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Q1)

a) The maximum number of concurrent connections is 70 assuming that each connection will only go through 1 link.
b) The next connection request will be denied and queued until an existing connection is finished
c) Max connections from A-C is 19 and Max connections from C-A is 15 so the total is **34**

Q2)

a) d_{prop} = distance / propagation speed = (300 000)/ ($3 * 10^8$) = $1 * 10^{-3}$ s = **1ms**
b) d_{tran} = L / r = 3 Mbit / 100 Mbps = 0.03 sec = **30 ms**
c) end-to-end = dtran +dprop = **31ms**

Q3)

a) d_{tran} = 5Mbit /250Mbps = 0.02 s = **20ms**
b) 20 + 2 + 2 = **24 ms**
c) r_1 /2 = 125Mbps > 50 Mbps
so maximum for both is **50 Mbps**
d) Max throughput for R_2 is **125 Mbps** because bottlenecked by R_1
Max throughput for R_3 is **70 Mbps** because bottlenecked by R_3