CCNA 1 Chapter 6 2016 v5.1 Answers 100%

1. Which characteristic of the network layer in the OSI model allows carrying packets for multiple types of communications among many hosts?
- the de-encapsulation of headers from lower layers
- the selection of paths for and direct packets toward the destination
- **the ability to operate without regard to the data that is carried in each packet**
- the ability to manage the data transport between processes running on hosts

2. What are two characteristics of IP? (Choose two.)
- **does not require a dedicated end-to-end connection**
- **operates independently of the network media**
- retransmits packets if errors occur
- re-assembles out of order packets into the correct order at the receiver end
- guarantees delivery of packets

3. When a connectionless protocol is in use at a lower layer of the OSI model, how is missing data detected and retransmitted if necessary?
- Connectionless acknowledgements are used to request retransmission.
- **Upper-layer connection-oriented protocols keep track of the data received and can request retransmission from the upper-level protocols on the sending host.**
- Network layer IP protocols manage the communication sessions if connection-oriented transport services are not available.
- The best-effort delivery process guarantees that all packets that are sent are received.

4. Which field in the IPv4 header is used to prevent a packet from traversing a network endlessly?
- **Time-to-Live**
- Sequence Number
- Acknowledgment Number
- Differentiated Services

5. What IPv4 header field identifies the upper layer protocol carried in the packet?
- **Protocol**
- Identification
- Version
- Differentiated Services

6. What is one advantage that the IPv6 simplified header offers over IPv4?
- smaller-sized header
- little requirement for processing checksums
- smaller-sized source and destination IP addresses

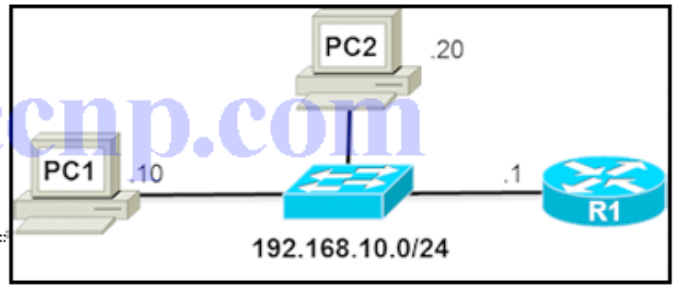
- **efficient packet handling**

7. **Refer to the exhibit. Which route from the PC1 routing table will be used to reach PC2?**

```
C:\Users\PC1> netstat -r

<Output omitted>

IPv4 Route Table
===========================================================================
Active Routes:
Network Destination        Netmask          Gateway       Interface  Metric
          0.0.0.0          0.0.0.0    192.168.10.1    192.168.10.10      25
        127.0.0.0        255.0.0.0         On-link         127.0.0.1     306
        127.0.0.1  255.255.255.255         On-link         127.0.0.1     306
  127.255.255.255  255.255.255.255         On-link         127.0.0.1     306
    192.168.10.0    255.255.255.0         On-link    192.168.10.10     281
   192.168.10.10  255.255.255.255         On-link    192.168.10.10     281
  192.168.10.255  255.255.255.255         On-link    192.168.10.10     281
        224.0.0.0        240.0.0.0         On-link         127.0.0.1     306
        224.0.0.0        240.0.0.0         On-link    192.168.10.10     281
  255.255.255.255  255.255.255.255         On-link         127.0.0.1     306
  255.255.255.255  255.255.255.255         On-link    192.168.10.10     281
===========================================================================
```



CCNA1 Chapter 6 v5.1 001

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Network Destination	Netmask	Gateway	Interface	Metric
0.0.0.0	0.0.0.0	192.168.10.1	192.168.10.10	25

CCNA1 Chapter 6 Exam 001 opt 1

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Network Destination	Netmask	Gateway	Interface	Metric
127.0.0.1	255.255.255.255	On-link	127.0.0.1	306

CCNA1 Chapter 6 Exam 001 opt 2

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Network Destination	Netmask	Gateway	Interface	Metric
192.168.10.0	255.255.255.0	On-link	192.168.10.10	281

CCNA1 Chapter 6 Exam 001 opt 3

- .

