Quiz on Jan 24

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13.

When the number of redundant bits are 1/4 the number of message bits, what is the code rate? Format X.xx (0.20)

Marks: 1
Type: FLOAT_TYPE

Answer: [{ "max_val": "0.8", "min_val": "0.8" }]

13.

The hamming distance between code words 01001 and 01110 is? Format X (e.g. 1)

Marks: 1
Type: FLOAT_TYPE

Answer: [{ "max_val": "3", "min_val": "3" }]

13.

Which of the following is true of error control? Select all that apply

Marks: 1
Type: MULTIPLE_CHOICE

Options:

0) Satellite links often use error correction

1) Lower the data rate, higher the chances of bursty errors

2) Retransmission as opposed to error correction is useful when error rates are very high

3) In error correction, redundancy bits are sent only when an error is detected

Answer: [[0]]

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13. Which of the following is true of framing protocols? Select all that apply

Marks: 1
Type: MULTIPLE_CHOICE

Options:

0) In byte counting, sentinel is needed at the end of the frame

1) In HDLC, the sender inserts a zero after every 4 consecutive ones

2) Without byte or bit stuffing, a frame will ALWAYS end prematurely

3) A DLE is escaped by another DLE

Answer: [[3]]

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13. A repetitive code with n = 5 can correct how many errors? Format X (e.g. 2)

Marks: 1

Type: FLOAT_TYPE

Answer: [{ "max_val": "2", "min_val": "2" }]

13.

which among the following services is NOT provided by the link layer? Select all that apply

Marks: 1

Type: MULTIPLE_CHOICE

Options:

0) Media Access

1) Demultiplexing

2) Error detection

3) Bit by bit delivery

Answer: [[3]]

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14. If C(x) = x^3+x^2+1, how many redundancy bits are added? Format X (e.g. 5)

Marks: 1

Type: FLOAT_TYPE

Answer: [{ "max_val": "3", "min_val": "3" }]

14.

The degree of the transmitted polynomial P(x) is? Assume m is the number of message bits and k redundant bits.

Marks: 1

Type: SINGLE_CORRECT_ANSWER

Options:

0) m

1) m+k

2) m+k-1

3) (m+k)/2

Answer: [2]

14.

For a code word of size n (=m+k), which among the following is true? Select all that apply.

Marks: 1
Type: MULTIPLE_CHOICE

Options:

0) The number of legal code words are 2^m

1) The hamming distance of the code is m-k

2) One of the goals in designing the code is to reduce the hamming distance

3) One of the goals in designing the code is to reduce k

Answer: [[0, 3]]

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14. Which among the following is true of error detection codes? Select all that apply

Marks: 1
Type: MULTIPLE_CHOICE

Options:

0) 2D parity can detect all 3 bit errors

1) Ethernet employs Internet checksum

2) Internet checksum is calculated using 2's complement arithmetic

3) Even parity detects odd number of errors

Answer: [[0, 3]]