CS303 – Computer Networks Lab

NS2 experiments

1. Implement three nodes point–to–point networks with duplex links between them. Set the queue size, vary the bandwidth, and find the number of packets dropped.
2. Implement transmission of ping messages/traceroute over a network topology consisting of 6 nodes and find the number of packets dropped due to congestion.
3. Implement Bus, Star and Ring topology and study their performance through simulation.
4. Implement an Ethernet LAN using n nodes and set multiple traffic nodes and plot congestion window for different source/destination.
5. Implement simple ESS and with transmitting nodes in wireless LAN by simulation and determine the performance with respect to the transmission of packets.
6. Implement and study the performance of CDMA/CA and CSMA/CD.
7. Implement and study the performance of Go Back N and Selective Repeat protocols

C/C++ experiments

8. Write a program for error detecting code using CRC-CCITT (16- bits)
9. Write a program to find the shortest path between vertices using the Bellman-Ford algorithm
10. Write a program for a simple RSA algorithm to encrypt and decrypt the data
11. Write a program for congestion control using a leaky bucket algorithm

Socket Programming

12. Using TCP/IP sockets, write a client-server program to make the client send the file name and to make the server send back the contents of the requested file if present.
13. Write a program on a datagram socket for the client/server to display the messages on the client side typed at the server-side