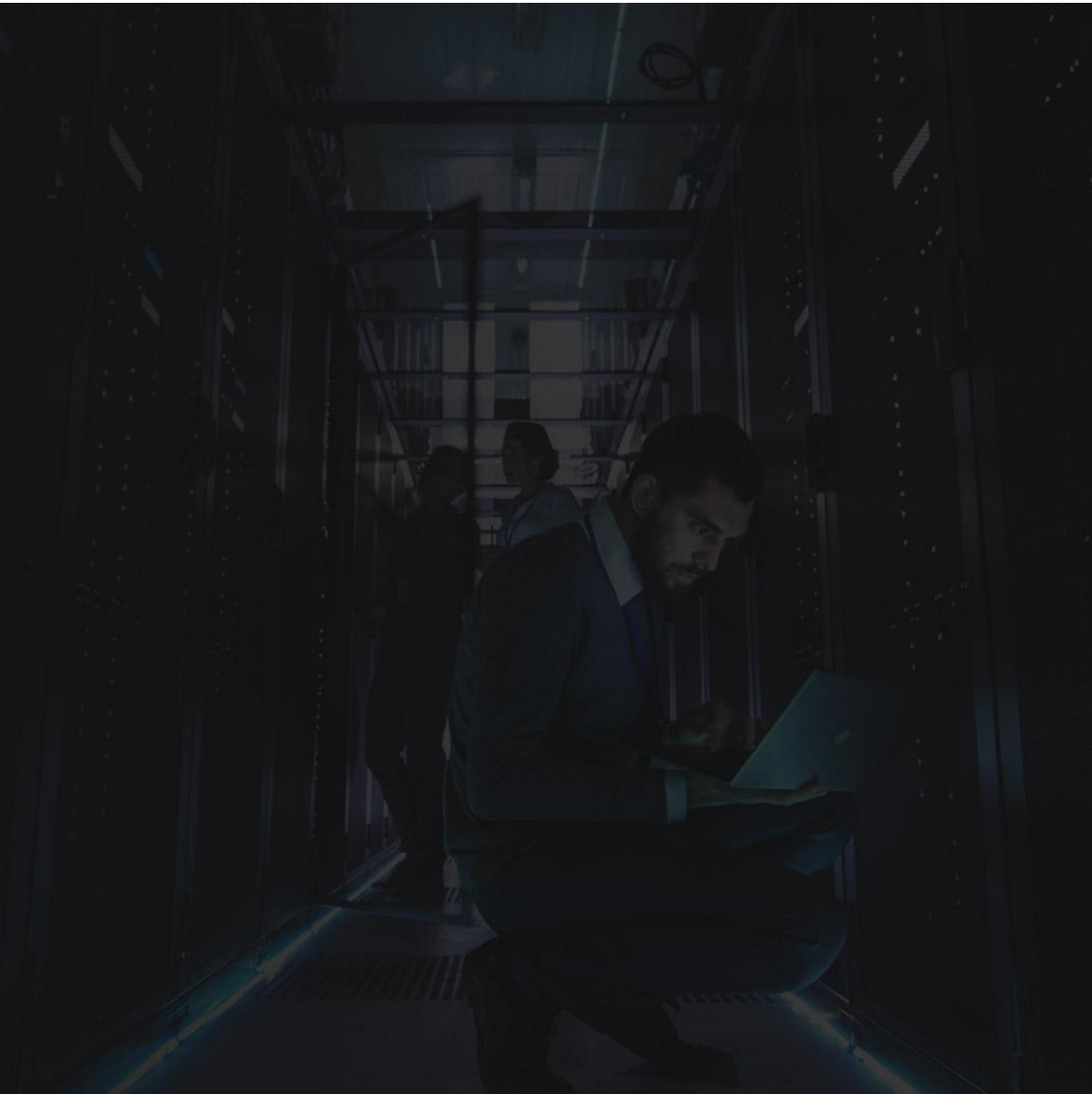


E. OSPF



Question-5

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Question-5

+ What acronym is given to the source and destination addresses used by the Ethernet protocol?

[Core Networking Basics]

☐

A. Preamble

☐

B. IP

☐

C. MAC

☐

D. DLCI

☐

E. IPX

ANSWER

- + What acronym is given to the source and destination addresses used by the Ethernet protocol?
[Core Networking Basics]

☐

A. Preamble

☐

B. IP

☒

C. MAC

☐

D. DLCI

☐

E. IPX



Question-6

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Question-6

+ If you want to purchase a client endpoint that can connect to a Wireless LAN, you should ensure that endpoint supports *[Fill-in-the-blank]*?

[Core Networking Basics]

☐

A. Ethernet

☐

B. HDLC

☐

C. PPP

☐

D. Wi-Fi

ANSWER

- + If you want to purchase a client endpoint that can connect to a Wireless LAN, you should ensure that endpoint supports *[Fill-in-the-blank]*?

[Core Networking Basics]

☐

A. Ethernet

☐

B. HDLC

☐

C. PPP

☒

D. Wi-Fi



Question-7

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Question-7

+ Which organization forms committees and creates documentation to standardize LAN protocols (typically at Layer-1 and Layer-2 of the OSI model)?

[Core Networking Basics]

☐

A. IETF

☐

B. IEOC

☐

C. IEEE

☐

D. ITU

ANSWER

- + Which organization forms committees and creates documentation to standardize LAN protocols (typically at Layer-1 and Layer-2 of the OSI model)?

[Core Networking Basics]

☐

A. IETF

☐

B. IEOC

☒

C. IEEE

☐

D. ITU



Question-8

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Question-8

+ Which organization creates documentation (called, “RFCs”) to formally standardize the operations of various protocols and applications?

[Core Networking Basics]

☐

A. IETF

☐

B. IEOC

☐

C. IEEE

☐

D. ITU

ANSWER

- + Which organization creates documentation (called, “RFCs”) to formally standardize the operations of various protocols and applications?

[Core Networking Basics]



A. IETF



B. IEOC



C. IEEE



D. ITU



Question-9

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Question-9

+ You ask a senior networking engineer at your company how a certain protocol works, and he refers you to RFC 791. In this context, what does “RFC” stand for?

[Core Networking Basics]

☐

A. Report For Committee

☐

B. Request For Control

☐

C. Request For Comment

☐

D. Repository For Container

ANSWER

+ You ask a senior networking engineer at your company how a certain protocol works, and he refers you to RFC 791. In this context, what does “RFC” stand for?

[Core Networking Basics]

☐

A. Report For Committee

☐

B. Request For Control

☒

C. Request For Comment

☐

D. Repository For Container



Question-10

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Question-10

+ Which of the following IEEE specifications is associated with Wi-Fi?

[Core Networking Basics]

☐ A. 802.3

☐ B. 802.11

☐ C. 802.1

☐ D. 802.5

ANSWER

+ Which of the following IEEE specifications is associated with Wi-Fi?

[Core Networking Basics]

