

# **Lab Practice - I (404186)**

## **CN and MWE**

**Teaching Scheme:**

**Examination Scheme:** PR: 50Marks

Practicals: 4 Hrs/week

TW:50Marks

### **Computer Networks**

List of the Experiments (Minimum 8 experiments are to be performed).

1. Implementation of LAN using suitable multiuser Windows operating System and demonstrating client-server and peer to peer mode of configuration.
2. Installation and configuration of Web server.
3. Installation and configuration of FTP Server.
4. Study of DNS, SMTP & POP3 Determine the local host address, Ping to a host using its NetBIOS name Add IP addresses/host name mappings to the local host file Configure DNS service on Windows 2000 server Use Domain Name Service to resolve hostnames into IP addresses. Interact with an Email server using SMTP and POP3 protocols commands.
5. Socket Programming for client/Server application using Linux OS.
6. Installation and configuration of Telnet server for Telnet communication.
7. Installation and configuration of Proxy server.
8. Installation and configuration of DHCP server.
9. Study of IP Addresses subnetting and CIDR
10. Study of Network Protocol Analyzer tool/software.
11. Study of network monitoring tool/software.
12. Configuration of router & study of routing between LAN's
13. Simulating LAN or WAN using suitable network simulator.
14. Write a program for Encryption and Decryption
15. Write a program for implementation of Shortest Path algorithm.
16. Simulating LAN or WAN using suitable network simulator.
17. Study of wireless LANs (Demonstrating Data communication with Wi-Fi, Bluetooth networking etc).

### **Microwave Engineering**

**List of Practicals (Any eight experiments to be conducted except study experiment)**

1. Study of microwave components and equipments.
2. Reflex Klystron as a Microwave source in laboratory and plot its mode characteristics.
3. Measurement of the free space wavelength of the microwave (for TE<sub>10</sub> mode) with the

- help of the X-band microwave test bench and verify with its theoretical calculation.
4. Study of Gunn Diode & PIN Modulator as a Microwave source. Plot the V-I characteristics.
  5. Verification of Port Characteristics of Microwave Tees (E, H, E-H Planes).
  6. Verification of Port Characteristics of Directional Coupler. Calculation of coupling factor, insertion loss and directivity.
  7. Verification of Port Characteristics of Isolator and Circulator. Also calculation of insertion loss and isolation in dB.
  8. Study of slotted section with probe carriage. Measure the VSWR for various values of terminating impedances (open/short/matched termination).
  9. Study the Network Analyzer, Carry out the measurements of s-parameter measurement for the various microstrip components.
  10. Explain in detail the concept of RF power measurement. Carry out the RF power measurement using microwave bench
  11. To test and verify Microwave Integrated Circuits using Microstrip trainer kit and finds parameters, and plot the frequency response.