School of Computer Science and Engineering
CSE323: Computer Network LAB
Cycle Sheet-1

The following experiments shall be conducted using C in LINUX/UNIX.

1. Write the C program for OSI layer **(outcome –c)**
2. Write a program to implement the following Encoding Techniques **(outcome –e)**
   NRZ, NRZ-I ,Manchester, 4B/5B
3. Write a program for framing Techniques **(outcome –c)**
   3.1 Character Count
   3.2 Bit Stuffing and Destuffing
   3.3 Byte Stuffing.and Destuffing
4. Write a program for Flow control based on Sliding Window protocol **(outcome –l)**
   4.1 Go Back N ARQ
   4.2 Selective repeat ARQ
5. Write a program to implement CRC polynomials **(outcome –l)**

Cycle Sheet 2- Using NS2(Out-come C and K) for all the Exercise.

1. Simulate a three nodes point-to-point network with duplex links between them. Set the queue size vary the bandwidth and find the number of packets dropped.
2. Simulate a four node point-to-point network, and connect the links as follows: n0-n2, n1-n2 and n2-n3. Apply TCP agent between n0-n3 and UDP n1-n3. Apply relevant Applications over TCP and UDP agents changing the parameter and determine the number of packets sent by TCP/UDP.
3. Simulate the transmission of ping messages over a network topology consisting of 6 nodes and find the number of packets dropped due to congestion.
4. Simulate an Ethernet LAN using N-nodes(6-10), change error rate and data rate and compare the throughput.
5. Simulate an Ethernet LAN using N nodes and set multiple traffic nodes and plot congestion window for different source/destination.