+1/1/60+

TCP/IP Networking, 2018, Quiz 1

Use the separate answer sheet to return your answers. Do not return this sheet. We recommend that you first write your tentative answers on this sheet. In a second phase, when you are certain about your answers, you can mark them on the answer sheet.

For each question there is exactly one correct answer. If the good answer and only the good answer box is marked ⇒ +1 point. If one bad answer box is marked and no other box is marked ⇒ $-\frac{1}{3}$ point. If 0 or more than 1 answer box is marked ⇒ 0 point.

Question 1 A router has four interfaces, called eth0 to eth3. Its routing table is shown below.

destination address	destination interface	next-hop
::/0	eth0	...
2001:1:2::/48	eth1	...
2001:1:2:300::/56	eth3	...
2001:1:2:3::/64	eth4	...

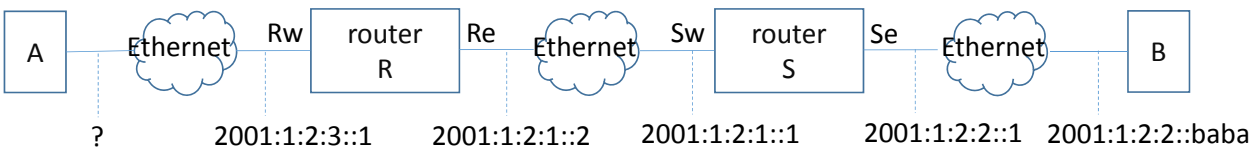
The router receives an IP packet with destination address 2001:1:2:303::1. To which interface does the router send this packet ?

A eth3 B eth2 C eth0 D eth1

Question 2 Radio Suisse Romande (RSR) interviews a politician in New Zealand, using a videoconferencing tool between a studio in Lausanne and one in Wellington, New-Zealand. RSR has the choice of using either the standard Swisscom service, which guarantees an end-to-end bit rate of 1 Mb/s, or a more expensive service that guarantees 1 Gb/s. If RSR uses the more expensive service, which improvement can they expect to see for the round-trip propagation time ?

A It is divided by log 1000.
B No improvement.
C It is divided by 8000.
D It is divided by 1000.

Question 3 All network masks are ffff:ffff:ffff:ffff:: Which are valid addresses for A ?



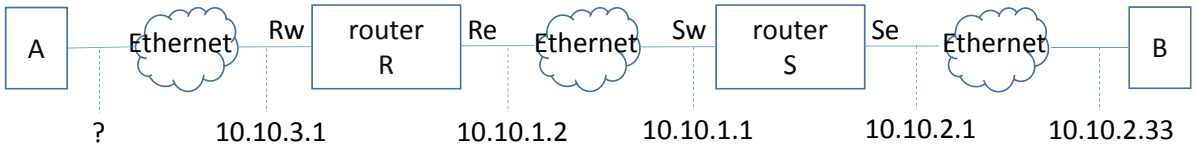
1. 2001:1:2:3::baba
2. 2001:1:2:3:4::bebe

A Only 2. B Only 1. C None D Both

Question 4 At point 1, a packet sniffer observes one packet sent by A to B . What is the MAC destination address contained in the Ethernet frame header ?

A There is no MAC address because the destination is not in the same local area network as the source.
B The MAC address of the router interface Sw.
C The MAC address of the router interface Rw.
D B's MAC address.

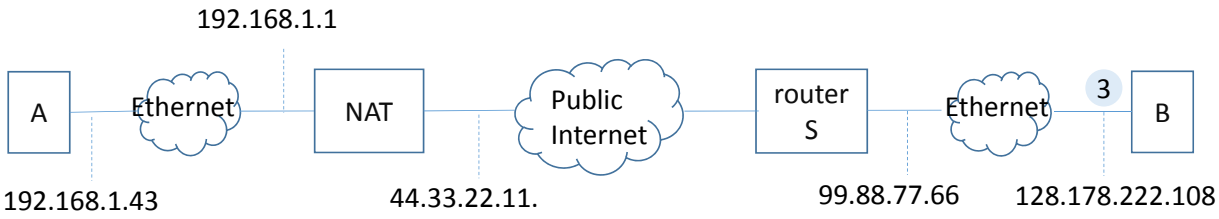
Question 5 All network masks are 255.255.255.0. Which are valid addresses for A ?



1. 10.10.3.33
2. 10.10.2.44

A None B Only 1. C Both D Only 2.

Question 6 At point 3, a packet sniffer observes one IP packet sent by B to A . What is the IP destination address contained in the IP packet header ?



A 44.33.22.11
B 99.88.77.66
C 192.168.1.43
D 192.168.1.1

Question 7 At point 1, a packet sniffer observes one packet sent by A to B . What is the IP destination address contained in the IP packet header ?

- [A] The IP address of the router interface Sw.
- [B] The IP address of the router interface Rw.
- [C] There is no IP address because the destination is not in the same local area network as the source.
- [D] B's IP address.

Question 8 What is the uncompressed notation for the IPv6 address 2001:1:2:3::4 ?

- [A] 2001:0001:0002:0003:0000:0000:0000:0004
- [B] 2001:1:2:3:0:4
- [C] None, because the proposed address is invalid.
- [D] 2001:0001:0002:0003:0000:0004

Question 9 Lisa sniffs the packets sent by her smartphone on the EPFL network and at home. Lisa's home is served by Swisscom.

1. The source MAC addresses are the same at home and at EPFL;
2. The source IP addresses are the same at home and at EPFL.

[A] Only 2. [B] Both [C] Only 1. [D] None

Question 10 We sniff the packets containing a request sent by Bart to a web server. Inside the IP packet headers we can read:

1. The IP address of the web server;
2. The DNS name of the web server.

[A] Only 2. [B] None [C] Both [D] Only 1.

+1/5/56+

TCP/IP Networking, 2018, Quiz 1

This is the answer sheet: all answers are to be marked on this page to be taken into account. Do not return the other sheets.

To mark a box, please make it completely dark (a cross is not sufficient):

Do:

Question 1: [A] [■] [C] [D]

Don't:

Question 1: [A] [☒] [C] [D]

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

⟵ Please encode your SCIPER number here and write your full name in the box below. ↓

Name, First Name:

.....

Question 1: [A] [B] [C] [D]

Question 2: [A] [B] [C] [D]

Question 3: [A] [B] [C] [D]

Question 4: [A] [B] [C] [D]

Question 5: [A] [B] [C] [D]

Question 6: [A] [B] [C] [D]

Question 7: [A] [B] [C] [D]

Question 8: [A] [B] [C] [D]

Question 9: [A] [B] [C] [D]

Question 10: [A] [B] [C] [D]