☐

A. 802.3

☒

B. 802.11

☐

C. 802.1

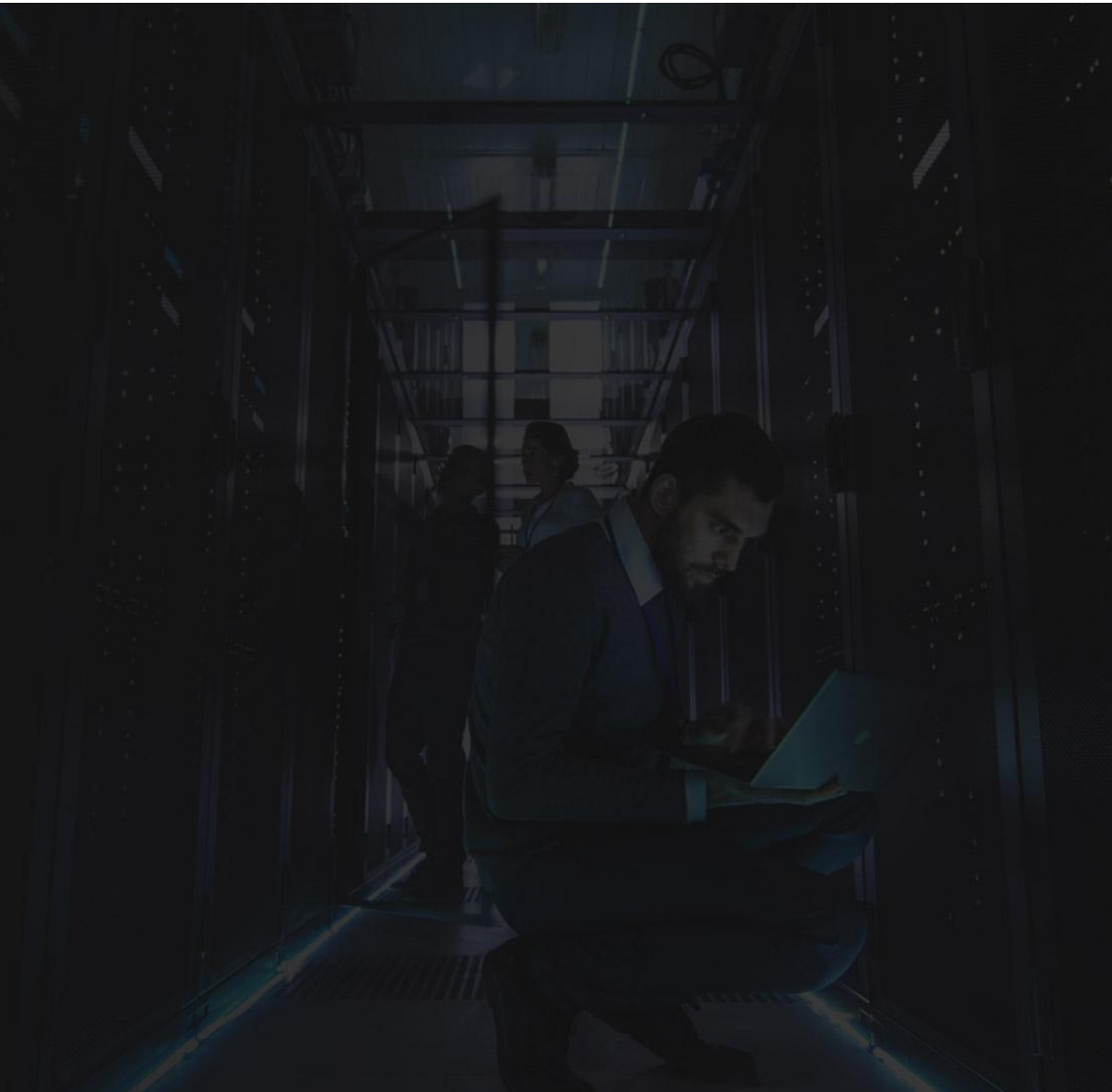
☐

D. 802.5



Question-11

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Question-11

+ What is a key differentiator between a router and a Layer-2 Switch? [1.1.a]

☐

A. A router can forward packets between WANs and LANs

☐

B. A Layer-2 switch can forward packets between WANs and LANs

☐

C. A router can only process packets encapsulated with Ethernet headers

☐

D. A Layer-2 switch can process packets encapsulated with either Ethernet or HDLC headers

ANSWER

+ What is a key differentiator between a router and a Layer-2 Switch? [1.1.a]



A. A router can forward packets between WANs and LANs



B. A Layer-2 switch can forward packets between WANs and LANs



C. A router can only process packets encapsulated with Ethernet headers



D. A Layer-2 switch can process packets encapsulated with either Ethernet or HDLC headers



Question-12

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Question-12

- + Which of the following fields in an Ethernet frame carrying an IPv4 packet are changed as it is forwarded by a router?
(Select three answers) [1.1.a]

☐

A. Source IP Address

☐

B. Destination IP Address

☐

C. Source MAC Address

☐

D. Destination MAC Address

☐

D. TTL

☐

D. Source/Destination Port Number

ANSWER

+ Which of the following fields in an Ethernet frame carrying an IPv4 packet are changed as it is forwarded by a router? (Select three answers) [1.1.a]

☐

A. Source IP Address

☐

B. Destination IP Address

☒

C. Source MAC Address

☒

D. Destination MAC Address

☒

D. TTL

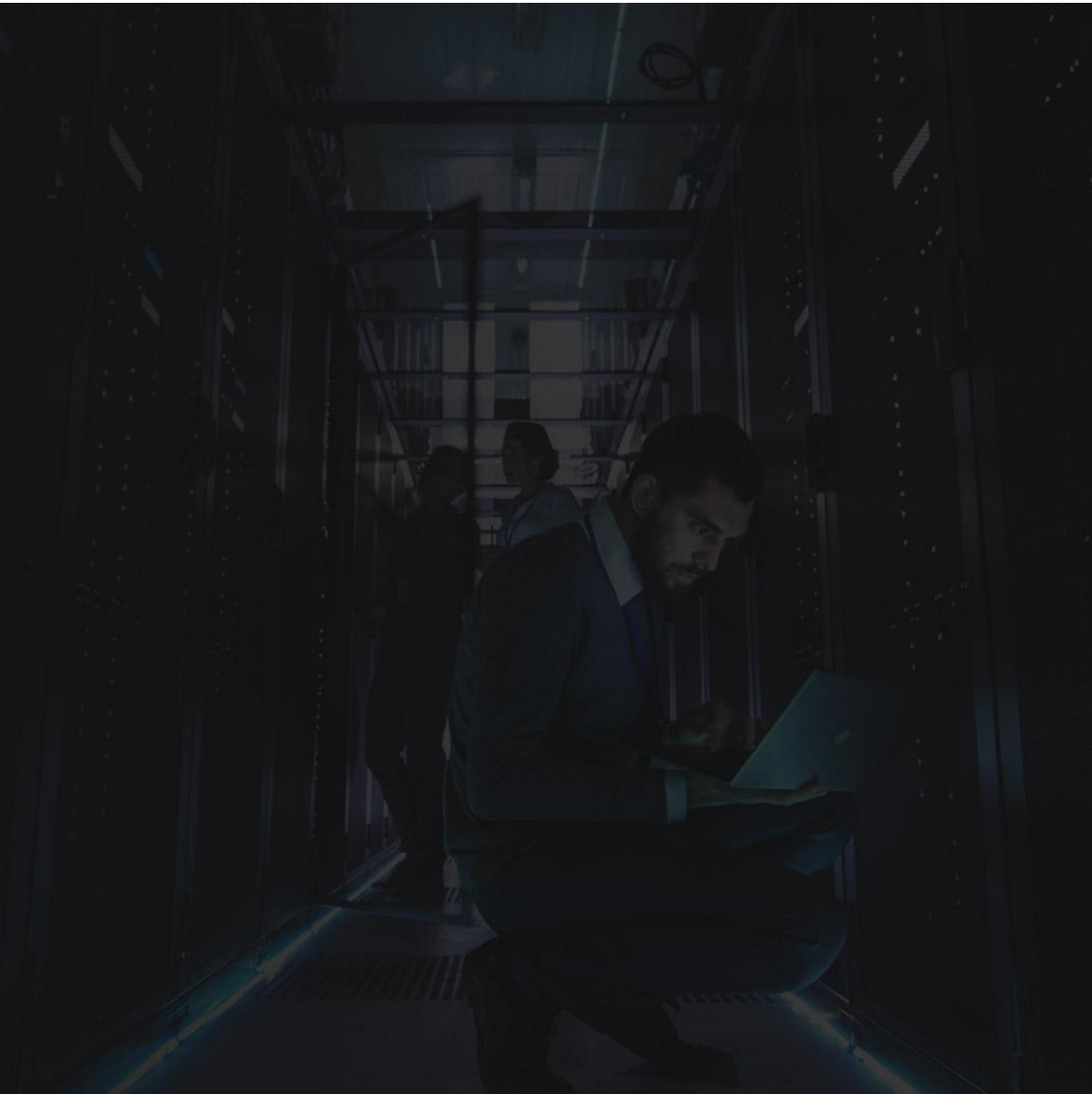
☐

D. Source/Destination Port Number



Question-13

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Question-13

+ On some types of devices, it is expected you will need to configure more IPv4 (and/or IPv6) addresses than other types of devices. From the available answers, which type of device typically requires the configuration of the greatest quantity of IPv4 and/or IPv6 addresses? [1.1.a]

☐

A. Wireless Access Point

☐

B. Layer-2 Switch

☐

C. Router

☐

D. Firewall

☐

E. Server

ANSWER

- + On some types of devices, it is expected you will need to configure more IPv4 (and/or IPv6) addresses than other types of devices. From the available answers, which type of device typically requires the configuration of the greatest quantity of IPv4 and/or IPv6 addresses? [1.1.a]

