ALGONQUIN COLLEGE

WEEK 4 REVIEW PART II

Q1. A PC has IP Address: 25.10.45.21 and Mask: 255.255.255.0
Which one of the following host IP Addresses is in the same network segment?

A) 25.10.46.21 with Mask 255.255.255.0

B) 25.10.45.0 with Mask 255.255.255.0

C) 25.10.45.37 with Mask: 255.255.255.0

D) 0.10.45.21 with Mask 255.255.255.0

ANSWER ON LAST SLIDE

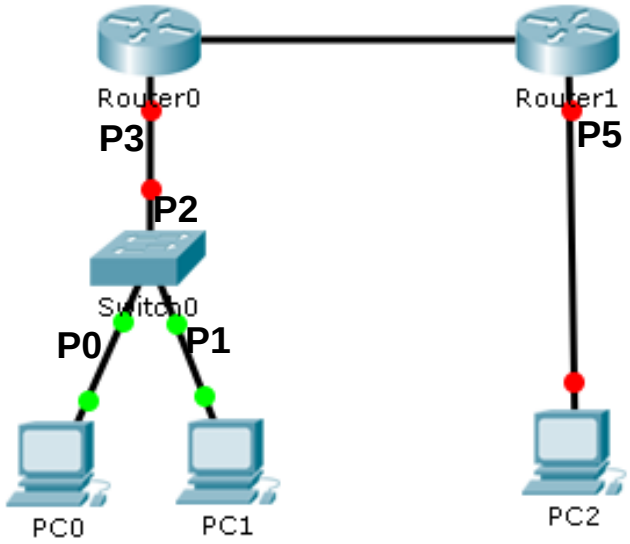
Q2. PC0 needs to send a frame to PC1. PC0 broadcasts an ARP request to learn the MAC address of which device?

A) Interface at Switch0, port P0

B) Interface at PC1

C) Interface at Router0, port P3

D) Interface at Switch0, port P1



ANSWER ON LAST SLIDE

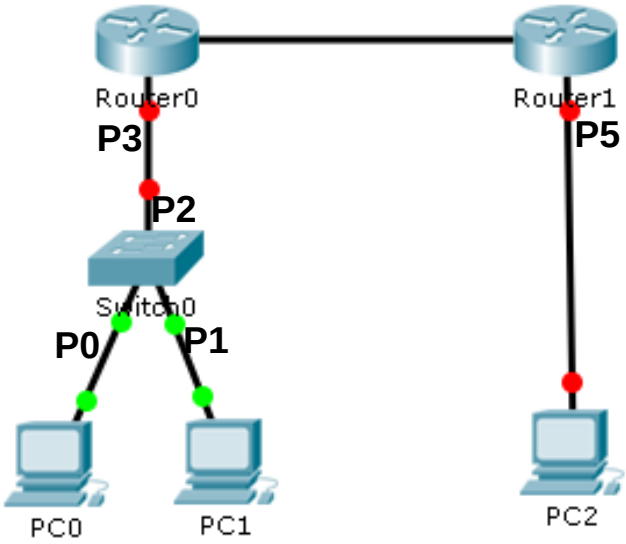
Q3. PC0 needs to send a frame to PC2. PC0 broadcasts an ARP request to learn the MAC address of which device?

