

# MC questions for Unit 9

## Question 1

Which of the following is a data link layer function?

- ☐ Framing
- ☐ Error and flow control
- ☐ Medium access control
- ☒ All of the above

## Question 2

In the PPP frame, the \_\_\_\_\_ field defines the contents of the data field.

- ☐ flag
- ☐ control
- ☒ protocol
- ☐ check

## Question 3

A sequence of bytes received after byte stuffing using the PPP byte stuffing scheme is: 10 20 7D 5E 30 5E 7D 5D. *What is the unstuffed sequence?*

- ☒ 10 20 7E 30 5E 7D
- ☐ 10 20 7E 7E 5D
- ☐ 10 20 30
- ☐ 10 20 5E 30 5E 5D

## Question 4

A bit stuffed string received from the network is 1110111110. *What is the string after any stuffing is removed?*

- ☐ 11111111
- ☒ 11101111
- ☐ 1110111110
- ☐ 11101111100

## Question 5

Check all statements that are TRUE regarding stop-and-wait ARQ

- ☒ The timeout protects against lost frames and lost ACKs
- ☒ The sender advances to the next frame only after the ACK for the current frame is \*received\*.
- ☒ Both frames and ACKs must carry sequence numbers.
- ☐ The sender advances to the next frame only after the ACK for the current frame is \*sent\*.

## Question 6

What is the highest throughput for stop-and-wait ARQ sending messages of 10,000 bits over a 1 Mbps satellite link with a (one-way) propagation delay of 100 ms? Give your answer to 2 significant figures.

- ☐ 50 kbps
- ☒ 48 kbps
- ☐ 45 kbps
- ☐ 91 kbps

## Question 7

In the Go-Back-N protocol, if timeout of packet  $n$  occurs, what will the sender do?

- ☐ It will transmit packet  $n$ .
- ☐ It will transmit packet  $n+1$ .
- ☒ It will transmit packets  $n, n+1, n+2 \dots$  in the sender window.
- ☐ It does nothing.

## Question 8

A Bluetooth piconet consists of \_\_\_\_\_ primary device(s) and up to \_\_\_\_\_ secondary devices.

- ☐ one; five
- ☐ five; three
- ☐ two; six
- ☒ one; seven

## Question 9

In Bluetooth, the \_\_\_\_\_ link is used when avoiding latency (delay in data delivery) is more important than integrity (error-free delivery).

- ☒ SCO
- ☐ ACO
- ☐ ACL
- ☐ SCL

## Question 10

In Bluetooth, the \_\_\_\_\_ link is used when data integrity is more important than avoiding delay.

☐ SCO

☐ ACO

☒ ACL

☐ SCL