

01:07

QUESTION

The message 11001001 is to be transmitted using CRC polynomial x^3+1 to protect it from errors. The message that should be transmitted is:

[GATE CS 2007]

- A. 11001001000
- B. 11001001011
- C. 11001010
- D. 110010010011

NESO ACADEMY

01:25

CRC GENERATION AT SENDER SIDE

1. Find the length of the divisor 'L'.
2. Append 'L-1' bits to the original message.
3. Perform binary division operation.
4. Remainder of the division = CRC.
5. Message to be transmitted = Message + CRC

Note:

The CRC must be of L-1 bits.

A	B	A XOR B
0	0	0
0	1	1
1	0	1
1	1	0

NESO ACADEMY

02:28

CRC GENERATION AT SENDER SIDE

1. The length of the divisor is 4. ($x^3+1 = 1x^3+0x^2+0x^1+1 = 1001$)
2. Append '4-1' bits to the original message. (3 bits are appended)
3. Perform binary division operation.
4. Remainder of the division = CRC.
5. Message to be transmitted = Message + CRC

Note:

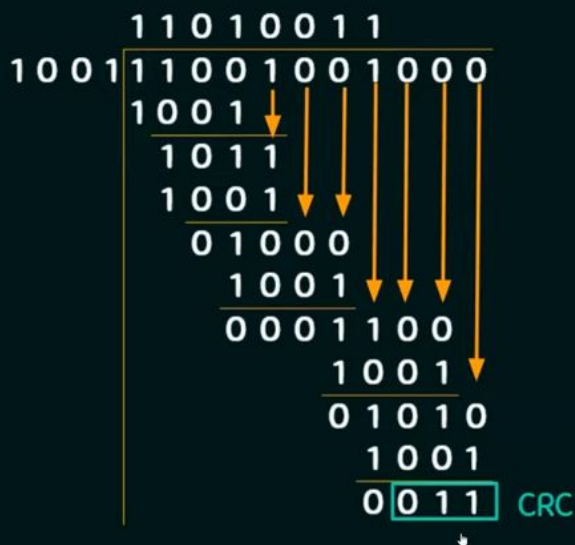
The CRC must be of $L-1$ i.e $4-1=3$ bits.

A	B	A XOR B
0	0	0
0	1	1
1	0	1
1	1	0

NESO ACADEMY

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CRC GENERATION



NESO ACADEMY

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MESSAGE TO BE TRANSMITTED

Message to be transmitted = Original Message + CRC

Message to be transmitted = **11001001011**

