VIVA - QUESTION BANK (CRC)

1. What is bit stuffing?

It is a process in which one extra *0* is added when five consecutive *1* s follow a *0* in the data, get there will be no mistake when the receiver makes a pattern *0111110* for a flag.

### How does flow control work?

*Flow control* refers to a collection of methods that is used to limit how much data a sender can send before having to wait for an acknowledgment.

1. Why is CRC called Cyclic

CRC is called "Cyclic" because of the way it processes data during the error-checking algorithm. The term "Cyclic" refers to the cyclical or circular nature of the operations involved. In CRC, the bits of the data are processed in a circular manner.

### Define error control.

*Error control* is the combination of *error detection and correction*. It allows the receiver to inform the sender of any frames lost or damaged and transmission, and it coordinates the transmission of those frames by the sender.

1. What is CRC (Cyclic Redundancy Check)?

CRC is a method for detecting errors in data during transmission. It involves the use of a polynomial division algorithm to generate a checksum, which is appended to the data. The receiver performs the same calculation, and if the checksums match, the data is assumed to be error-free.

1. How does CRC differ from other error-checking techniques?

CRC is different from other error-checking techniques in that it uses polynomial division to generate a checksum. This checksum is more effective in detecting errors, especially burst errors, compared to simpler methods like parity checking or checksums.

1. How is CRC implemented in programming?

CRC is implemented by performing polynomial division in programming. The message is treated as the dividend, and the generator polynomial is the divisor. The remainder obtained from the division is the CRC code, which is appended to the original message.

1. What is the role of the generator polynomial in CRC?

The generator polynomial defines the mathematical process by which CRC is calculated. It determines the length of the CRC code and affects the error-detection capabilities.

1. Explain the process of CRC error detection.

In CRC error detection, the sender calculates the CRC code by dividing the message with the generator polynomial. The receiver performs the same calculation and compares the received CRC code with the calculated one. If they match, the data is assumed to be error-free.

1. What is the significance of the CRC remainder?

The CRC remainder is the result of the polynomial division. It is the CRC code that is appended to the original message. The remainder, when combined with the original message, should result in a polynomial that is divisible by the generator polynomial.