

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 – **Data Link Control** multiple choice (MCQ) based Questions and Answers PDF cover the below lists of topics.

1. Error control , error detection and error correction Multiple Choice Question and Answer.
2. Stop-and-Wait ARQ Multiple Choice Question and Answer.
3. Go-Back-N ARQ Multiple Choice Question and Answer.
4. Selective Repeat ARQ Multiple Choice Question and Answer.
5. Flow control mechanisms Multiple Choice Question and Answer.
6. HDLC protocol Multiple Choice Question and Answer.

Practice now to sharpen your concept.

1. In a Go-Back-N ARQ, if the window size is 63, what is the range of sequence numbers?

- A. 0 to 63
- B. 0 to 64
- C. 1 to 63
- D. 1 to 64

2. In Go-Back-N ARQ, if frames 4, 5, and 6 are received successfully, the receiver may send an ACK _____ to the sender.

- A. 5
- B. 6

- C. 7
- D. any of the above

3. ARQ stands for _____.

- A. Automatic repeat quantization
- B. Automatic repeat request
- C. Automatic retransmission request
- D. Acknowledge repeat request

4. For Stop-and-Wait ARQ, for 10 data packets sent, _____ acknowledgments are needed

- A. exactly 10
- B. less than 10
- C. more than 10
- D. none of the above

5. HDLC is an acronym for _____

- A. High-duplex line communication
- B. High-level data link control
- C. Half-duplex digital link combination
- D. Host double-level circuit

6. Data link control deals with the design and procedures for _____ communication

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

7. _____ in the data link layer separates a message from one source to a destination, or from other messages going from other sources to other destinations

- A. Digitizing
- B. Controlling
- C. Framing
- D. none of the above

8. In _____ framing, there is no need for defining the boundaries of frames.

- A. fixed-size
- B. variable-size
- C. standard
- D. none of the above

9. In _____ framing, we need a delimiter (flag) to define the boundary of two frames.

- A. fixed-size
- B. variable-size
- C. standard
- D. none of the above

10. _____ framing uses two categories of protocols: character-oriented and bit-oriented.

- A. Fixed-size
- B. Variable-size
- C. Standard
- D. None of the above

Answer key for MCQ SET- 1

Q-1	Correct Answer :0 to 63
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Q-2	Correct Answer :7
Q-3	Correct Answer :Automatic repeat request
Q-4	Correct Answer :exactly 10
Q-5	Correct Answer :High-level data link control
Q-6	Correct Answer :node-to-node
Q-7	Correct Answer :Framing
Q-8	Correct Answer :fixed-size
Q-9	Correct Answer :variable-size
Q-10	Correct Answer :Variable-size

Data Link Control MCQ Set-2

- 1. In a _____ protocol, the data section of a frame is a sequence of characters.**
 - A. bit-oriented
 - B. character-oriented
 - C. either (a) or (b)
 - D. none of the above

- 2. In a _____ protocol, the data section of a frame is a sequence of bits.**
 - A. byte-oriented
 - B. bit-oriented
 - C. either (a) or (b)
 - D. none of the above

- 3. In _____ protocols, we use _____**
 - A. character-oriented; byte stuffing

- B. character-oriented; bit stuffing
- C. bit-oriented; character stuffing
- D. none of the above

4. Byte stuffing means adding a special byte to the data section of the frame when there is a character with the same pattern as the _____

- A. header
- B. trailer
- C. flag
- D. none of the above

5. In _____ protocols, we use _____

- A. byte-oriented; bit stuffing
- B. character-oriented; bit stuffing
- C. bit-oriented; bit stuffing
- D. none of the above

6. Bit stuffing means adding an extra 0 to the data section of the frame when there is a sequence of bits with the same pattern as the _____

- A. header
- B. trailer
- C. flag
- D. none of the above

7. _____ control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment

- A. Flow
- B. Error

- C. Transmission
- D. none of the above

8. _____ control refers to methods of error detection and correction

- A. Flow
- B. Error
- C. Transmission
- D. none of the above

9. The Simplest Protocol and the Stop-and-Wait Protocol are for _____ channels

- A. noisy
- B. noiseless
- C. either (a) or (b)
- D. neither (a) nor (b)

10. The Stop-And-Wait ARQ, Go-Back-N ARQ, and the Selective Repeat ARQ are for _____ channels

- A. noisy
- B. noiseless
- C. either (a) or (b)
- D. neither (a) nor (b)

Answer key for MCQ SET- 2	
Q-1	Correct Answer :character-oriented
Q-2	Correct Answer :bit-oriented
Q-3	Correct Answer :character-oriented; byte stuffing
Q-4	Correct Answer :flag
Q-5	Correct Answer :bit-oriented; bit stuffing

Q-6	Correct Answer :flag
Q-7	Correct Answer :Flow
Q-8	Correct Answer :Error
Q-9	Correct Answer :noiseles
Q-10	Correct Answer :noisy

Data Link Control MCQ Set-3

- 1. The ____ Protocol has neither flow nor error control**
 - Stop-and-Wait
 - Simplest
 - Go-Back-N ARQ
 - Selective-Repeat ARQ

- 2. The _____ Protocol has flow control, but not error control**
 - Stop-and-Wait
 - Simplest
 - Go-Back-N ARQ
 - Selective-Repeat ARQ

- 3. The _____ Protocol has both flow control and error control**
 - Stop-and-Wait
 - Go-Back-N ARQ
 - Selective-Repeat ARQ
 - both (b) and (c)

4. In the _____ Protocol, the sender sends its frames one after another with no regard to the receiver

- A. Stop-and-Wait
- B. Simplest
- C. Go-Back-N ARQ
- D. Selective-Repeat ARQ

5. In the _____ Protocol, the sender sends one frame, stops until it receives confirmation from the receiver, and then sends the next frame.

