DevNet Associate (Version 1.0) – Module 5 Exam Answers

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Module 5: Network Fundamentals Exam Answers

How to find: Press **"Ctrl + F"** in the browser and fill in whatever wording is in the question to find that question/answer. If the question is not here, find it in **Questions Bank**.

NOTE: If you have the new question on this test, please comment Question and Multiple-Choice list in form below this article. We will update answers for you in the shortest time. Thank you! We truly value your contribution to the website.

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1. What command can a technician use on a computer to see if DNS is functioning properly?

- ipconfig
- net share
- **nslookup**
- net use

Explanation: The nslookup command can be used to test DNS functionality.

2. Which two OSI model layers have the same functionality as two layers of the TCP/IP model? (Choose two.)

- physical
- data link
- **network**
- **transport**
- session

Explanation: The OSI transport layer is functionally equivalent to the TCP/IP transport layer, and the OSI network layer is equivalent to the TCP/IP Internet layer. The OSI data link and physical layers together are equivalent to the TCP/IP network access layer. The OSI session layer (with the presentation layer) is included within the TCP/IP application layer.

3. What is one advantage of using the cut-through switching method instead of the store-and-forward switching method?

- provides the flexibility to support any of Ethernet speeds
- **has a lower latency appropriate for high-performance computing applications**
- makes a fast forwarding decision based on the source MAC address of the frame
- has a positive impact on bandwidth by dropping most of the invalid frames

Explanation: Cut-through switching provides lower latency switching for high-performance computing (HPC) applications. Cut-through switching allows more invalid frames to cross the network than store-and-forward switching. The cut-through switching method can make a forwarding decision as soon as it looks up the destination MAC address of the frame.

4. Which solution improves web response time by deploying multiple web servers and DNS servers?

- memcaching
- distributed databases
- sharding
- **load balancing**

Explanation: Maintaining availability is the primary concern for companies working with big data. Some solutions to improve the availability include the following:
Load Balancing – deploying multiple web servers and DNS servers to respond to requests simultaneously
Distributed Databases – improving database access speed and demands
Memcaching – offloading demand on database servers by keeping frequently requested data available in memory for fast access
Sharding – partitioning a large relational database across multiple servers to improve search speed

5. What will a host on an Ethernet network do if it receives a frame with a unicast destination MAC address that does not match its own MAC address?

- It will remove the frame from the media.
- It will forward the frame to the next host.
- It will strip off the data-link frame to check the destination IP address.
- **It will discard the frame.**

Explanation: In an Ethernet network, each NIC in the network checks every arriving frame to see if the destination MAC address in the frame matches its own MAC address. If there is no match, the device discards the frame. If there is a match, the NIC passes the frame up to

the next OSI layer.

6. What is the common term given to SNMP log messages that are generated by network devices and sent to the SNMP server?

- auditing
- warnings
- acknowledgments
- **traps**

Explanation: Network devices being monitored by the SNMP protocol can be configured to generate log messages that are sent to an SNMP server. The log messages, also called traps, contain all type of information from simple status reports to complex urgent conditions that require immediate attention.

7. What is the function of the Nslookup utility?

- to manually force a client to send a DHCP request
- to display all cached DNS entries on a host
- to view the network settings on a host
- **to manually query the name servers to resolve a given host name**

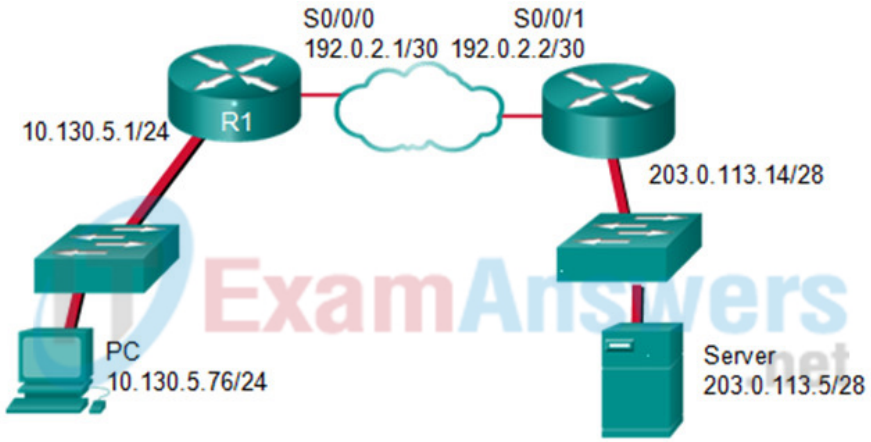
Explanation: Nslookup is a command-line utility that is used to send a query to DNS servers to resolve a specific host name to an IP address.

