All the Multiple Choice Question and Answer (MCQs) have been compiled from the books of Data Communication and Networking by the well known author behrouz A forouzan.

This Data Communication and Networking – **Process-to-Process Delivery: UDP, TCP, and SCTP** multiple choice Questions and Answers (MCQ) PDF cover the below lists of topics.

1. Average data rate, peak data rate, maximum burst size, and effective band-width Multiple Choice Question and Answer.
2. Congestion control Multiple Choice Question and Answer.
3. Open-loop congestion control Multiple Choice Question and Answer.
4. Quality of service (QoS), Scheduling, traffic shaping, resource reservation, and admission control techniques Multiple Choice Question and Answer.
5. Scheduling techniques ,FIFO queuing, priority queuing, and weighted fair queuing Multiple Choice Question and Answer.
6. traffic shaping techniques ,Leaky bucket and token bucket Multiple Choice Question and Answer
7. Resource Reservation Protocol (RSVP)- a signaling protocol Multiple Choice Question and Answer
8. Differential Services – a class-based QoS model Multiple Choice Question and Answer
9. Attributes to control traffic in Frame Relay,Access rate, committed burst size, committed information rate, and excess burst size Multiple Choice Question and Answer.

Practice now to sharpen your concept.

1. One of the responsibilities of the transport layer protocol is to create a _____ communication.

A. host-to-host

B. process-to-process
C. node-to-node
D. none of the above

2. UDP is called a _____transport protocol.
A. connectionless, reliable
B. connection-oriented, unreliable
C. connectionless, unreliable
D. none of the above

3. UDP does not add anything to the services of IP except for providing _____ communication
A. node-to-node
B. process-to-process
C. host-to-host
D. none of the above

4. UDP is an acronym for _____
A. User Delivery Protocol
B. User Datagram Procedure
C. User Datagram Protocol
D. none of the above

5. Although there are several ways to achieve process-to-process communication, the most common is through the _____ paradigm
A. client-server
B. client-client
C. server-server
D. none of the above

6. The local host and the remote host are defined using IP addresses. To define the processes, we need second identifiers called _____

A. UDP addresses
B. transport addresses
C. port addresses
D. none of the above

7. The ports ranging from 49,152 to 65,535 can be used as temporary or private port numbers. They are called the _____ ports

A. well-known
B. registered
C. dynamic
D. none of the above

8. In the sending computer, UDP receives a data unit from the _____ layer.

A. application
B. transport
C. IP
D. none of the above

9. In the sending computer, UDP sends a data unit to the _____ layer

A. application
B. transport
C. IP
D. none of the above

10. UDP and TCP are both _____ layer protocols

A. data link
B. network
C. transport
D. none of the above

Answer key for MCQ SET- 1	
Q-1	Correct Answer :process-to-process
Q-2	Correct Answer :connectionless, unreliable
Q-3	Correct Answer :process-to-process
Q-4	Correct Answer :User Datagram Protocol
Q-5	Correct Answer :client-server
Q-6	Correct Answer :port addresses
Q-7	Correct Answer :dynamic
Q-8	Correct Answer :application
Q-9	Correct Answer :IP
Q-10	Correct Answer :transport

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-2

1. Which of the following functions does UDP perform?

A. process-to-process communication
B. host-to-host communication
C. end-to-end reliable data delivery
D. none of the above

2. When the IP layer of a receiving host receives a datagram, _____

A. delivery is complete
B. a transport layer protocol takes over
C. a header is added
D. none of the above

3. UDP needs the _____ address to deliver the user datagram to the correct application process

A. port
B. application
C. internet
D. none of the above

4. A port address in UDP is _____bits long.

A. 8
B. 16
C. 32
D. any of the above

5. Which of the following does UDP guarantee?

A. flow control
B. connection-oriented delivery
C. flow control
D. none of the above

6. The source port address on the UDP user datagram header defines _____

A. the sending computer

B. the receiving computer
C. the process running on the sending computer
D. none of the above

7. The combination of an IP address and a port number is called a _____

A. transport address
B. network address
C. socket address
D. none of the above

8. To use the services of UDP, we need _____ socket addresses

A. four
B. two
C. three
D. none of the above

9. UDP packets are called _____

A. user datagrams
B. segments
C. frames
D. none of the above

10. UDP packets have a fixed-size header of _____ bytes

A. 6
B. 8
C. 40
D. none of the above

Answer key for MCQ SET- 2	
Q-1	Correct Answer :process-to-process communication
Q-2	Correct Answer :a transport layer protocol takes over
Q-3	Correct Answer :port
Q-4	Correct Answer :16
Q-5	Correct Answer :none of the above
Q-6	Correct Answer :the process running on the sending computer
Q-7	Correct Answer :socket address
Q-8	Correct Answer :two
Q-9	Correct Answer :user datagrams
Q-10	Correct Answer :8

