

IT302 DCCN LAB ASSIGNMENT

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1. To familiarize with the Lab Network Topology, Locating different interfaces, routers and switches. Studying different pools of IP addresses.
2. To learn and observe the usage of different networking commands e.g. PING, TRACEROUTE. Learning remote login using telnet session. Measuring typical average delays between different locations of the network.
3. Ping” is a tool used to determine if a server is responding and to estimate the round trip-time of a message sent to that server. Use the ping command for the following URLs and record the success or failure statistics along with the average round trip time.

a)google.com

b) facebook.com

c) bitmesra.ac.in

4. Trace the route that is taken when you try to access:

a) google.com

b) facebook.com

c) bitmesra.ac.in

5. Write a C/C++ program to determine if the IP address is in Class A, B, C, D, or E.

6. Write a C/C++ program to translate dotted decimal IP address into 32 bit address.

7. Write a C/C++ program to perform bit stuffing and de-stuffing.

8. Write a C/C++ program to perform character stuffing and de-stuffing.

9. Write a C/C++ program to perform error detection method using-

- Single parity checking method
- Two dimension parity checking method
- Cyclic redundancy check(CRC) method
- Internet checksum method

10. Write a C/C++ program to perform error correction using Hamming code method.

11. Study and implement model for Socket Programming and Client – Server model.

12. Create a socket for HTTP for web page upload and download.

13. Write a code simulating PING and TRACEROUTE commands

14. Write a code simulating DHCP server.

15. Implement the routing table using-

a) Dijkstra’s algorithm.

b) Distance vector Routing algorithm.