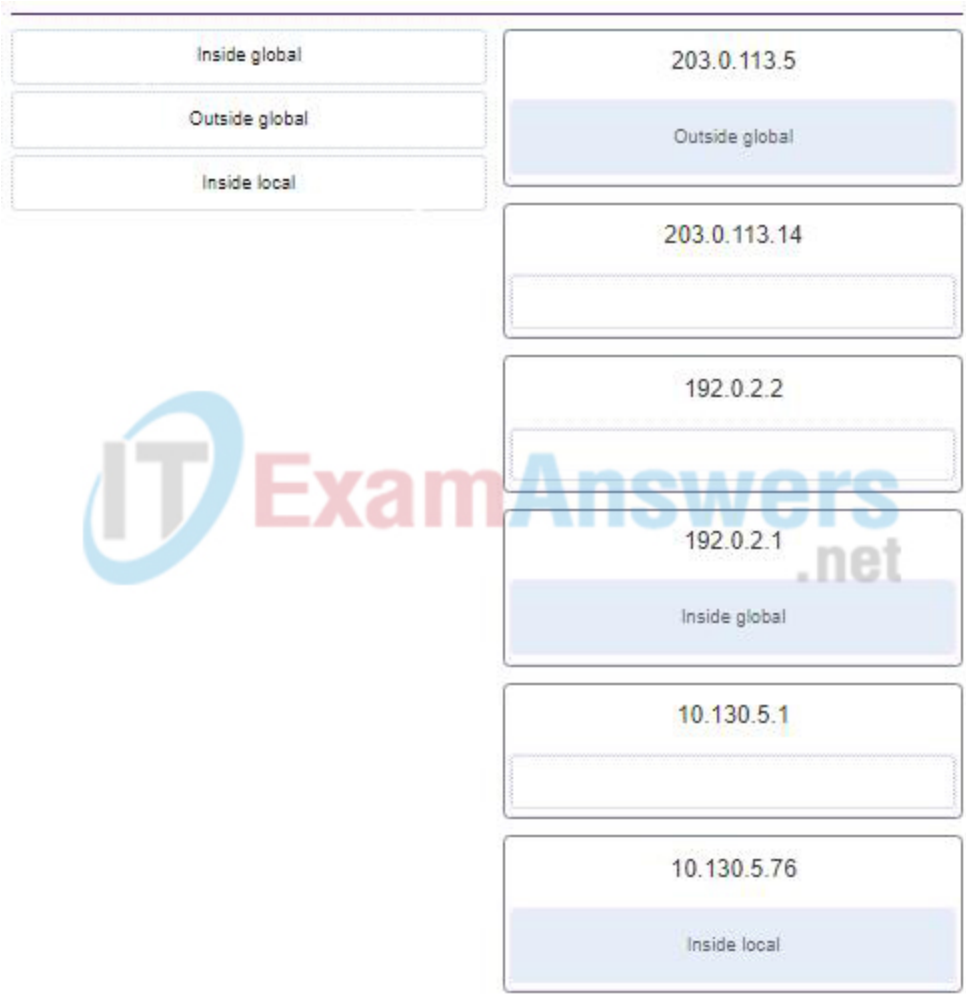
8. What type of address is 01-00-5E-0A-00-02?

- an address that reaches every host in the network
- an address that reaches every host inside a local subnet
- **an address that reaches a specific group of hosts**
- an address that reaches one specific host

Explanation: The multicast MAC address is a special value that begins with 01-00-5E in hexadecimal. It allows a source device to send a packet to a group of devices.

9. Refer to the exhibit. The PC is sending a packet to the Server on the remote network. Router R1 is performing NAT overload. From the perspective of the PC, match the NAT address type with the correct IP address. (Not all options are used.)





Explanation: The inside local address is the private IP address of the source or the PC in this instance. The inside global address is the translated address of the source or the address as seen by the outside device. Since the PC is using the outside address of the R1 router, the inside global address is 192.0.2.1. The outside addressing is simply the address of the server or 203.0.113.5.

