ALGONQUIN COLLEGE

Chapter 5 Review

Q1. From the Command prompt of your PC, what command can you use to discover the MAC address of your gateway interface?

A) arp -d *

B) arp -a

C) arp -c

D) ipconfig /arp

ANSWER ON LAST SLIDE

ARP Tables on Networking Devices (cont.)

Host ARP Table

```
C:\> arp -a

Interface: 192.168.1.67 --- 0xa
  Internet Address      Physical Address      Type
  192.168.1.254         64-0f-29-0d-36-91     dynamic
  192.168.1.255         ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static

Interface: 10.82.253.91 --- 0x10
  Internet Address      Physical Address      Type
  10.82.253.92          64-0f-29-0d-36-91     dynamic
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static
```

Q2. Which layers of the OSI protocol stack are implemented by Ethernet?

A) Physical

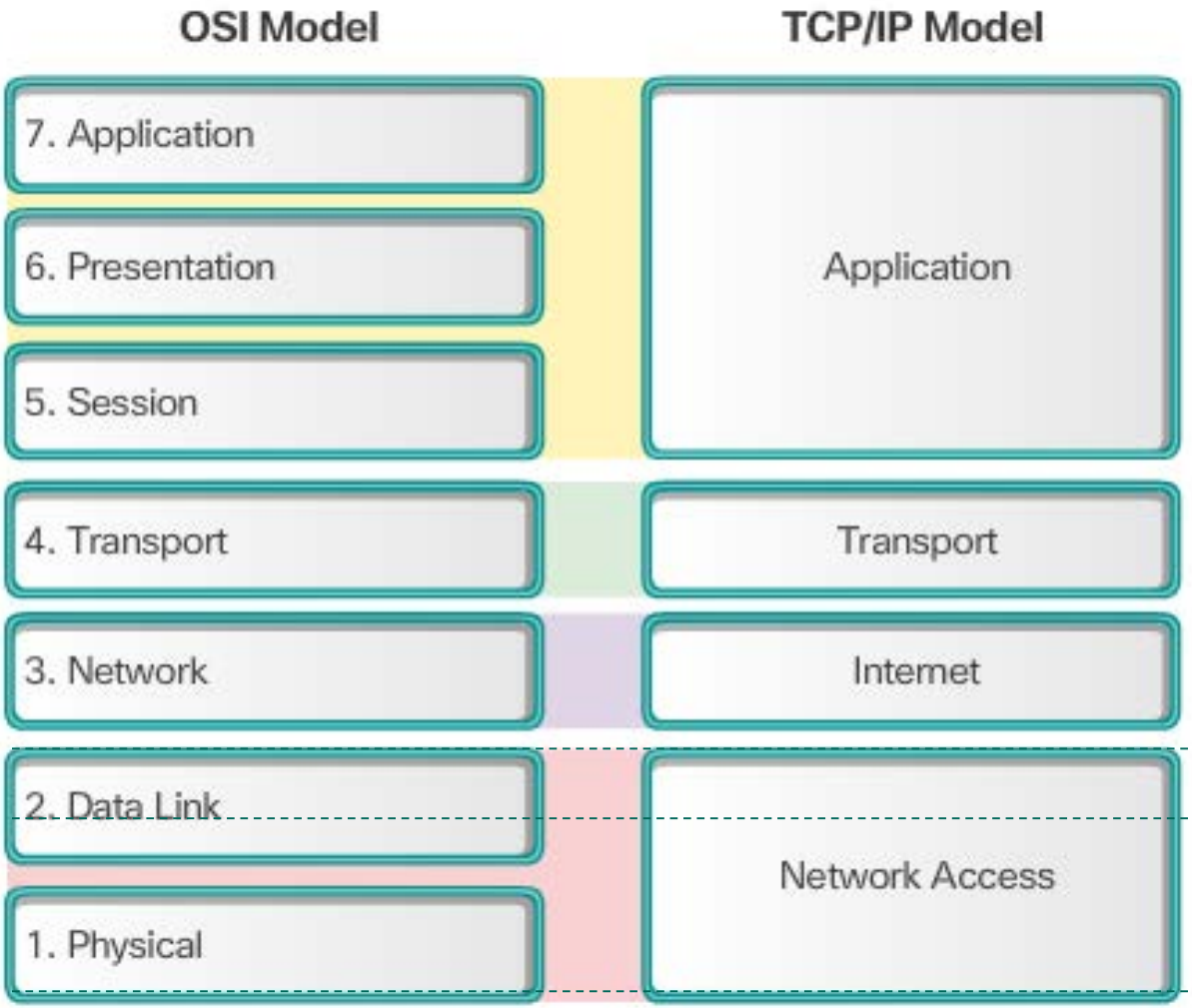
B) Data Link

C) Data Link and Network

D) Physical and Data Link

ANSWER ON LAST SLIDE

Ethernet Protocol



Ethernet

Logical Link Control - LLC

Media Access Control
MAC

Q3. Which network device(s) break the collision domain?