Network Destination	Netmask	Gateway	Interface	Metric
192.168.10.10	255.255.255.255	On-link	192.168.10.10	281

CCNA1 Chapter 6 Exam 001 opt 4

8. **Refer to the exhibit. R1 receives a packet destined for the IP address 192.168.2.10. Out which interface will R1 forward the packet?**

```
R1# show ip route
<output omitted>

 172.16.0.0/24 is subnetted, 3 subnets
D       172.16.10.0 [90/2297856] via 172.16.1.2, 00:06:49, <output omitted>
C       172.16.11.0 is directly connected, FastEthernet0/1
C       172.16.1.0 is directly connected, Serial0/0/1
     10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
C       10.10.1.0/24 is directly connected, FastEthernet0/1
C       10.3.3.0/24 is directly connected, FastEthernet0/0
C       10.1.0.0/16 is directly connected, Serial0/0/0
D    192.168.1.0/24 [90/2681856] via 172.16.1.2, 00:07:42, <output omitted>
                    [90/2681856] via 10.1.1.2, 00:07:42, <output omitted>
D    192.168.2.0/24 [90/2297856] via 172.16.1.2, 00:06:34, <output omitted>
C    192.168.3.0/24 is directly connected, FastEthernet0/0
```

CCNA1 Chapter 6 v5.1 002

- **FastEthernet0/0**
- **FastEthernet0/1**
- **Serial0/0/0**
- **Serial0/0/1**

9. **What type of route is indicated by the code C in an IPv4 routing table on a Cisco router?**
- **static route**
- **default route**
- **directly connected route**
- **dynamic route that is learned through EIGRP**

10. What routing table entry has a next hop address associated with a destination network?
- directly-connected routes
- local routes
- **remote routes**
- C and L source routes

11. Which statement describes a hardware feature of a Cisco 1941 router that has the default hardware configuration?
- It does not have an AUX port.
- It has three FastEthernet interfaces for LAN access.
- **It has two types of ports that can be used to access the console.**
- It does not require a CPU because it relies on Compact Flash to run the IOS.

12. Following default settings, what is the next step in the router boot sequence after the IOS loads from flash?
- Perform the POST routine.
- **Locate and load the startup-config file from NVRAM.**
- Load the bootstrap program from ROM.
- Load the running-config file from RAM.

13. What are two types of router interfaces? (Choose two.)
- SVI
- **LAN**
- DHCP
- Telnet
- **WAN**

14. Which two pieces of information are in the RAM of a Cisco router during normal operation? (Choose two.)
- **Cisco IOS**
- backup IOS file
- **IP routing table**
- basic diagnostic software
- startup configuration file

15. A router boots and enters setup mode. What is the reason for this?
- The IOS image is corrupt.
- Cisco IOS is missing from flash memory.
- **The configuration file is missing from NVRAM.**
- The POST process has detected hardware failure.

16. What is the purpose of the startup configuration file on a Cisco router?
- to facilitate the basic operation of the hardware components of a device

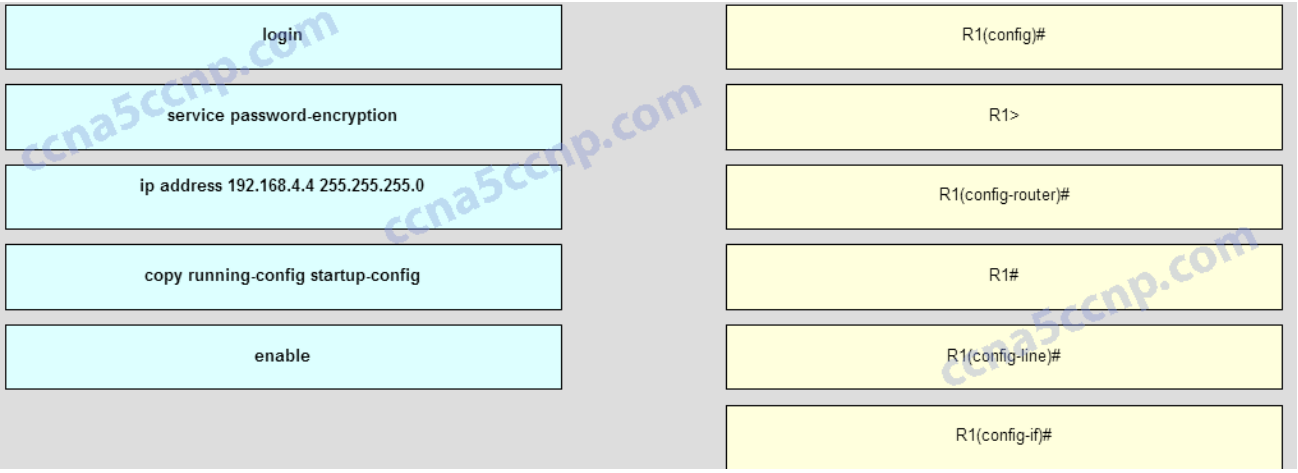
- to contain the commands that are used to initially configure a router on startup
- to contain the configuration commands that the router IOS is currently using
- to provide a limited backup version of the IOS, in case the router cannot load the full featured IOS