10. Match the OSI layer to the layer number. (Not all options are used.)

7	internet layer
6	
5	physical layer
4	1
3	session layer
2	5
1	presentation layer
	6
	transport layer
	4
	data link layer
	2
	network access layer
	application layer
	7
	network layer

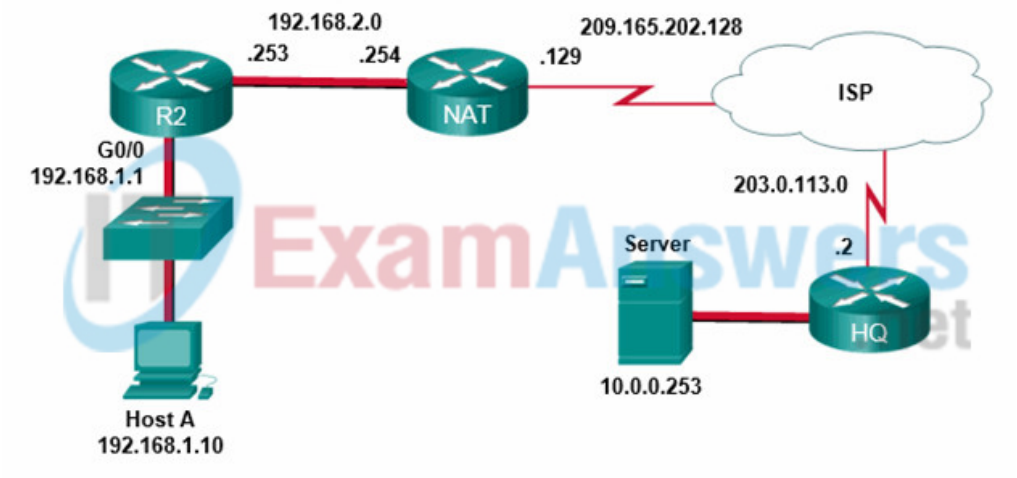
3

11. A high school in New York (school A) is using videoconferencing technology to establish student interactions with another high school (school B) in Russia. The videoconferencing is conducted between two end devices through the Internet. The network administrator of school A configures the end device with the IP address 209.165.201.10. The administrator sends a request for the IP address for the end device in school B and the response is 192.168.25.10. Neither school is using a VPN. The administrator knows immediately that this IP will not work. Why?

- This is a link-local address.
- **This is a private IP address.**
- There is an IP address conflict.
- This is a loopback address.

Explanation: The IP address 192.168.25.10 is an IPv4 private address. This address will not be routed over the Internet, so school A will not be able to reach school B. Because the address is a private one, it can be used freely on an internal network. As long as no two devices on the internal network are assigned the same private IP, there is no IP conflict issue. Devices that are assigned a private IP will need to use NAT in order to communicate over the Internet.

12. Refer to the exhibit. An organization is using static NAT to translate the private IP address of Host A to a single public IP address leased from the ISP. Which address is the inside global address of Host A?



- **209.165.202.129**
- 203.0.113.2
- 192.168.2.253
- 192.168.1.1

- 192.168.1. 10

Explanation: There are four NAT address types. Listed below are the four types from the perspective of Host A behind the NAT device:
Inside local: 192.168.1.10
Inside global: 209.165.202.128
Outside local: 10.0.0.253
Outside global: 203.0.113.2

13. Consider the following routing table entry for R1:

```
D 10.1.1.0/24 [90/2170112] via 209.165.200.226, 00:00:05, Serial0/0/0
```

What is the significance of the Serial0/0/0?

- It is the interface on the final destination router that is directly connected to the 10.1.1.0/24 network.
- It is the R1 interface through which the EIGRP update was learned.
- It is the interface on the next-hop router when the destination IP address the 10.1.1.0/24 network.
- **It is the interface on R1 used to send data that is destined for 10.1.1.0/24.**

Explanation: The Serial0/0/0 indicates the outgoing interface on R1 that is used to send packets for the 10.1.1.0/24 destination network.

14. A device has an IPV6 address listed as 2001:0DB8:75a3:0214:0607:1234:aa10:ba01. What is the interface ID of the device?