A) Interface at Switch0, port P0

B) Interface at PC1

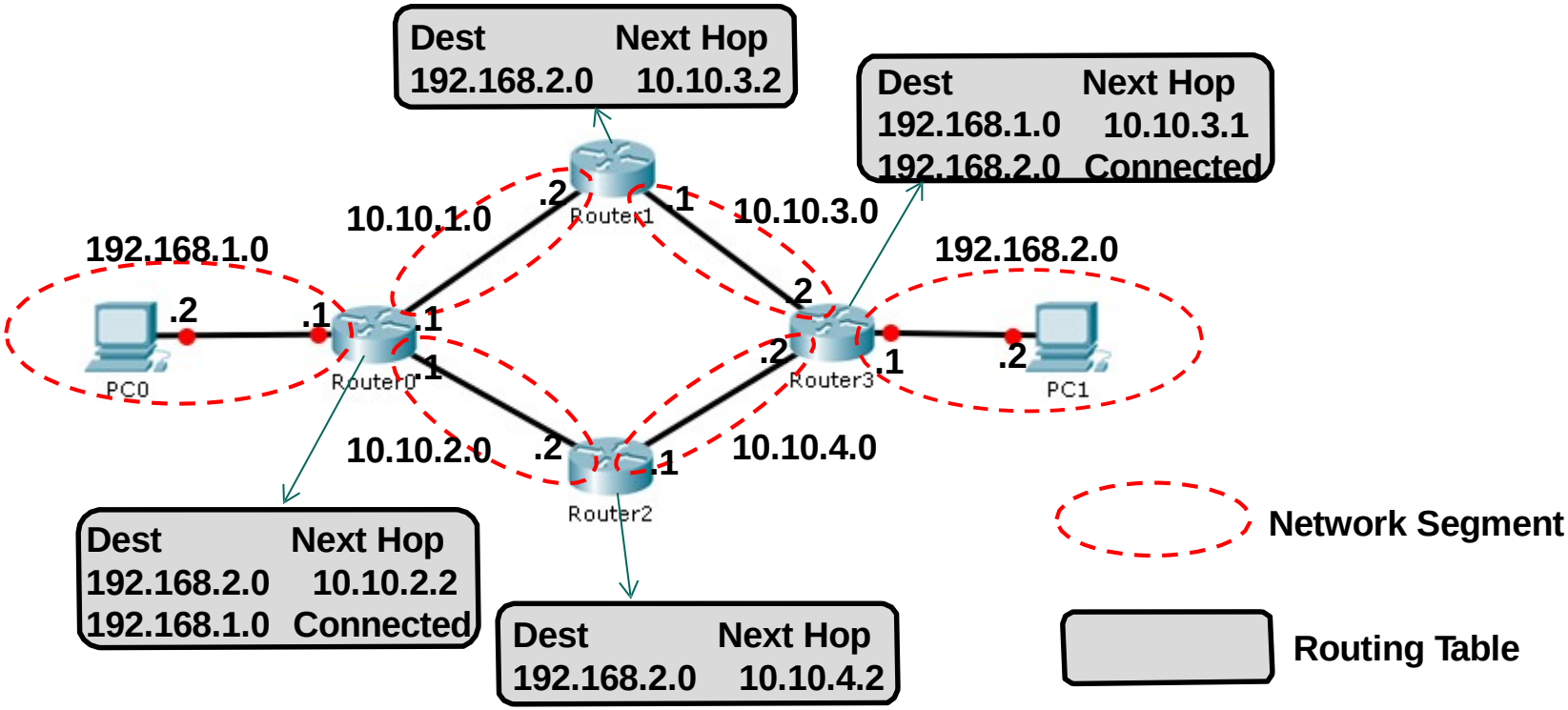
C) Interface at Switch0, port P1

D) Interface at Router0, port P3



ANSWER ON LAST SLIDE

Q4. For the network diagram and routing tables, what path is taken by a message travelling from PC0 to PC1? All Masks are 255.255.255.0.



A) Router0, Router1, Router3, PC1
B) Router0, Router1, Router2, Router3, PC1
C) Router0, Router2, Router3, PC1
D) Router3 goes back to Router1 so the packet will loop

ANSWER ON LAST SLIDE

Q5. What is the difference between a default gateway and default route?

A)An end device (i.e. PC) uses the default gateway whereas a router uses a default route

B) An end device (i.e. PC) uses the default route whereas a router uses a default gateway

C) Both terms are used inter-changeably

D)An end device (i.e. PC) uses the default gateway whereas a router and an Ethernet Switch use a default route

