

COMP 3317 - QUIZ 4

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Show your calculation process on the paper. Extra blank pages will be provided if needed.

1. Which protocol operates at the application layer of the TCP/IP model?

- a) IP
- b) TCP
- c) HTTP
- d) ICMP

2. What is a characteristic of UDP?

- a) It establishes sessions with a three-way handshake.
- b) It uses sequence numbers to reassemble segments.
- c) It adds 20 bytes of overhead to application layer data.
- d) It provides unreliable delivery of segments.

3. A student is sending files from a phone to a computer across a network. Which layer of the TCP/IP model is responsible for reassembling these messages as they are received on the computer?

- a) application
- b) transport
- c) internet
- d) network access

4. What protocol header information is used at the transport layer to identify a target application?

- a) port number
- b) IP address
- c) sequence number
- d) MAC address

5. What is the purpose of using a source port number in a TCP communication?

- a) to notify the remote device that the conversation is over
- b) to assemble the segments that arrived out of order
- c) to keep track of multiple conversations between devices
- d) to inquire for a nonreceived segment

6. When is UDP preferred to TCP?

- a) when a client sends a segment to a server
- b) when all the data must be fully received before any part of it is considered useful
- c) when an application can tolerate some loss of data during transmission
- d) when segments must arrive in a very specific sequence to be processed successfully

7. What are two roles of the transport layer in data communication on a network? (Choose two.)

- a) tracking the individual communication between applications on the source and destination hosts
- b) performing a cyclic redundancy check on the frame for errors
- c) identifying the proper application for each communication stream
- d) providing the interface between applications and the underlying network over which messages are transmitted
- e) providing frame delimiting to identify bits making up a frame

8. Which two services or protocols use the preferred UDP protocol for fast transmission and low overhead? (Choose two)

- a) DNS
- b) HTTP
- c) FTP
- d) SMTP
- e) VoIP

9. Which transport layer feature is used to guarantee session establishment?

- a) TCP port number
- b) UDP ACK flag
- c) TCP 3-way handshake
- d) UDP sequence number

10. Data is being sent from a source PC to a destination server. Which statements correctly describe the function of TCP or UDP in this situation? (Choose ALL correct statements.)

- a) The TCP source port number identifies the sending host on the network.
- b) The source port field identifies the running application or service that will handle data returning to the PC.
- c) UDP segments are encapsulated within IP packets for transport across the network.
- d) The UDP destination port number identifies the application or service on the server which will handle the data.
- e) TCP is the preferred protocol when a function requires lower network overhead.
- f) The TCP process running on the PC randomly selects the destination port when establishing a session with the server.