- 2001:0DB8:75a3
- ba01
- **0607:1234:aa10:ba01**
- 2001:0DB8

Explanation: An IPv6 address comprises 128 bits represented as eight blocks of four hexadecimal digits. The last four blocks of the address represent the interface ID and is controlled by the administrator.

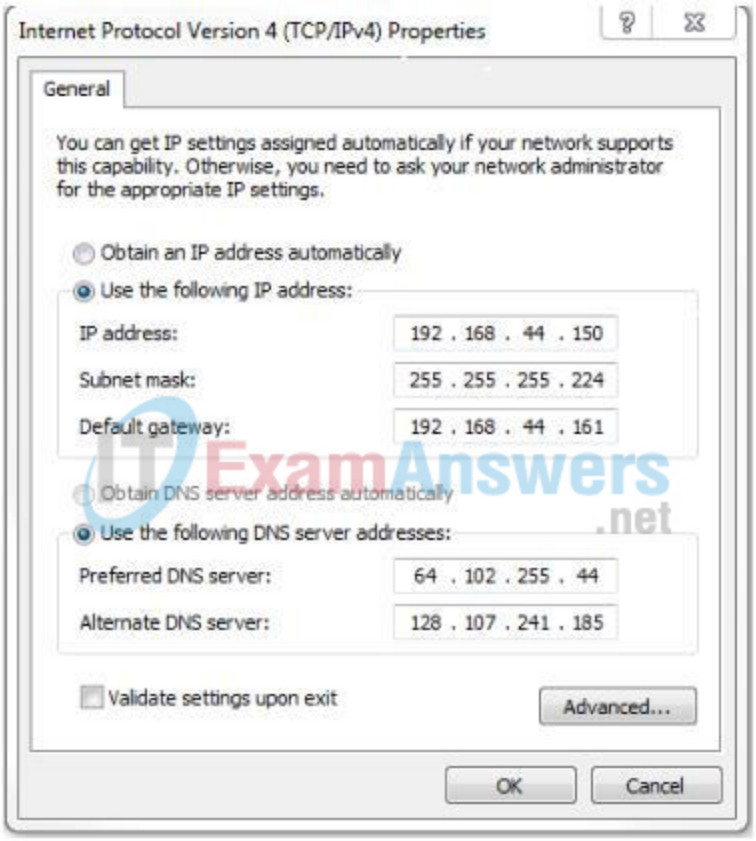
15. In what two situations would UDP be the preferred transport protocol over TCP? (Choose two.)

- when applications need to guarantee that a packet arrives intact, in sequence, and unduplicated
- **when a faster delivery mechanism is needed**
- when delivery overhead is not an issue

- **when applications do not need to guarantee delivery of the data**
- when destination port numbers are dynamic

Explanation: UDP is a stateless protocol, which means that neither device on either end of the conversation must keep track of the conversation. As a stateless protocol, UDP is used as the Layer 4 protocol for applications that need speedy (best-effort) delivery. An example of such traffic is the transport of digitized voice or video.