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-3

1. UDP packets are encapsulated in _____

A. an Ethernet frame
B. an TCP segment
C. an IP datagram
D. none of the above

2. UDP uses _____ to handle outgoing user datagrams from multiple processes on one host

A. flow control
B. multiplexing
C. demultiplexing
D. none of the above

3. UDP uses _____ to handle incoming user datagrams that go to different processes on the same host.

A. flow control
B. multiplexing
C. demultiplexing
D. none of the above

4. TCP is a _____protocol

A. stream-oriented
B. message-oriented
C. block-oriented
D. none of the above

5. TCP allows the sending process to deliver data as a _____of bytes and allows the receiving process to obtain data as a _____ of bytes

A. message; message
B. stream; stream
C. block; block
D. none of the above

6. Because the sending and the receiving processes may not write or read data at the same speed, TCP _____

A. speeds up the slower process
B. slows down the faster process
C. uses buffers
D. none of the above

7. TCP groups a number of bytes together into a packet called a _____

A. user datagram
B. segment
C. datagram
D. none of the above

8. TCP is a _____ protocol.

A. connection-oriented
B. connectionless
C. both a and b
D. none of the above

9. TCP is a(n) _____ transport protocol

A. unreliable
B. best-effort delivery
C. reliable
D. none of the above

10. TCP uses _____ to check the safe and sound arrival of data.

A. an acknowledgment mechanism
B. out-of-band signalling
C. the services of another protocol
D. none of the above

Answer key for MCQ SET- 3	
Q-1	Correct Answer :an IP datagram
Q-2	Correct Answer :multiplexing

Q-3	Correct Answer :demultiplexing
Q-4	Correct Answer :stream-oriented
Q-5	Correct Answer :stream; stream
Q-6	Correct Answer :uses buffers
Q-7	Correct Answer :segment
Q-8	Correct Answer :connection-oriented
Q-9	Correct Answer :reliable
Q-10	Correct Answer :an acknowledgment mechanism

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-4

1. The bytes of data being transferred in each connection are numbered by TCP. The numbering starts with a _____

A. 0
B. 1
C. randomly generated number
D. none of the above

2. TCP assigns a sequence number to each segment that is being sent. The sequence number for each segment is the number of the _____ byte carried in that segment.

A. first
B. last
C. middle
D. none of the above

3. Communication in TCP is _____

A. simplex
B. half-duplex
C. full-duplex
D. none of the above

4. The value of the acknowledgment field in a segment defines the number of the _____byte a party expects to receive

A. first
B. last
C. next
D. none of the above

5. The acknowledgment number is _____

A. independent
B. randomly generated
C. cumulative
D. none of the above

6. The value of the window size is determined by _____

A. the sender
B. the receiver
C. both the sender and receiver
D. none of the above

7. The inclusion of the checksum in the TCP segment is _____

A. optional
B. mandatory

C. at the discretion of the application program
D. none of the above

8. A TCP segment is encapsulated in _____
A. an IP datagram
B. an Ethernet frame
C. a UDP user datagram
D. none of the above

9. Connection establishment in TCP is called _____ handshaking
A. two-way
B. four-way
C. one-way
D. none of the above

10. A SYN segment cannot carry data; it consumes _____ sequence number(s).
A. no
B. one
C. two
D. none of the above

Answer key for MCQ SET- 4	
Q-1	Correct Answer :randomly generated number
Q-2	Correct Answer :first
Q-3	Correct Answer :full-duplex
Q-4	Correct Answer :next

Q-5	Correct Answer :cumulative
Q-6	Correct Answer :the receiver
Q-7	Correct Answer :mandatory
Q-8	Correct Answer :an IP datagram
Q-9	Correct Answer :none of the above
Q-10	Correct Answer :One

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-5

1. A SYN + ACK segment cannot carry data; it consumes _____ sequence number(s).

A. no
B. three
C. two
D. none of the above

2. An ACK segment, if carrying no data, consumes _____ sequence number(s).

A. no
B. one
C. two
D. none of the above

3. The connection establishment procedure in TCP is susceptible to a serious security problem called the _____ attack.

A. ACK flooding
B. FIN flooding

C. SYN flooding
D. none of the above

4. The SYN flooding attack belongs to a group of security attacks known as a _____ attack

A. denial of service
B. replay
C. man-in-the middle
D. none of the above

5. The FIN segment consumes ____ sequence numbers if it does not carry data.

A. two
B. three
C. no
D. none of the above

6. The FIN + ACK segment consumes _____ sequence number(s) if it does not carry data

A. two
B. three
C. one
D. none of the above

7. In TCP, one end can stop sending data while still receiving data. This is called a _____.

A. half-close
B. half-open
C. one-way termination
D. none of the above

8. A(n) _____ machine is a machine that goes through a limited number of states.

A. infinite state
B. finite state
C. both a and b
D. none of the above

9. _____ control regulates the amount of data a source can send before receiving an acknowledgment from the destination.