☐

A. Wireless Access Point

☐

B. Layer-2 Switch

☒

C. Router

☐

D. Firewall

☐

E. Server

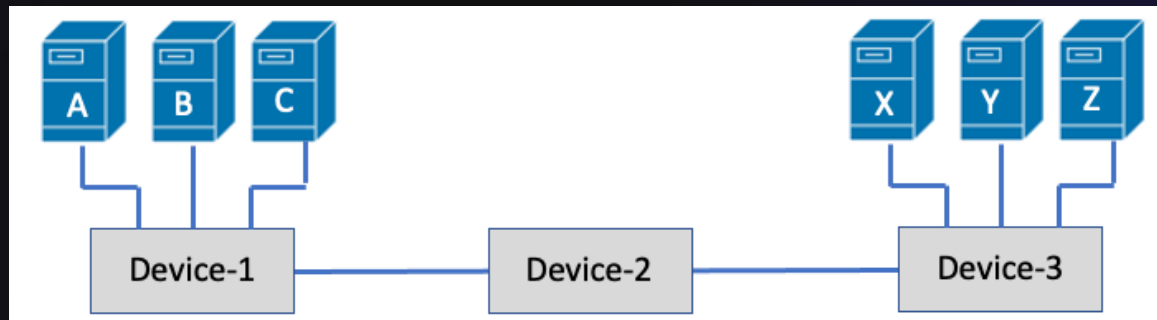


Question-14

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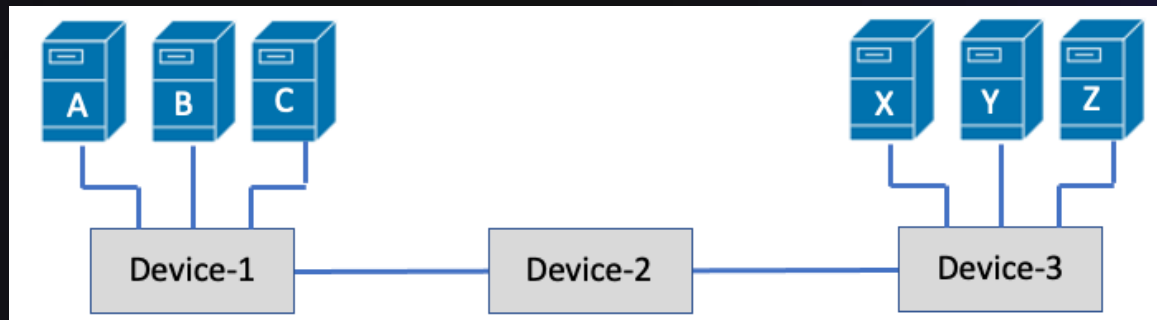
Question-14



+ Given the following graphic, Servers-A, B, and C are in different broadcast domains. If Device-1 was originally a Layer-2 switch, and later this device was swapped for a Layer-3 switch, what benefits would be obtained (Select two answers)? [1.1.b]

- ☐ A. A Layer-3 switch would provide the added benefit of being able to implement VLANs, a Layer-2 switch cannot do this.
- ☐ B. A Layer-3 switch would allow the routing between broadcast domains to be implemented directly on Device-1.
- ☐ C. A Layer-3 switch would support VLAN Trunking to Device-2. A Layer-2 switch cannot support VLAN Trunking.
- ☐ D. A Layer-3 switch could implement a routing protocol to advertise its broadcast domains. A Layer-2 switch cannot do this.

ANSWER



+ Given the following graphic, Servers-A, B, and C are in different broadcast domains. If Device-1 was originally a Layer-2 switch, and later this device was swapped for a Layer-3 switch, what benefits would be obtained (Select two answers)? [1.1.b]

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☒ B. A Layer-3 switch would allow the routing between broadcast domains to be implemented directly on Device-1.

☐ C. A Layer-3 switch would support VLAN Trunking to Device-2. A Layer-2 switch cannot support VLAN Trunking.

☒ D. A Layer-3 switch could implement a routing protocol to advertise its broadcast domains. A Layer-2 switch cannot do this.



Question-15

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Question-15

+ Which of the following items is most important to a Layer-2 switch when it comes to making a forwarding decision? [1.1.b]

☐

A. Source MAC Address

☐

B. Destination MAC Address

☐

C. Source IP Address

☐

D. Destination IP address

☐

E. Ethertype Value

ANSWER

+ Which of the following items is most important to a Layer-2 switch when it comes to making a forwarding decision? [1.1.b]

☐

A. Source MAC Address

☒

B. Destination MAC Address

☐

C. Source IP Address

☐

D. Destination IP address

☐

E. Ethertype Value



Question-16

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Question-16

- + Many different types of networking devices allow the configuration of packet filters so you can control whether packets are allowed to be forwarded through the device or if they should be discarded. Which type of device typically implements stateful packet filters (as opposed to stateless)? [1.1.c]

☐

A. Layer-2 Switch

☐

B. Layer-3 Switch

☐

C. Router

☐

D. Firewall

☐

E. Controller

ANSWER

- + Many different types of networking devices allow the configuration of packet filters so you can control whether packets are allowed to be forwarded through the device or if they should be discarded. Which type of device typically implements stateful packet filters (as opposed to stateless)? [1.1.c]

☐

A. Layer-2 Switch

☐

B. Layer-3 Switch

☐

C. Router

☒

D. Firewall

☐

E. Controller



Question-17

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Question-17

+ Which of the following features are typically found in an NGFW but not in a traditional firewall? (Select two answers) [1.1.c]

☐

A. Stateful Filtering

☐

B. AVC

☐

C. NAT

☐

D. URL Filtering

☐

E. VPN Termination

ANSWER

+ Which of the following features are typically found in an NGFW but not in a traditional firewall? (Select two answers) [1.1.c]

☐

A. Stateful Filtering

☒

B. AVC

☐

C. NAT

☒

D. URL Filtering

☐

E. VPN Termination



Question-18

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Question-18

- + Firewalls can place multiple interfaces into the same [fill-in-the-blank] to allow those interfaces to all inherit the same security rules. [1.1.c]

☐ A. Security Zones

☐ B. Security Levels

☐ C. Security Modes

☐ D. Priority Modes

☐ E. Priority Levels

ANSWER

- + Firewalls can place multiple interfaces into the same [fill-in-the-blank] to allow those interfaces to all inherit the same security rules.
[1.1.c]

☒ A. Security Zones

☐ B. Security Levels

☐ C. Security Modes

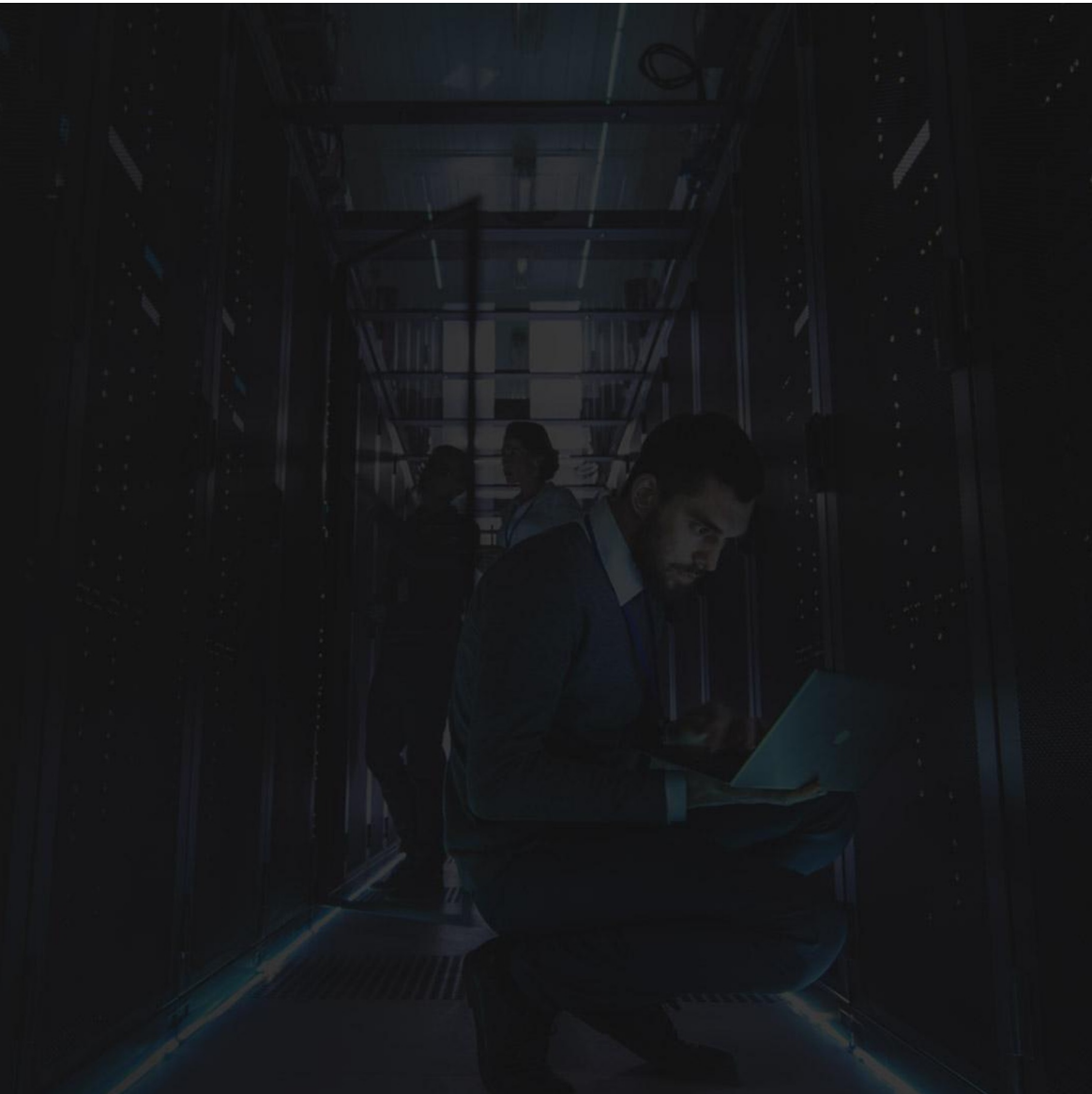
☐ D. Priority Modes

☐ E. Priority Levels



Question-19

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Question-19

+ Which of the following devices would NOT typically serve to provide network access to client stations (such as PCs, laptops, tablets or smartphones)? (Select three answers) [1.1.a - 1.1.e]