- A. Stop-and-Wait
- B. Simplest
- C. Go-Back-N ARQ
- D. Selective-Repeat ARQ

6. The _____ Protocol, adds a simple error control mechanism to the _____ Protocol

- A. Stop-and-Wait ARQ; Stop-and-Wait
- B. Go-Back-N ARQ; Stop-and-Wait
- C. Selective Repeat ARQ; Go-Back-N ARQ
- D. none of the above

7. In the _____ Protocol, if no acknowledgment for a frame has arrived, we resend all outstanding frames.

- A. Stop-and-Wait ARQ
- B. Go-Back-N ARQ
- C. Selective-Repeat ARQ
- D. none of the above

8. In the _____ protocol we avoid unnecessary transmission by sending only frames that are corrupted

- A. Stop-and-Wait ARQ
- B. Go-Back-N ARQ
- C. Selective-Repeat ARQ
- D. none of the above

9. Both Go-Back-N and Selective-Repeat Protocols use a

- _____
- A. sliding frame
 - B. sliding window
 - C. sliding packet
 - D. none of the above

10. In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be _____

- A. 15
- B. 16
- C. 31
- D. 1

Answer key for MCQ SET- 3	
Q-1	Correct Answer :Simplest
Q-2	Correct Answer :Stop-and-Wait
Q-3	Correct Answer :both (b) and (c)
Q-4	Correct Answer :Simplest
Q-5	Correct Answer :Stop-and-Wait
Q-6	Correct Answer :Stop-and-Wait ARQ; Stop-and-Wait
Q-7	Correct Answer :Go-Back-N ARQ
Q-8	Correct Answer :Selective-Repeat ARQ

Q-9	Correct Answer :sliding window
Q-10	Correct Answer :31

Data Link Control MCQ Set-4

1. In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____

- A. 15
- B. 16
- C. 31
- D. 1

2. In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be _____

- A. 15
- B. 16
- C. 31
- D. 1

3. In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____

- A. 15
- B. 16
- C. 31
- D. 1

4. High-level Data Link Control (HDLC) is a _____ protocol for communication over point-to-point and multipoint links.

- A. bit-oriented
- B. byte-oriented
- C. character-oriented
- D. none of the above

5. The most common protocol for point-to-point access is the Point-to-Point Protocol (PPP), which is a _____ protocol

- A. bit-oriented
- B. byte-oriented
- C. character-oriented
- D. none of the above

6. _____ control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment.

- A. Flow
- B. Error
- C. Transmission
- D. none of the above

7. _____ control in the data link layer is based on automatic repeat request, which is the retransmission of data.

- A. Flow
- B. Error
- C. Transmission
- D. none of the above

8. In Stop-and-Wait ARQ, we use sequence numbers to number the frames. The sequence numbers are based on _____ arithmetic

- A. modulo-2
- B. modulo-4
- C. modulo-m
- D. none of the above

9. In Stop-and-Wait ARQ, the acknowledgment number always announces in _____ arithmetic the sequence number of the next frame expected

- A. modulo-2
- B. modulo-4
- C. modulo-m
- D. none of the above

10. In the Go-Back-N Protocol, if the size of the sequence number field is 8, the sequence numbers are in _____ arithmetic

- A. modulo-2
- B. modulo- 8
- C. modulo-256
- D. none of the above

Answer key for MCQ SET- 4	
Q-1	Correct Answer :1
Q-2	Correct Answer :16
Q-3	Correct Answer :16
Q-4	Correct Answer :bit-oriented
Q-5	Correct Answer :byte-oriented

Q-6	Correct Answer :Flow
Q-7	Correct Answer :Error
Q-8	Correct Answer :modulo-2
Q-9	Correct Answer :modulo-2
Q-10	Correct Answer :modulo-256

Data Link Control MCQ Set-5

1. Stop-and-Wait ARQ is a special case of Go-Back-N ARQ in which the size of the send window is 1.

- A. 2
- B. 1
- C. 8
- D. none of the above

2. In _____, the station configuration is unbalanced. We have one primary station and multiple secondary stations.

- A. ABM
- B. NRM
- C. ARM
- D. NBM

3. In _____, the configuration is balanced. The link is point-to-point, and each station can function as a primary and a secondary

- A. ABM
- B. NRM
- C. ARM
- D. NBM

4. In PPP, the _____ is responsible for establishing, maintaining, configuring, and terminating links

- A. NCP
- B. LCP
- C. CHAP
- D. PAP

5. In PPP, _____ is a simple authentication procedure with a two-step process:

- A. NCP
- B. LCP
- C. CHAP
- D. PAP

6. In PPP, _____ is a three-way hand-shaking authentication protocol in which the password is kept secret; it is never sent online.

- A. NCP
- B. LCP
- C. CHAP
- D. PAP

Answer key for MCQ SET- 5	
Q-1	Correct Answer :1
Q-2	Correct Answer :NRM
Q-3	Correct Answer :ABM
Q-4	Correct Answer :LCP
Q-5	Correct Answer :PAP
Q-6	Correct Answer :CHAP

Q-7	
Q-8	
Q-9	
Q-10	