A. Error
B. Flow
C. Congestion
D. none of the above

10. To accomplish flow control, TCP uses a _____ window protocol

A. limited-size
B. sliding
C. fixed-size
D. none of the above

Answer key for MCQ SET- 5	
Q-1	Correct Answer :none of the above
Q-2	Correct Answer :no
Q-3	Correct Answer :SYN flooding
Q-4	Correct Answer :denial of service
Q-5	Correct Answer :none of the above
Q-6	Correct Answer :one

Q-7	Correct Answer :half-close
Q-8	Correct Answer :finite state
Q-9	Correct Answer :Flow
Q-10	Correct Answer :sliding

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-6

1. TCP sliding windows are _____ oriented

A. packet
B. segment
C. byte
D. none of the above

2. ACK segments consume _____ sequence number(s) and _____ acknowledged

A. no; are not
B. one; are not
C. no; are
D. none of the above

3. TCP delivers _____ out-of-order segments to the process

A. all
B. no
C. some
D. none of the above

4. IP is responsible for _____ communication while TCP is responsible for _____ communication

A. host-to-host; process-to-process
B. process-to-process; host-to-host
C. process-to-process; network-to-network
D. none of the above

5. If a segment carries data along with an acknowledgment, this is called _____

A. backpacking
B. piggybacking
C. piggypacking
D. none of the above

6. Multiply the header length field by _____ to find the total number of bytes in the TCP header

A. 2
B. 4
C. 6
D. none of the above

7. Urgent data requires the urgent pointer field as well as the URG bit in the _____ field

A. control
B. offset
C. sequence number
D. none of the above

8. The options field of the TCP header ranges from 0 to _____ bytes.

A. 10
B. 20
C. 40
D. none of the above

9. If the ACK value is 200, then byte _____ has been received successfully

A. 199
B. 200
C. 201
D. none of the above

10. Stream Control Transmission Protocol (SCTP) is a new _____protocol.

A. reliable, character-oriented
B. reliable, message-oriented
C. unreliable, message-oriented
D. none of the above

Answer key for MCQ SET- 6	
Q-1	Correct Answer :byte
Q-2	Correct Answer :no; are not
Q-3	Correct Answer :no
Q-4	Correct Answer :host-to-host; process-to-process
Q-5	Correct Answer :piggybacking
Q-6	Correct Answer :4
Q-7	Correct Answer :control
Q-8	Correct Answer :40

Q-9	Correct Answer :199
Q-10	Correct Answer :reliable, message-oriented

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-7

1. SCTP allows _____ service in each association

A. single stream
B. multistream
C. double stream
D. none of the above

2. SCTP association allows _____ for each end

A. only one IP address
B. multiple IP addresses
C. only two IP address
D. none of the above

3. In SCTP, a data chunk is numbered using _____

A. a TSN
B. an SI
C. an SSN
D. none of the above

4. To distinguish between different streams, SCTP uses _____

A. a TSN

B. an SI
C. an SSN
D. none of the above

5. To distinguish between different data chunks belonging to the same stream, SCTP uses _____

A. TSNs
B. SIs
C. SSNs
D. none of the above

6. TCP has _____; SCTP has _____

A. packets; segments
B. segments; packets
C. segments; frames
D. none of the above

7. The control information in SCTP is included in the _____

A. header control field
B. control chunks
C. data chunks
D. none of the above

8. An SCTP packet can carry _____

A. only one data chunk
B. several data chunks
C. no data chunks
D. none of the above

9. In SCTP, the acknowledgment number and window size are part of each _____

A. data chunk
B. control chunk
C. a or b
D. none of the above

10. There is no need for a header length field in SCTP because _____

A. there are no options in the general header
B. the size of the header is fixed
C. both a and b
D. none of the above

Answer key for MCQ SET- 7	
Q-1	Correct Answer :multistream
Q-2	Correct Answer :multiple IP addresses
Q-3	Correct Answer :a TSN
Q-4	Correct Answer :an SI
Q-5	Correct Answer :SSNs
Q-6	Correct Answer :segments; packets
Q-7	Correct Answer :control chunks
Q-8	Correct Answer :several data chunks
Q-9	Correct Answer :control chunk
Q-10	Correct Answer :both a and b

Process-to-Process Delivery: UDP, TCP, and SCTP multiple choice questions and answers MCQ Set-8

1. The checksum in SCTP is _____ bits.

A. 16
B. 32
C. 64
D. none of the above

2. The association identifier in SCTP is _____

A. a unique verification tag
B. a combination of logical and port addresses
C. either a or b
D. none of the above

3. In SCTP, control information and data information are carried in _____ chunks.

A. the same chunk
B. different chunks
C. either a or b
D. none of the above

4. In SCTP, acknowledgment numbers are used to acknowledge _____

A. both data chunks and control chunks
B. only control chunks
C. only data chunks
D. none of the above

5. In an SCTP packet, control chunks come _____ data chunks

A. after
B. before
C. a or b
D. none of the above

6. In SCTP, _____ can be carried in a packet that carries an INIT chunk

A. only data chunks
B. only control chunks
C. no other chunk
D. none of the above

7. A connection in SCTP is called an _____

A. negotiation
B. association
C. transmission
D. none of the above

Answer key for MCQ SET- 8	
Q-1	Correct Answer :32
Q-2	Correct Answer :a unique verification tag
Q-3	Correct Answer :different chunks
Q-4	Correct Answer :only data chunks
Q-5	Correct Answer :before
Q-6	Correct Answer :no other chunk
Q-7	Correct Answer :association
Q-8	

Q-9	
Q-10	