

Multiple Choice

Choose the best answer for each of the following 8 questions, for a total of 8 marks.

- 1 1. Which of the following was one of the "big three" applications on the early Internet?
 - (a) BitTorrent
 - (b) World Wide Web
 - (c) secure shell
 - ☒ (d) file transfer
 - (e) Crypto-Tweet

- 1 2. The leased transmission lines used to build the early Internet had data rates of about:
 - ☒ (a) 56 kbps
 - (b) 256 kbps
 - (c) 1.5 Mbps
 - (d) 10 Mbps
 - (e) 100 Mbps

- 1 3. What did Sir Tim Berners-Lee invent?
 - (a) TCP/IP
 - (b) electronic mail
 - (c) the Internet
 - (d) hyper-text documents
 - ☒ (e) the World Wide Web

- 1 4. Fiber optic cables are superior to WiFi for physical-layer transmission because:
 - (a) the signals stay primarily within the guided media
 - (b) signals can propagate much further distances
 - (c) the data transmission rate is much higher
 - (d) the error rate is much lower
 - ☒ (e) all of the above

- 1 5. In a TCP-based server, some typical system calls used are:
- (a) `socket()` and `connect()` (in that order)
 - (b) `connect()` and `socket()` (in that order)
 - (c) `accept()` and `listen()` (in that order)
 - ☒ (d) `listen()` and `accept()` (in that order)
 - (e) `recvfrom()` and `sendto()` (in that order)
- 1 6. How many "root" name servers are there in the Domain Name System?
- (a) only 1
 - ☒ (b) about 10
 - (c) about 100
 - (d) about 1,000
 - (e) about 1,000,000
- 1 7. Which of the following statements is true about TCP's "Slow Start" algorithm?
- (a) the congestion window size `cwnd` increases linearly
 - ☒ (b) `cwnd` increases exponentially
 - (c) `cwnd` remains constant
 - (d) `cwnd` decreases linearly
 - (e) `cwnd` decreases exponentially
- 1 8. With TCP Reno, the average throughput achieved by a TCP flow is:
- (a) directly proportional to the average packet loss rate
 - (b) directly proportional to the square root of the average packet loss rate
 - (c) inversely proportional to the average packet loss rate
 - ☒ (d) inversely proportional to the square root of the average packet loss rate
 - (e) none of the above