☐

A. Router

☐

B. Layer-2 Switch

☐

C. Layer-3 Switch

☐

D. Access Point

☐

E. Next-Generation Firewall

☐

F. Controller

ANSWER

+ Which of the following devices would NOT typically serve to provide network access to client stations (such as PCs, laptops, tablets or smartphones)? (Select three answers) [1.1.a - 1.1.e]



A. Router



B. Layer-2 Switch



C. Layer-3 Switch



D. Access Point



E. Next-Generation Firewall



F. Controller



Question-20

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Question-20

+ Which of the following devices can utilize IEEE 802.11 protocols in order to provide network access to endpoints? [1.1.d]

☐

A. Router

☐

B. Layer-2 Switch

☐

C. Layer-3 Switch

☐

D. Access Point

☐

E. Next-Generation Firewall

☐

F. Controller

ANSWER

+ Which of the following devices can utilize IEEE 802.11 protocols in order to provide network access to endpoints? [1.1.d]

☐

A. Router

☐

B. Layer-2 Switch

☐

C. Layer-3 Switch

☒

D. Access Point

☐

E. Next-Generation Firewall

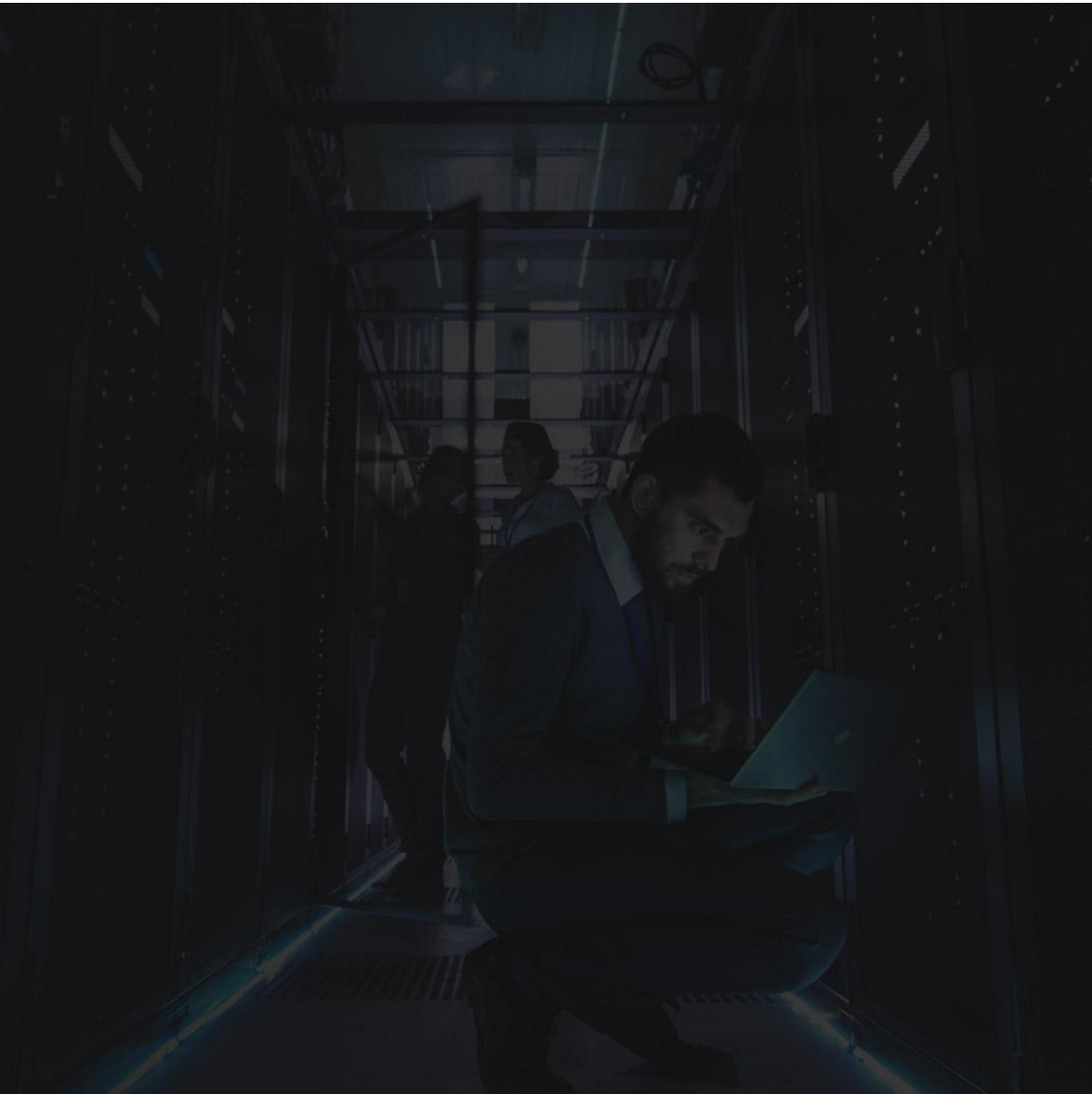
☐

F. Controller



Question-21

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Question-21

+ On which type of device would you find one-or-more antennas to assist with the sending and receiving of radio frequencies to enable wireless networking?
[1.1.d]

☐

A. Router

☐

B. Layer-2 Switch

☐

C. Layer-3 Switch

☐

D. Access Point

☐

E. Controller

ANSWER

+ On which type of device would you find one-or-more antennas to assist with the sending and receiving of radio frequencies to enable wireless networking?
[1.1.d]

