

# **Indian Institute of Information Technology, Allahabad**

**Course: Computer Networks**

**Batch: B. Tech. (IT) – 4<sup>th</sup> Semester**

**Lab Assignment #2**

**Deadline: 23/01/2024**

**Instructor: Dr. Vijay K. Chaurasiya**

**Note: Implement the programs in C and Python.**

1. Write a simple client-server program using stream (TCP) socket that provides synchronous chat facility. Your application allows a user on one machine to type in and send text to a user on another machine over the socket.
2. Repeat the above problem for datagram (UDP) socket.
3. Introduction to Sockets and Tasks are:
  - a. Create three programs using datagram socket, two of which are clients to a single server. Client1 will send a character to the server process. The server will decrement the letter to the next letter in the alphabet and send the result to client2. Client2 prints the letter it receives and then all the processes terminate. Compile and run this exercise.
  - b. Send a C structure that includes data of type character, integer and float from client1 to the server. The server should change the values so that client2 receives a structure with entirely different data. It is not permitted that the data should be converted to any other data type before transmission.

**CAUTION: DO NOT LEAVE PROCESSES RUNNING THAT ARE UNNECESSARY!!**

Use the kill command to kill processes. If you don't know the pid, use the ps command to get a list of currently running processes.