TCP/IP Networking 2015 Test 6

☐0 ☐0 ☐0 ☐0 ☐0 ☐0
☐1 ☐1 ☐1 ☐1 ☐1 ☐1
☐2 ☐2 ☐2 ☐2 ☐2 ☐2
☐3 ☐3 ☐3 ☐3 ☐3 ☐3
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Grading:
For each question there is exactly one correct answer.
If the good answer and only the good answer box is crossed ⇒ +1 point. If one bad answer box is crossed and no other box is crossed ⇒ $-\frac{1}{3}$ point. If 0 or more than 1 answer box is crossed ⇒ 0 point.
⟵ Please encode your SCIPER number here and write your full name in the box below. ↓

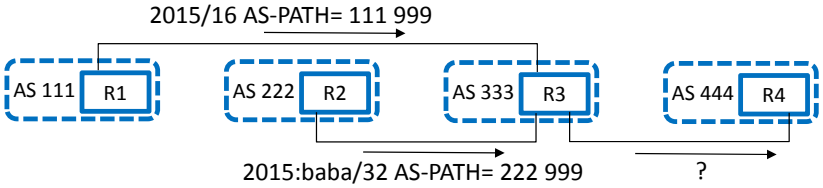
Name, First Name:

.....

Question 1 In an AS where confederation and route reflectors are not used, say what is true.
1. All BGP routers inside the AS must be on-link of each other.
2. All BGP routers inside the AS must connect to all other BGP routers inside the AS by means of TCP connections.

☐ 1 and not 2.
☐ Neither 1 nor 2.
☐ 1 and 2.
■ 2 and not 1.

Question 2 Plain black lines are BGP peerings. What is a valid behaviour for R3 ?
1. announce 2015/16 AS-PATH=333 111 999 and 2015:baba/32 AS-PATH=333 222 999 to R4
2. announce only 2015/16 AS-PATH=333 111 999 to R4



☐ Only 2 is a valid behaviour.
☐ Neither 1 nor 2 is a valid behaviour.
■ 1 and 2 are both valid behaviours.
☐ Only 1 is a valid behaviour.

Question 3 Say what is true.
1. The AS number of an autonomous routing domain is a 32 bit number for IPv4 and a 128 bit number for IPv6.
2. Every autonomous routing domain must have one public AS number.

■ Neither 1 nor 2.
☐ Both 1 and 2.
☐ 2 and not 1.
☐ 1 and not 2.

Question 4

☐ Routes learnt by E-BGP are never announced to an E-BGP peer.
☐ Routes learnt by I-BGP are never announced to an E-BGP peer.
■ Routes learnt by I-BGP are never announced to an I-BGP peer.
☐ Routes learnt by E-BGP are never announced to an I-BGP peer.

Question 5 Say what is true.
1. A BGP router remembers all received announcements that are accepted by the import policy.
2. A BGP router cannot export multiple routes to the same destination prefix.

☐ 2 and not 1.
☐ Neither 1 nor 2.
☐ 1 and not 2.
■ Both 1 and 2.

Question 6 An AS uses OSPF and BGP with redistribution of BGP routes into OSPF. The routing information sent by OSPF contains...

- ☐ only internal destinations.
- ■ all external destinations learnt by BGP and internal destinations.
- ☐ all external destinations learnt by E-BGP and all internal destinations.
- ☐ all external destinations learnt by I-BGP and all internal destinations.

Question 7

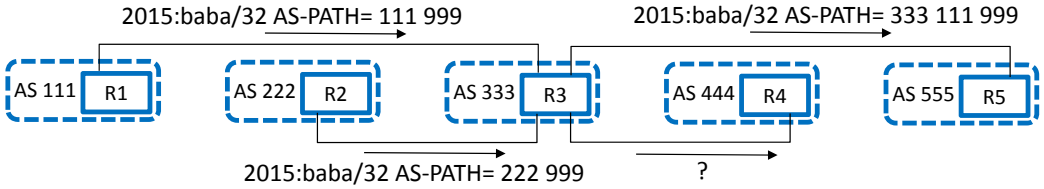
- ■ I-BGP is the version of BGP used inside an autonomous routing domain.
- ☐ I-BGP is the version of BGP used with injection (as opposed to re-distribution).
- ☐ Both E-BGP and I-BGP are IGPs.
- ☐ I-BGP is an IGP but E-BGP is not.

Question 8 Recursive table lookup in the forwarding table of router R applies whenever...

- ☐ there are several next-hops.
- ☐ R is IPv4 only and the next-hop is IPv6.
- ☐ the next-hop is an IPv4 address and the final destination is IPv6.
- ■ the next-hop is not onlink with R.

Question 9 Plain black lines are BGP. Which message may R3 choose to send to R4 ?

- A1 is the announcement 2015:baba/32 AS-PATH=333 111 999;
- A2 is the announcement 2015:baba/32 AS-PATH=333 222 999.



- ■ "UPDATE A1" is allowed but not "UPDATE A2".
- ☐ "UPDATE A2" is allowed but not "UPDATE A1" .
- ☐ "UPDATE A1, UPDATE A2" is not allowed.
- ☐ "UPDATE A1" and "UPDATE A2" are both allowed.

Question 10 An AS uses RIP and BGP with injection of BGP routes into forwarding tables and no redistribution. The distance vectors sent by RIP contain...

- ■ only internal destinations.
- ☐ all external destinations learnt by I-BGP and all internal destinations.
- ☐ all external destinations learnt by E-BGP and all internal destinations.
- ☐ all external destinations and internal destinations.