☐

A. Router

☐

B. Layer-2 Switch

☐

C. Layer-3 Switch

☒

D. Access Point

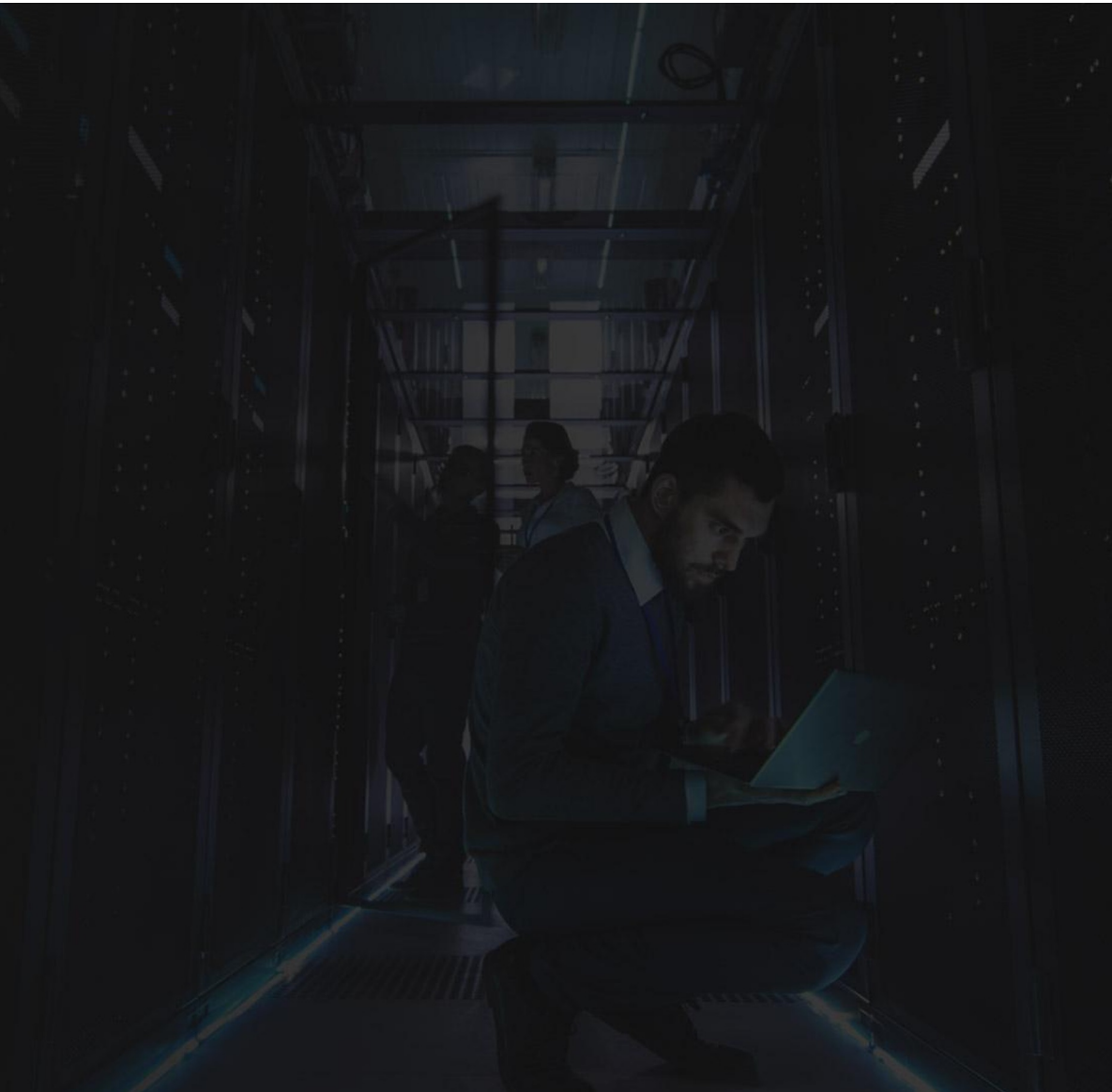
☐

E. Controller



Question-22

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Question-22

+ Which of the following applications would enable you to configure and enforce network policy across a broad spectrum of infrastructure devices such as Wireless Access Points, Switches and Routers? [1.1.e]

☐

A. Cisco WLC

☐

B. Cisco DNA Center

☐

C. Cisco Spectrum

☐

D. Cisco Smartnet

☐

E. Cisco ISE

ANSWER

+ Which of the following applications would enable you to configure and enforce network policy across a broad spectrum of infrastructure devices such as Wireless Access Points, Switches and Routers? [1.1.e]

☐

A. Cisco WLC

☒

B. Cisco DNA Center

☐

C. Cisco Spectrum

☐

D. Cisco Smartnet

☐

E. Cisco ISE



Question-23

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Question-23

- + When comparing servers to other types of client endpoints (such as Laptops, Tablets and Smartphones), which of the following statements are true? (Select two answers) [1.1.f , 1.1.g]

- ☐ A. Servers typically connect to the network via a wired connection.
- ☐ B. Servers typically connect to the network via a wireless connection
- ☐ C. Servers typically utilize DHCP for their IP address
- ☐ D. Servers typically are configured with a static IP address
- ☐ E. Servers and client endpoints typically run the exact same applications

ANSWER

- + When comparing servers to other types of client endpoints (such as Laptops, Tablets and Smartphones), which of the following statements are true? (Select two answers) [1.1.f , 1.1.g]

- ☒ A. Servers typically connect to the network via a wired connection.
- ☐ B. Servers typically connect to the network via a wireless connection
- ☐ C. Servers typically utilize DHCP for their IP address
- ☒ D. Servers typically are configured with a static IP address
- ☐ E. Servers and client endpoints typically run the exact same applications



Question-24

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Question-24

+ Which of the following situations would benefit the most from implementing PoE? [1.1.h]

☐

A. To power laptops sitting on employee's desks

☐

B. To power switches that are in locked wiring closets

☐

A. To power Wi-Fi Access Points that have been installed in the ceiling

☐

D. To power smartphones and tablets

☐

E. To power servers connected directly to routers

ANSWER

+ Which of the following situations would benefit the most from implementing PoE? [1.1.h]

☐

A. To power laptops sitting on employee's desks

☐

B. To power switches that are in locked wiring closets

☒

A. To power Wi-Fi Access Points that have been installed in the ceiling

☐

D. To power smartphones and tablets

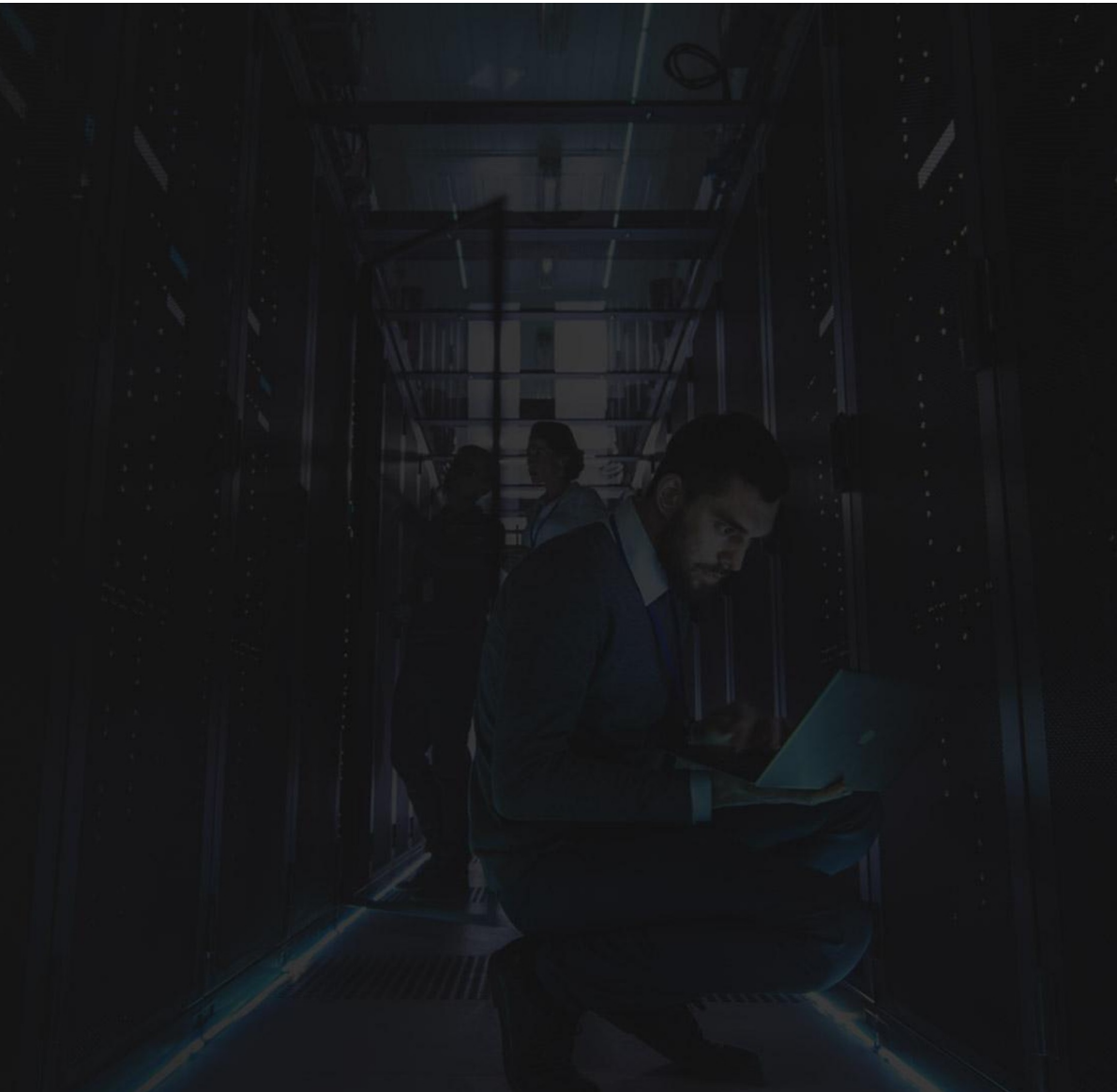
☐

E. To power servers connected directly to routers



Question-25

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Question-25

+ When implementing PoE in your network, which of the following devices would typically fulfill the role of a PSE? [1.1.h]

☐

A. Switch

☐

B. Access Point

☐

C. Server

☐

D. Client Endpoint

☐

E. Controller

ANSWER

+ When implementing PoE in your network, which of the following devices would typically fulfill the role of a PSE? [1.1.h]



