Started on	Wednesday, 19 November 2025, 4:27 PM
State	Finished
Completed on	Wednesday, 19 November 2025, 4:29 PM
Time taken	2 mins 14 secs
Marks	5.00/10.00
Grade	**50.00** out of 100.00

Question 1

Complete

Mark 1.00 out of 1.00

A client resolves www.example.com via DNS. The response includes an A record with a TTL of 300 seconds. After 2 minutes, the client makes another request to www.example.com. What will most likely happen?

a. The client queries the authoritative server directly, skipping cache
b. The client uses its cache and does not query any DNS server
c. The client must perform a full DNS lookup again
d. The client sends a query only to the root DNS servers

Question 2

Complete

Mark 1.00 out of 1.00

A host has correct IP and subnet mask and can ping its default gateway. However, when it tries to access www.example.com, it fails with "server not found." It cannot ping the domain name, but it can ping 93.184.216.34. Which configuration is most likely wrong?

a. Default gateway IP
b. Subnet mask
c. DNS server configuration
d. MAC address of the router

Question 3

Complete

Mark 1.00 out of 1.00

A PC has IP 192.168.1.10/24 and default gateway 192.168.1.1. It sends a packet to 8.8.8.8. What does the PC do at the link-layer?

a. ARPs for 192.168.1.1 and sends the frame to the router's MAC
b. Drops the packet because 8.8.8.8 is not in the same subnet
c. Sends the packet to the router's IP using a broadcast MAC
d. ARPs for 8.8.8.8 and sends the frame to that MAC

Question 4

Complete

Mark 0.00 out of 1.00

A switch receives a frame on port 3 with source MAC AA:AA:AA:AA:AA:AA and destination MAC BB:BB:BB:BB:BB:BB. The MAC table currently has no entry for either MAC. What does the switch do?

- a. Drops the frame because it doesn't know the destination
- b. Sends the frame only out port 3
- c. Sends an ARP request for BB:BB:BB:BB:BB:BB
- d. Floods the frame out all ports except port 3

Question 5

Complete

Mark 1.00 out of 1.00

An administrator wants app.example.com to simply point to web01.example.com, such that if web01's IP changes, app.example.com automatically resolves to the new IP without changing its own record. Which DNS record type should be used for app.example.com?

- a. MX record
- b. CNAME record
- c. A record
- d. AAAA record

Question 6

Complete

Mark 0.00 out of 1.00

In a small legacy network, a single hub connects 4 PCs. The hub is then replaced by an Ethernet switch with the same 4 PCs connected. What changes with respect to collision domains?

- a. Collisions no longer occur, but collision domains remain the same
- b. Number of collision domains becomes 4
- c. Number of collision domains stays 1
- d. Number of collision domains becomes 2

Question 7

Complete

Mark 0.00 out of 1.00

The first 24 bits (first three octets) of a MAC address are called the OUI (Organizationally Unique Identifier). What is their purpose?

- a. Identify the network segment to which the host belongs
- b. Identify the IP subnet of the device
- c. Identify the vendor/manufacturer of the network interface
- d. Identify the VLAN ID associated with that MAC

Question 8

Complete

Mark 0.00 out of 1.00

Two switches are connected with two parallel cables between them (port 1–port 1, and port 2–port 2). STP (Spanning Tree Protocol) is running and both links are in the same VLAN. What is the expected behavior?

a. STP only works on routers, not switches
b. STP shuts down both links and stops all traffic
c. Both links forward traffic and create a loop
d. STP blocks one of the links to prevent a loop

Question 9

Complete

Mark 1.00 out of 1.00

Which of the following is a valid Ethernet broadcast destination MAC address?

a. 08:00:27:12:34:56
b. 01:00:5E:00:00:01
c. 00:00:00:00:00:00
d. FF:FF:FF:FF:FF:FF

Question 10

Complete

Mark 0.00 out of 1.00

You have a single switch with 20 PCs all in the same VLAN. You add a router and connect it to the switch on one port, but do not configure VLANs or additional interfaces. How many broadcast domains exist now?

a. 20
b. 1
c. 2
d. 21