RAT Test Run

Question 1: In circuit switching which of the following delays can occur?

A only Queueing delay

B Transmission delay, Propagation delay and Queueing delay

C Initial connection setup delay, Transmission delay and Propagation delay

D only Transmission delay

Question 2: In packet switching which of the following delays can occur?

A Initial connection setup delay, Transmission delay and Propagation delay

B Transmission delay, Propagation delay and Queueing delay

C only Processing delay

D only Queueing delay

Question 3: In a 50 Mbit/s link to be used by several users, where each needs 1 Mbit/s but is only active 10 % of the time. What is the *maximum number of users* that can be connected if **circuit switching** is used?

A 50 users

B up to 500 users if no collisions occur

C 1 user because circuit switching occupies the entire link

D 10 users because each only uses 10 % of the link

Question 4: Signal propagation delay is:

A the same for all distances

B independent of the physical medium

C dependent on the physical medium

D the same in all wired mediums

Question 5: Why are networking protocols important?

A They are important to guarantee the same level of quality between users

B They are important to define the format and order of messages exchanged between systems that interoperate

C They are important to guarantee the same level of quality between applications

D They are important to prevent illegal Internet activities

Question 6: Suppose there is exactly one packet switch between a sending host and receiving host. The Transmission rates between the sending host and the switch, and between the switch and the receiving host are R_1 and R_2 ($R_1 \neq R_2$), respectively. Assuming that **the switch uses store-and-forward packet switching**, what is the total end-to-end delay to send a packet of Length *L*? (ignore queuing, propagation and processing delays.)

A $R_1/L + R_2/L$

B $L/R_1 + L/R_2$

C $2L/R_1$ if $R_1 < R_2$

D $2L/R_2$ if $R_2 < R_1$

Question 7: Suppose *Host A* wants to send a large file to *Host B*. The path from *Host A* to *Host B* has three consecutive links of rates $R_1 = 1\,\mathrm{Mbit/s}$, $R_2 = 2\,\mathrm{Mbit/s}$, $R_3 = 200\,\mathrm{kbit/s}$ (i.e., A – 1Mbit/s –> R – 2Mbit/s –> R – 200kbit/s –> B). Assuming no other traffic in the network, what is the **throughput** for the file transfer?

A 200 kbit/s

B 1 Mbit/s

C 2 Mbit/s

D 3200 kbit/s