A. Switch



B. Access Point



C. Server



D. Client Endpoint

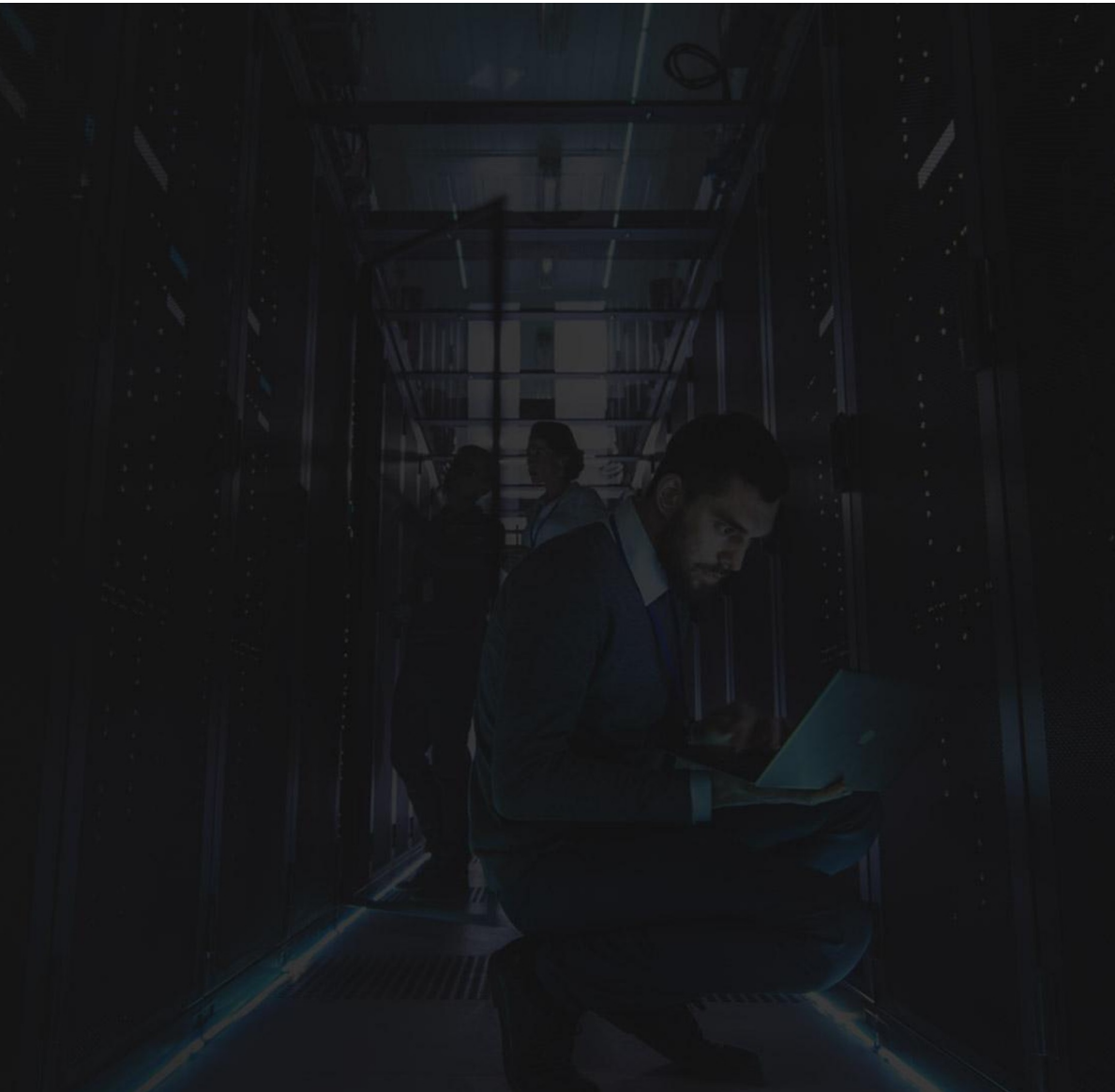


E. Controller



Question-26

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Question-26

+ In a network that has implemented PoE, a WiFi Access Point that has no AC power adapter but is instead using PoE to receive its power is considered to be a [fill-in-the-blank]? [1.1.h]

☐ A. PSE

☐ B. PD

☐ C. PE

☐ D. PO

☐ E. PUD

ANSWER

+ In a network that has implemented PoE, a WiFi Access Point that has no AC power adapter but is instead using PoE to receive its power is considered to be a [fill-in-the-blank]? [1.1.h]

☐

A. PSE

☒

B. PD

☐

C. PE

☐

D. PO

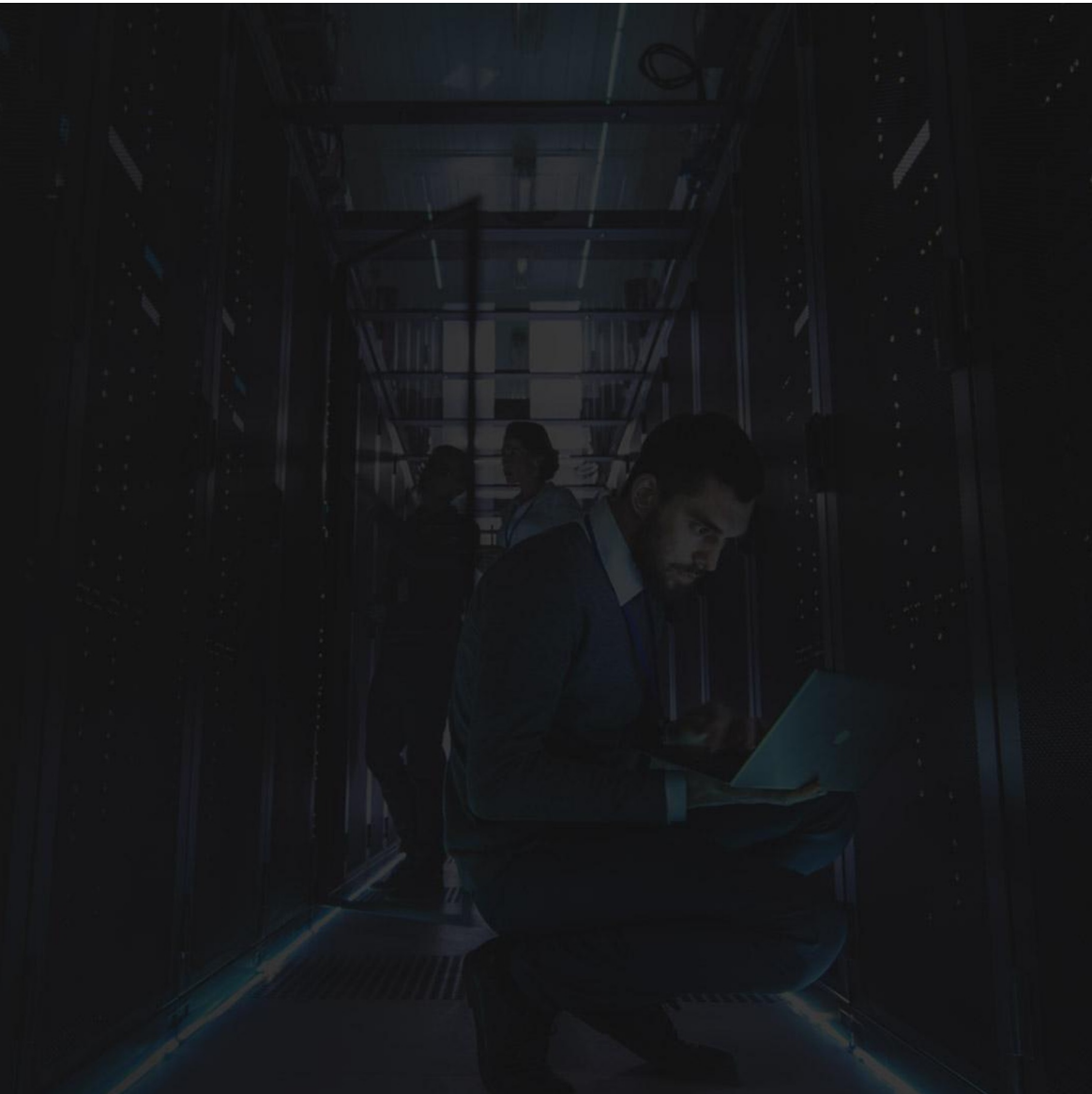
☐

E. PUD



Question-27

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Question-27

+ A device that is powered via PoE will utilize Ethernet autonegotiation techniques to indicate its [fill-in-the-blank]. [1.1.h]

☐

A. PoE Power Class

☐

B. PoE Power Level

☐

C. PoE Power Consumption

☐

D. PoE Power Duration

☐

E. PoE Power Identifier

ANSWER

+ A device that is powered via PoE will utilize Ethernet autonegotiation techniques to indicate its [fill-in-the-blank]. [1.1.h]



A. PoE Power Class



B. PoE Power Level



C. PoE Power Consumption



D. PoE Power Duration



E. PoE Power Identifier



Question-28

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Question-28

+ Which of the following statements about the OSI Model and the TCP/IP Model are true?