A) Router and Ethernet Switch

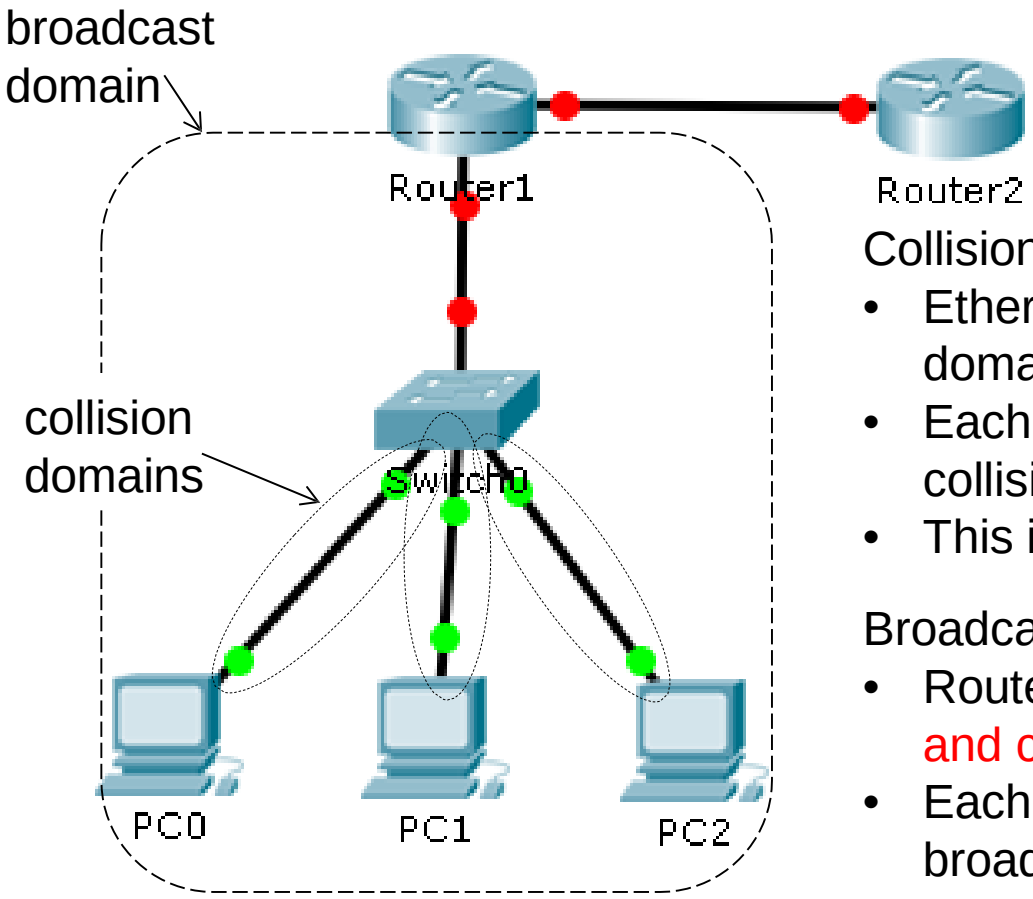
B) Router only

C) Ethernet Switch only

D) Ethernet Switch and Hub.

ANSWER ON LAST SLIDE

Collision Domain & Broadcast Domain: Ethernet Switched Network



Collision Domain:

- Ethernet Switches break up collision domains into point-to-point links.
- Each Switch port forms a separate collision domain
- This is due to the switching function

Broadcast Domain:

- Routers break up broadcast domains and collision domains
- Each Router port forms a separate broadcast domain
- Routers do not forward broadcasts
- The switch prevents collisions in the broadcast domain.

This is important for capacity planning

Q4. What is cut-through switching?

A)It is when a switch forwards a frame right after receiving the source MAC address but before receiving the entire frame.

B) It is when a switch forwards a frame right after receiving the destination IP address but before receiving the entire frame.

C)It is when a switch forwards a frame right after receiving the destination MAC address but before receiving the entire frame.

D) It is when a switch forwards a frame after receiving the entire frame.

ANSWER ON LAST SLIDE

Frame Forwarding Methods on Cisco Switches

Store-and-forward

A store-and-forward switch receives the entire frame, and computes the CRC. If the CRC is valid, the switch looks up the destination address, which determines the outgoing interface. The frame is then forwarded out the correct port.

Cut-through

A cut-through switch forwards the frame before it is entirely received. At a minimum, the destination address of the frame must be read before the frame can be forwarded.

Q5. What type of transmission is used to send the ARP request and the ARP response?

A) The ARP request is multicast whereas the ARP response is unicast.

B) The ARP request is broadcast and the ARP response is broadcast.

C) The ARP request is broadcast whereas the ARP response is unicast.

D) The ARP request is unicast whereas the ARP response is broadcast.

ANSWER ON LAST SLIDE

Q6. When a PC in one network segment sends a message to a PC in another segment, which Destination MAC Address is placed in the Frame header?

A) Switch to which the Source PC is connected.

B) Destination PC MAC Address

C) The router interface to which the destination PC is connected.

D) Gateway Interface MAC Address

ANSWER ON LAST SLIDE

Answers

Q1: B

Q2: D

Q3: A

Q4: C

Q5: C

Q6: D