# جميع الأجوبة صحيحة

# Question 1

Error detection at a data link level is achieved by

- a. bit stuffing
- b. equalization
- c. framing
- d. cyclic redundancy codes

# **Question 2**

Check sum is used for

- a. Error correction
- b. Error detection
- c. Both a & b
- d. None of these

# **Question 3**

if we generate the CRC codeword for the message  $x^3+1$  using the generator polynomial  $x^3+x+1$ , we get:

- a. 1001101
- b. 1001001
- c. 1001110
- d. 1001111

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

Question 5

d. 1

In \_\_\_\_\_ protocols, we use \_\_\_\_\_.

a. byte-oriented; bit stuffing

b. character-oriented; bit stuffing

c. bit-oriented; bit stuffing

d. none of the above

# Question 6

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. ARQ

c. Go-Back-N ARQ

d. Selective-Repeat ARQ

A generator that contains a factor of $\underline{}$ can detect all odd-numbered errors.
a. x
b. x + 1
c. 1
d. none of the above

# **Question 8**

\_\_\_\_ control refers to methods of error detection and correction.

a. Flow

b. Error

c. Transmission

d. none of the above

# **Question 9**

In CRC, the quotient at the sender

a. is discarded

b. is the remainder

c. becomes the divisor at the receiver

d. becomes the dividend at the receiver



- a. Simple parity check
- b. Two-dimensional parity check
- c. CRC
- d. Checksum

# Question 11

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

#### Question 12

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



# a. accepted

- b. rejected
- c. sent back
- d. resend

# Question 14

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

#### **Question 15**

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

Q	п	e	S	ti	n	n	1	6
•	ч	•	•	•	v			v

In theProtocol, 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

The checksum of 0000 and 0001 is \_\_\_\_\_\_.

a. 0001

b. 0011

c. 0111

d. 1110

# **Question 18**

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

- a. sliding frame
- b. sliding window
- c. sliding packet
- d. none of the above

In cyclic redundancy checking what is the CRC?

- a. the divisor
- b. the quotient
- c. the dividend
- d. the remainder

# Question 20

We add r redundant bits to each block to make the length n = k + r. The resulting n-bit blocks are called \_\_\_\_\_.

- a.datawords
- b. blockwords
- c. codewords
- d. none of the above