(Select three answers)

[OSI Model & TCP/IP Model]

☐

A. The TCP/IP model has four layers

☐

B. The TCP/IP model has seven layers

☐

C. The OSI model has four layers

☐

D. The OSI model has seven layers

☐

E. The TCP/IP model contains a Session layer

☐

F. The OSI model contains a Presentation layer

ANSWER

+ Which of the following statements about the OSI Model and the TCP/IP Model are true?

(Select three answers)

[OSI Model & TCP/IP Model]



A. The TCP/IP model has four layers



B. The TCP/IP model has seven layers



C. The OSI model has four layers



D. The OSI model has seven layers



E. The TCP/IP model contains a Session layer

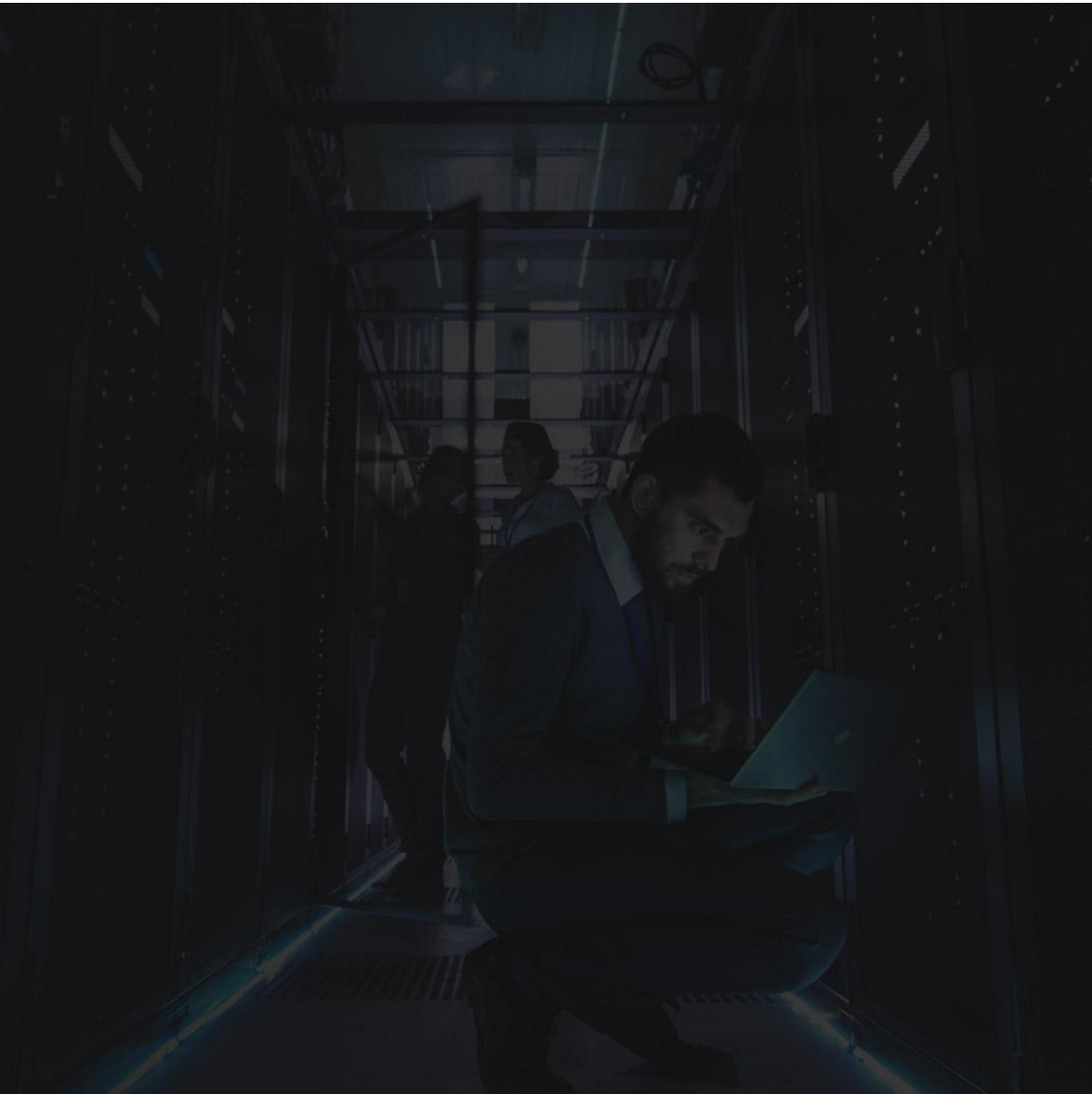


F. The OSI model contains a Presentation layer



Question-29

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Question-29

+ Place the OSI Layers into their correct order (Layer-7 on top) [OSI Model]

