



## SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR-03

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NETWORK PROGRAMMING LAB (7CSL01)

Program No.		Date:		
Student Name:		USN:		Batch No:
<b>Evaluation:</b>				
Observation writing and File maintenance (10 Marks)	Clarity in concepts (05 Marks)	Implementation and execution of the program (10 Marks)	Viva (10 Marks)	Total (35 Marks)
Sl.No	Name of the Faculty In-Charge			Signature
1.				
2.				

### Question No. 8

Write a program for error detecting code using CRC-CCITT (16-bits).

#### Pre-requisites

The cyclic redundancy check, or CRC, is a technique for detecting errors in digital data, but not for making corrections when errors are detected. It is used primarily in data transmission.

In the CRC method, a certain number of check bits, often called a checksum, are appended to the message being transmitted. If an error occurred, the receiver sends a "negative acknowledgement" (NAK) back to the sender, requesting that the message be retransmitted.

#### Algorithm

1. Start
2. Enter the message to be transmitted
3. Append the message with 16(since it is 16-bit CRC) 0`s (i.e. if you input 5 digits message, the appended message should be 21-bits.)
4. XOR appended message and transmit it (Here, you compare with an already existing string such as 10001000000100001 and replace the bits the same way XOR operation works)
5. Verify the message that is received is the same as the one sent.
6. End