**The LNM Institute of Information Technology, Jaipur**

**Computer Networks Lab**

**Lab Assignment**

**Topic:** Analyzing network traffic and packets using wireshark

**Task:**  Your goal in this assignment is to understand and analyze the headers of all the layers that you have been taught in the theory classes until now, i.e., link layer, network, transport and application layer. The tool that you are going to use is wireshark.

**Details:** You have written client server programs in previous labs. You had used datagram sockets (UDP) and stream sockets (TCP). Run wireshark and after run the client and ther server executables:

1. For client server program using UDP sockets.

2. Client server programs using TCP sockets.

3. For web traffic.

Analyze the three kinds of program using wireshark and report the following in a text file or your notebooks:

1. Link layer protocols used, their headers, destination and source information. Confirm the details provided by wireshark through the other commands that you have practiced in the lab on network tools. Explain all the header information and relate them with theory classes.

2. Network layer protocols used, their headers, destination and source information. Explain all the header information.

3. Transport layer protocols used, their headers and differences between UDP and TCP transport protocols. Reaffirm that UDP acts just as a demultiplex key and does not do any sophisticated tasks compared to TCP.

4. See application headers whenever you can. Provide your understanding of headers.