Network Layer

Physical Layer

Session Layer

Data Link Layer

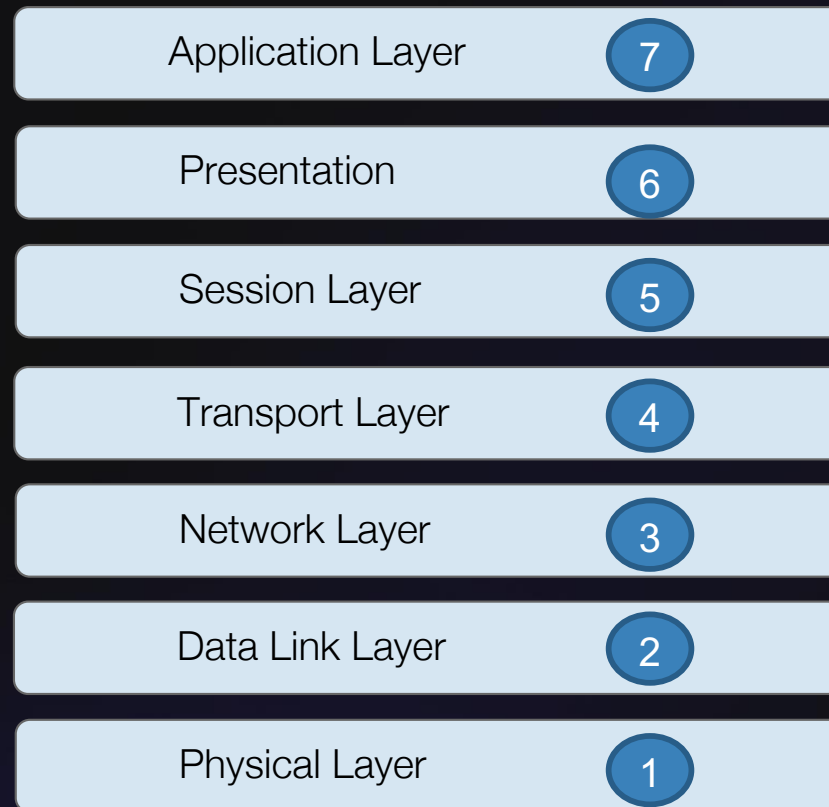
Transport Layer

Presentation

Application Layer

ANSWER

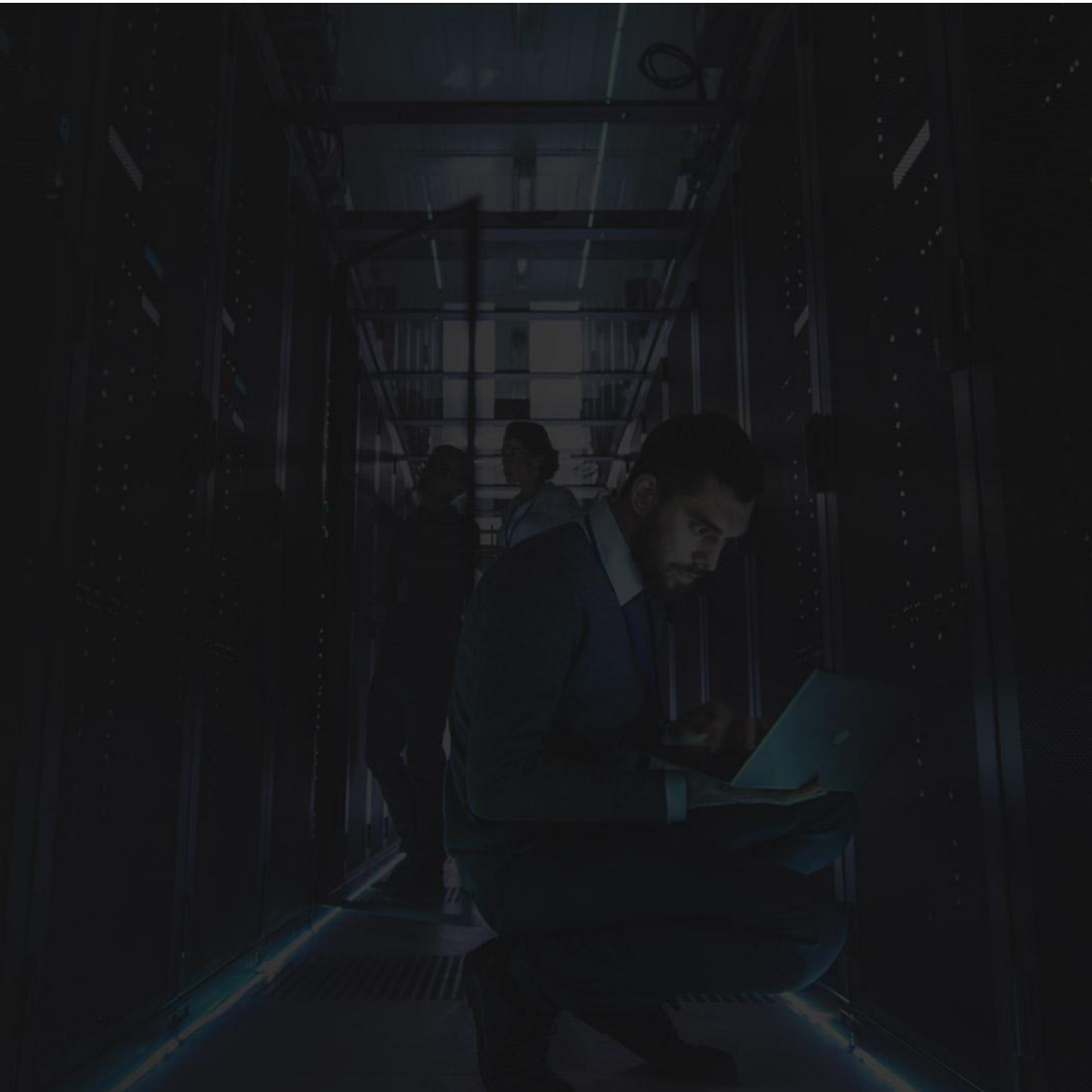
+ Place the OSI Layers into their correct order (Layer-7 on top) [OSI Model]





Question-30

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Question-30

- + Which of the following answers display the correct pairing of a protocol to its associated OSI Model layer? (Select two answers)
[OSI Model]

☐

A. IPv6 – Transport Layer

☐

B. Telnet – Application Layer

☐

C. 802.11 – Data Link Layer

☐

D. OSPF – Session Layer

☐

E. IPv4 – Physical layer

ANSWER

+ Which of the following answers display the correct pairing of a protocol to its associated OSI Model layer? (Select two answers)
[OSI Model]

☐

A. IPv6 – Transport Layer

☒

B. Telnet – Application Layer

☒

C. 802.11 – Data Link Layer

☐

D. OSPF – Session Layer

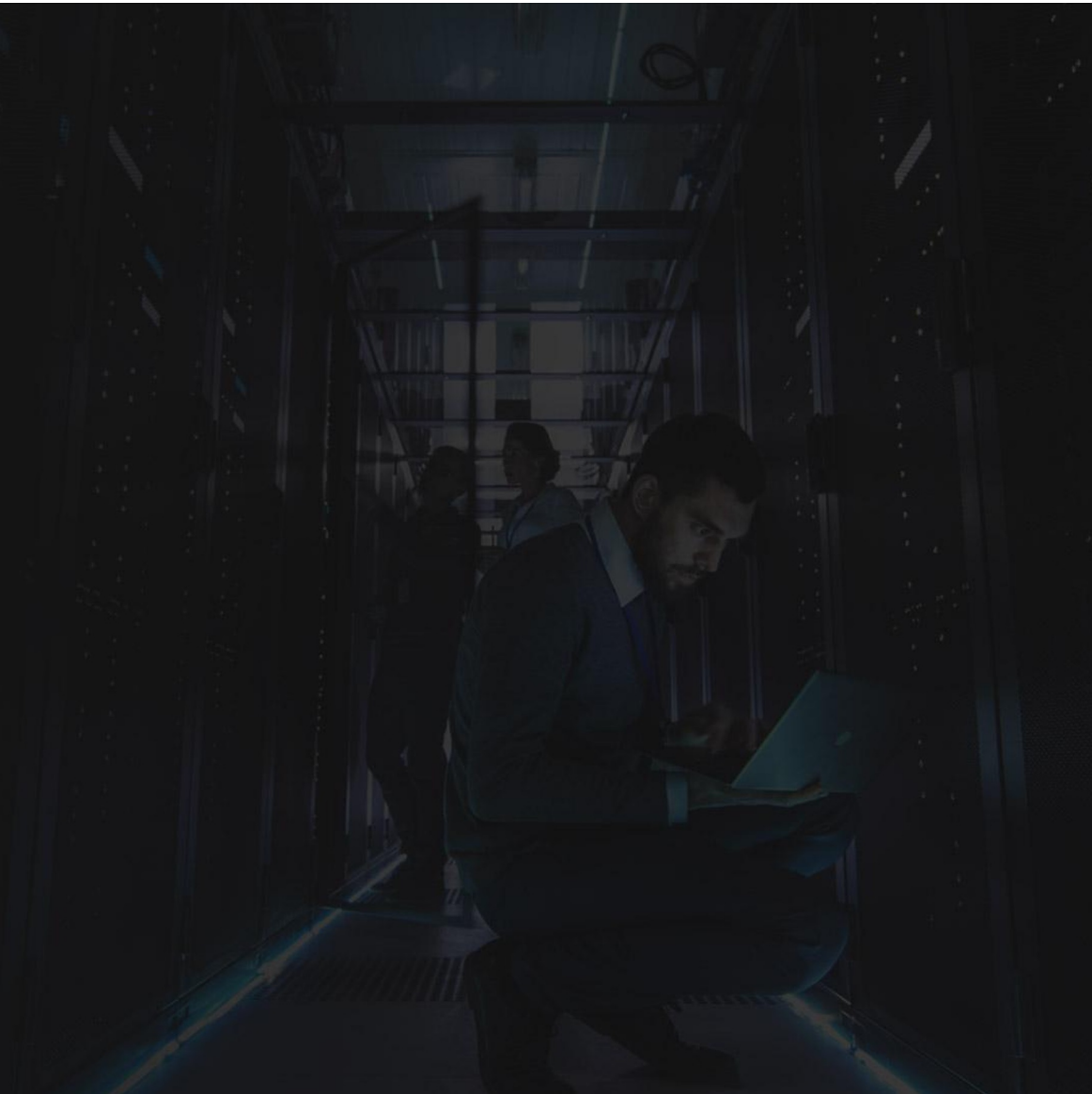
☐

E. IPv4 – Physical layer



Question-31

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Question-31

+ Pair the PDU type with the correct OSI layer that creates it. [OSI Model]

Physical Layer

Data Link Layer

Transport Layer

Network Layer

Frame or Cell

Packet

Segment or Datagram

Bits

ANSWER

+ Pair the PDU type with the correct OSI layer that creates it. [OSI Model]

Physical Layer

Bits

Data Link Layer

Frame or Cell

Transport Layer

Segment or Datagram

Network Layer

Packet



Question-32

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Question-32

- + The process of SSH asking TCP to transmit some data and verifying that it is received correctly is an example of what?
[General Network Modeling]

☐

A. All of these answers are correct

☐

B. OSI Model

☐

C. Adjacent-layer interaction

☐

D. Same-layer interaction

☐

E. Parallel-layer interaction

ANSWER

- + The process of SSH asking TCP to transmit some data and verifying that it is received correctly is an example of what?
[General Network Modeling]

☐ A. All of these answers are correct

☐ B. OSI Model

☒ C. Adjacent-layer interaction

☐ D. Same-layer interaction

☐ E. Parallel-layer interaction



Question-33

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Question-33

- + The process of IP on one computer adding a checksum to its header, and the receiving computer reading that checksum to verify the received packet hasn't been corrupted, is an example of what?

[General Network Modeling]

☐

A. Same-layer interaction

☐

B. Adjacent-layer interaction

☐

C. OSI Model

☐

D. Data Encapsulation

☐

E. All these answers are correct

Answer

- + The process of IP on one computer adding a checksum to its header, and the receiving computer reading that checksum to verify the received packet hasn't been corrupted, is an example of what?

[General Network Modeling]



A. Same-layer interaction



B. Adjacent-layer interaction



C. OSI Model



D. Data Encapsulation



E. All these answers are correct



Thanks for Watching!