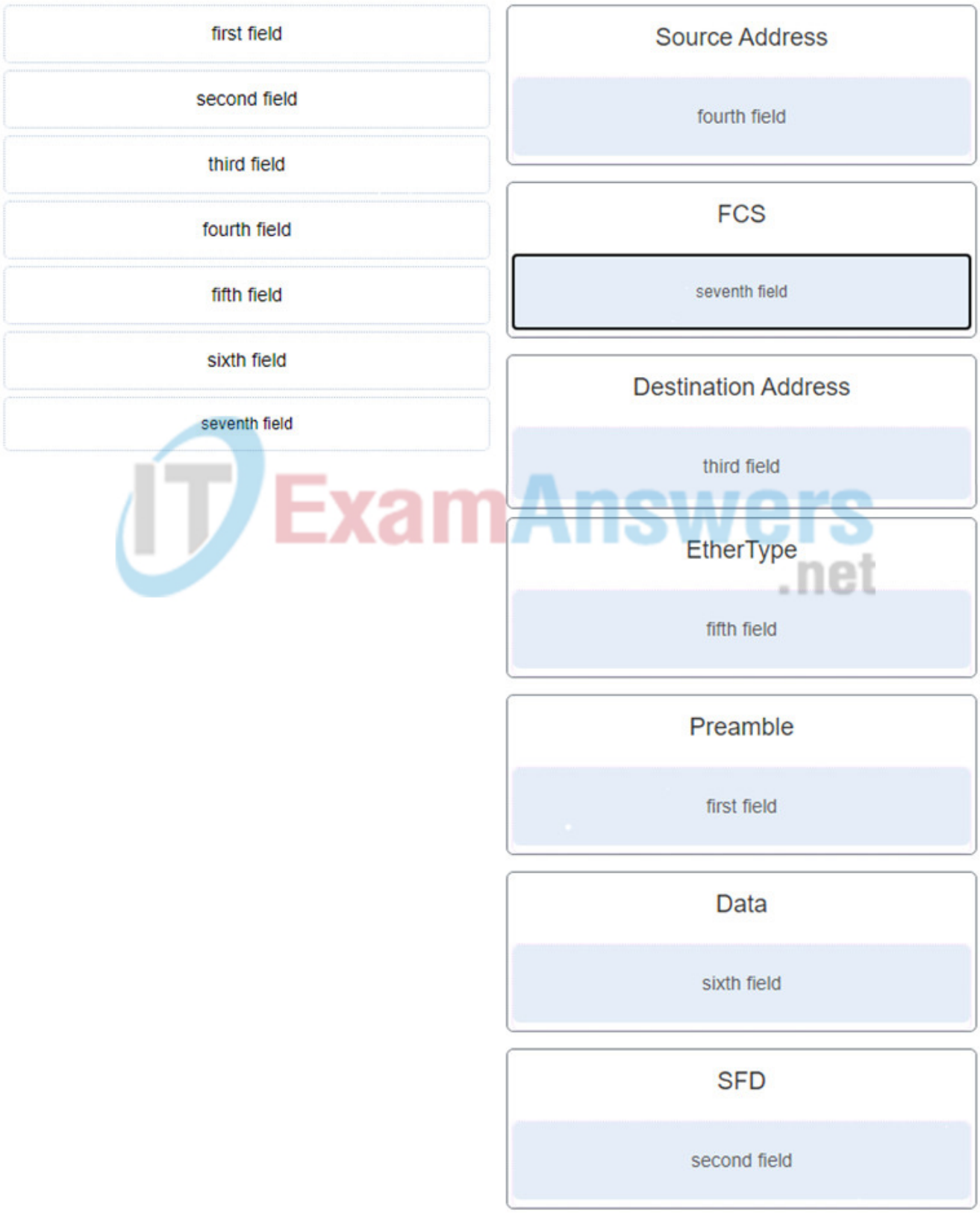
16. Refer to the exhibit. A computer that is configured with the IPv4 address as shown in the exhibit is unable to access the internet. What is the problem?



- **The gateway address is in the wrong subnet.**
- The IP address is a network address.
- The settings were not validated.
- The IP address is a broadcast address.

Explanation: The subnet mask of 255.255.255.224 identifies the network of 192.168.44.128. The usable range for the network is 192.168.44.129 through 192.168.44.158. The default gateway address of 192.168.44.161 exists on a separate network from the PC it is configured on.

17. Match the Layer 2 frame field names to the correctly ordered locations for an Ethernet frame. Fields should be ordered from the beginning of the Ethernet frame to the end.



Explanation: The Ethernet frame contains seven fields. In order these fields are: preamble, SFD, destination address, source address, type, data, and FCS.

18. What IPv4-related DNS record type is used by a DNS server in response to a host requesting for a web server address via the URL?

- AAAA record
- NS record
- **A record**
- MX record

Explanation: A DNS server uses an A record type for an IPv4 end device address. The AAAA record is for an IPv6 end device address. The MX record is used to map the domain name to mail exchange servers. The NS record indicates the authoritative name server.

19. In what two situations would UDP be better than TCP as the preferred transport protocol? (Choose two.)

- when applications need to guarantee that a packet arrives intact, in sequence, and unduplicated
- **when a faster delivery mechanism is needed**
- when delivery overhead is not an issue
- **when applications do not need to guarantee delivery of the data**
- when destination port numbers are dynamic

Explanation: UDP is a very simple transport layer protocol that does not guarantee delivery. Devices on both ends of the conversation are not required to keep track of the conversation. UDP is used as the transport protocol for applications that need a speedy, best-effort delivery.