# CSC 4200 Ungraded Quiz,
Nov 18, 2019, 1:25PM-2:20PM
100 Points Max

1) **List** three reasons why we need BGP.

2) Suppose a small ISP X pays a larger ISP A to connect him to the rest of the Internet and also pays another ISP B to provide a fall-back connection to the Internet in the event that he loses connectivity via ISP A. If ISP X learns of a path to some prefix via ISP A, should he advertise that path to ISP B? Why or why not?

3) How would AS12 force traffic for AS6 over R1-R3-R5?
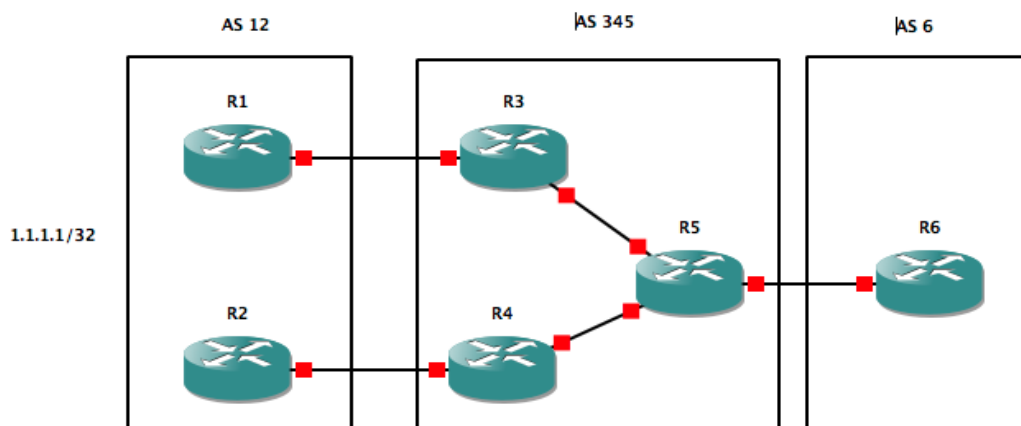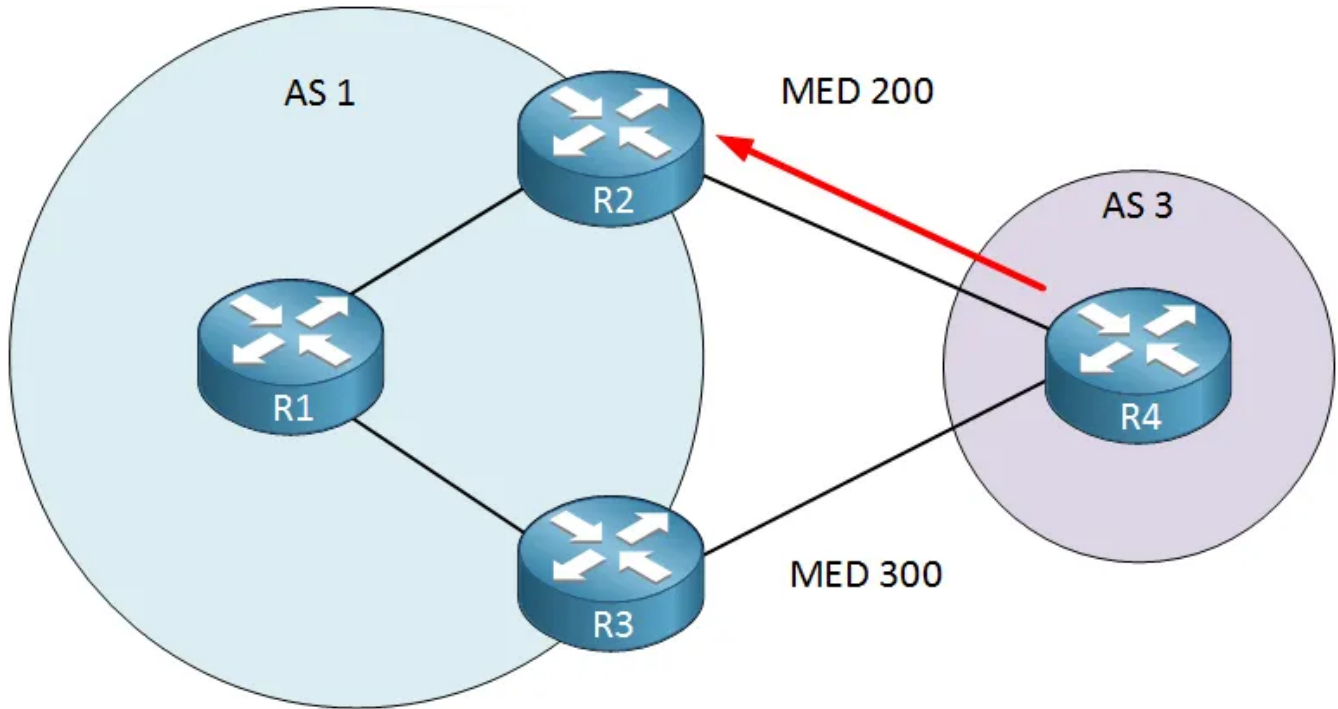
4) Which way would the traffic from R1 to R4 flow?

5) What are the three tables in BGP? What are their functions?

6) Three differences between TCP and UDP?

7) Why do we need three way handshake in TCP?

8) How does TCP perform in the following scenarios?

      a) High delay

      b) High loss

      c) High bandwidth-delay

      d) Very small file transfers

9) What is min-max fair queuing in TCP?

10) In TCP slow start, why don't we start with a massive window?

11) What are the different phases in a TCP transmission? How does TCP ensure congestion does not happen?

12) What is TCP slow start? What is TCP fast recovery?

13) What must be the maximum loss rate to maximize 100Gbps pipe with 9000 bytes segments and 100ms RTT (TCP)?

14) What are the different classes of applications?

15) Which of the following are sensitive to loss and delay?

      a) file transfer

b) e-mail

c) Web documents

d) real-time audio/video

16) What are the different modes for DNS? What's the difference?

17) Difference between symmetric key cryptography and asymmetric key cryptography? Give one examples of each.

18) What are the four functions of network security?

19) How does a VPN work?

20) What is Ipsec? What is enchilada authentication in IPSec?

Name:	TechID:

Answers:

1. BGP allows to interconnect all networks to all other networks, allows policy in routing, and allows Ases to choose preferred paths.

2. It might become transit AS.

3. Local preference

4) For MED, lower value wins, but it is optional

5) RIB-IN, RIB-LOC, RIB-OUT

6) You don't need an answer for this. :)

7) In the slides – sender and receiver needs to agree on sequence numbers, receive window and other parameters

8) Does not work well in any of these scenarios

9)Lecture 23, slide 15

10) Chance of failure higher, creates trouble for everyone

11, 12) Lecture 23, slide 23

13) Lecture 23, slide 27

14) P2P, Client-server, hybrid

15) Lecture 25, page 13

16) Recursive and Interative

17) Lecture 26

18) Lecture 28, page 3

19, 20) Lecture 28, page 33 - onwards