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**  
Lisa’s PC, at home behind a NAT, sends an IP packet to a server in the US. The IP source address in the packet, seen at the US server, is ...

- A the IP address allocated to Lisa’s NAT by her ISP.
- B the home-network-IP-address of Lisa’s nexthop router.
- C There is no IP address since Lisa is not on the LAN of the US server.
- D home-network-IP-address of Lisa’s PC.

**Question 2**  
An application program sends data to a destination using either TCP or UDP. One of the packets is lost. Is it true that the application program must detect the loss and retransmit the packet ?

- A no in either case.
- B yes with UDP, no with TCP.
- C yes with TCP, no with UDP.
- D yes in both cases.

**Question 3**  
Say what is true for forwarding packets:

- A A router uses longest-prefix match, a bridge uses exact match.
- B A bridge uses longest-prefix match, a router uses exact match.
- C Routers and bridges use longest-prefix match.
- D Routers and bridges use exact match.

**Question 4**  
Lisa’s PC, at EPFL, receives an IP packet from a server in the US. The MAC source address in the packet (seen at Lisa’s PC) is the MAC address of ...

- A Lisa’s DNS server.
- B the server in the US.
- C There is no MAC address since the packet is coming from another LAN.
- D Lisa’s next hop router.

**Question 5**  
The stop and go protocol for retransmissions is efficient whenever

- A the transmission rate is large.
- B the bandwidth-delay product is large.
- C the transmission rate is small.
- D the bandwidth-delay product is small.

**Question 6**  
Which are valid IPv4 addresses ?

1. 128.178.129.179
2. 228.278.229.279

- A Only 1.
- B None
- C Only 2.
- D Both
**Question 7**  We multiply the bit rate of a line by a factor of 10. Say what is true.

1. The propagation time is divided by 10
2. The transmission time is divided by 10

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

**Question 8**  Which are valid IPv6 addresses?

1. 2001:baba::bebe
2. 2001::baba:bebe

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

**Question 9**  Inside the IP header we can read:

1. The IP address of the source;
2. The DNS name of the destination.

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

**Question 10**  Bart’s smartphone, at EPFL, receives an IP packet from a server in the US. The IP source address in the packet (seen at Bart’s smartphone) is the IP address of ...

   - A the server in the US.
   - B There is no IP address since Bart is not on the LAN of the US server.
   - C Bart’s DNS server.
   - D Bart’s next hop router.
TCP/IP Networking, 2017, 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

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

Name, First Name:

...........................................................