17. Which three commands are used to set up secure access to a router through a connection to the console interface? (Choose three.)
- interface fastethernet 0/0
- line vty 0 4
- line console 0
- enable secret cisco
- login
- password cisco

18. Which characteristic describes an IPv6 enhancement over IPv4?
- IPv6 addresses are based on 128-bit flat addressing as opposed to IPv4 which is based on 32-bit hierarchical addressing.
- The IPv6 header is simpler than the IPv4 header is, which improves packet handling.
- Both IPv4 and IPv6 support authentication, but only IPv6 supports privacy capabilities.
- The IPv6 address space is four times bigger than the IPv4 address space.

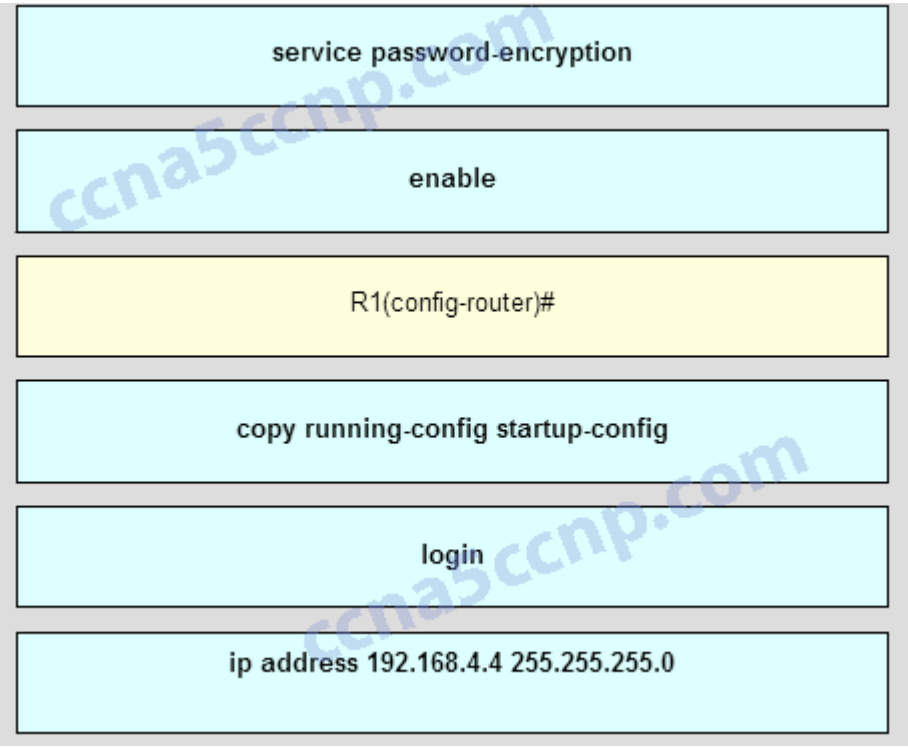
19. Open the PT Activity. The enable password on all devices is cisco. Perform the tasks in the activity instructions and then answer the question. For what reason is the failure occurring?
- PC1 has an incorrect default gateway configured.
- SW1 does not have a default gateway configured.
- The IP address of SW1 is configured in a wrong subnet.
- PC2 has an incorrect default gateway configured.

20. Match the command with the device mode at which the command is entered. (Not all options are used.)
- Question



CCNA1 Chapter 6 v5.1 001 Question

- **Answer**



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