ANSWER ON LAST SLIDE

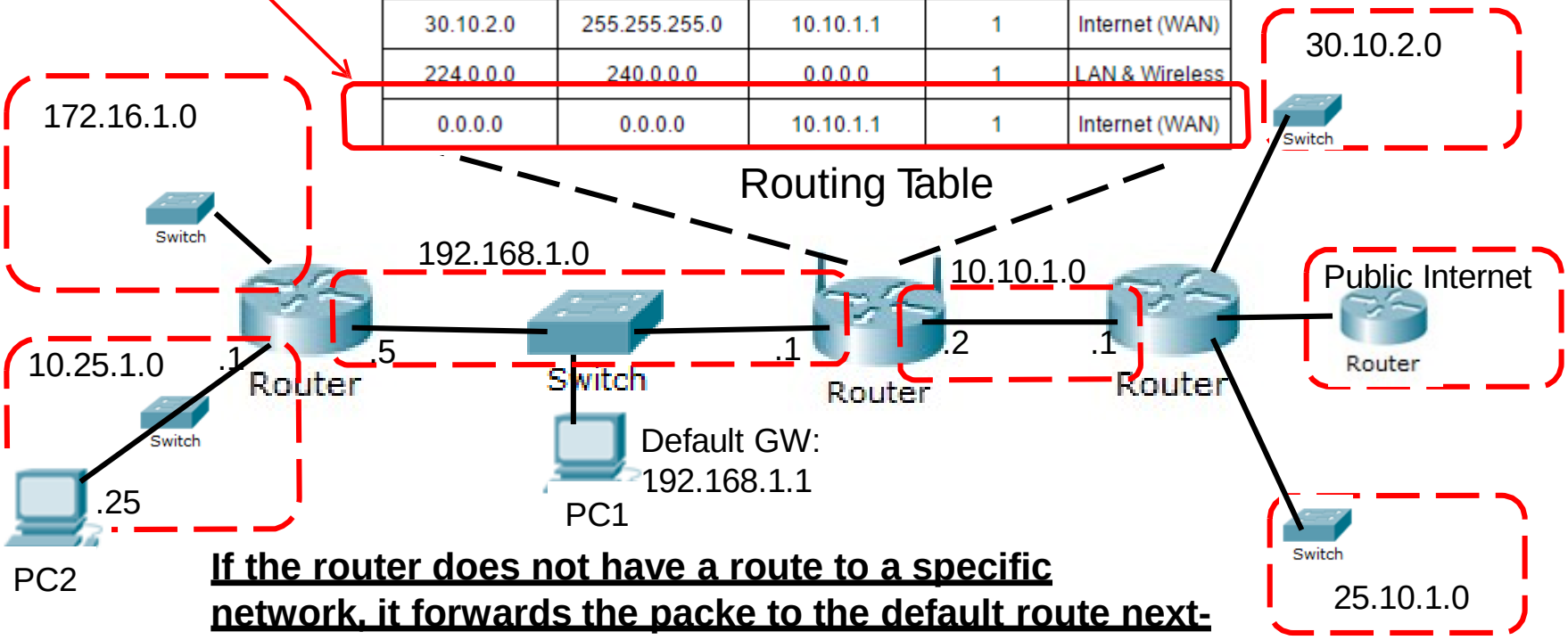
The Default Route

Connected Networks

Default Route

Destination LAN IP	Subnet Mask	Gateway	Hop Count	Interface
25.10.1.0	255.255.255.0	10.10.1.1	1	Internet (WAN)
192.168.1.0	255.255.255.0	0.0.0.0	1	LAN & Wireless
10.10.1.0	255.255.255.0	0.0.0.0	1	Internet (WAN)
172.16.1.0	255.255.255.0	192.168.1.5	1	LAN & Wireless
10.25.1.0	255.255.255.0	192.168.1.5	1	LAN & Wireless
30.10.2.0	255.255.255.0	10.10.1.1	1	Internet (WAN)
224.0.0.0	240.0.0.0	0.0.0.0	1	LAN & Wireless
0.0.0.0	0.0.0.0	10.10.1.1	1	Internet (WAN)

Routing Table



If the router does not have a route to a specific network, it forwards the packe to the default route next-hop address.

Q6. IP Packet Transport is Connectionless. What does this mean?

A)The source IP device does not get any indication that the destination IP device received the packet.

B) There has been a break in the connection between the source IP device and destination IP device.

C)Packets sent between the source and destination IP nodes use the Connectionless Protocol.

D) The source and destination IP devices are not necessarily connected via direct link.

ANSWER ON LAST SLIDE

Q7. Several Packets arrived out of order. How does IP (Internet Protocol) correct this?

A) IP uses the Sequence Number field in the IP Header to reorder the Packets.

B) IP does not correct this; however, this function is provided by TCP at the Transport Layer.

C) IP Packets cannot become mis-ordered because all Packets between two given devices follow the same Routing Tables.

D) The Application is responsible for reordering the Packets.

ANSWER ON LAST SLIDE

Q8. What is the purpose of the TTL field in the IP Protocol header?

A)TTL is not a networking term.

B)It is the Time-to-Live field and it prevents a Packet from looping for ever due to routing table errors. It is decremented at each switch and router.

C) TTL is a routing protocol to allow routers to discover the path to other networks.

D)It is the Time-to-Live field and it prevents a Packet from looping for ever due to routing table errors. The TTL is decrement at each router.

ANSWER ON LAST SLIDE

Answers

Q1: C

Q2: B

Q3: D

Q4: C

Q5: A

Q6: A

Q7: B

Q8: D