

## Experiment # 5

# Point to point local communication and Remote Access Service (RAS)

### Objective:

Connecting two computers through Modems, Parallel and Serial Cables. Remote Access Service Setup and Configuration.

### Connecting Computers through Parallel/Serial Cables:

1. Log on computer as **Administrator**.
2. Connect two computers with Parallel Cable or Serial Cable. One computer would be configured as Host (Server) and other as Guest (Client).
3. Specify the *DNS Servers IP addresses*, *WINS Server IP address*, *Gateway IP address* and *domain name* in the network settings.
4. Go to **Start, Settings, Network and Dial-up Connections**, open **Make New Connection**, then Click **Next**.
5. Check *Connect directly to another computer* option, then Click **Next**.
6. For Server; Check *Host*,  
For Client; Check *Guest*  
Guest computer can access the shared resources on the Host computer.
7. Select *Connection Device* that is Direct Parallel (LPT1) or Communication Port (COM1) or Communication Port (COM2). Then Click **Next**. Note: The data transfer rate of LPT Port is very much faster than COM Port.
8. For Host computer; Select *usernames* to give privilege to login from Client machine,  
For Guest computer; Select either *For all users* or *only for myself*  
then click **Next**.
9. Click **Finish**. Hence the Guest computer can connect to Host computer and can access the shared resources on the Host computer.

## Connecting Computers through Twisted-Pair Cross-over Cable:

1. Log on computer as **Administrator**.
2. Connect two computers with twisted-pair crossover cable.
3. Here both computers can access each other's shared resources.

## RAS Setup:

1. Log on computer as **Administrator**.
2. Specify the *DNS Servers IP addresses, WINS Server IP address, Gateway IP address and domain name* in the network settings.
3. If you have an external modem, connect it to serial port of computer then switch the modem ON. If you have internal modem, then first switch the computer OFF, open computer case, install the modem in any free slot on the motherboard, after hardware installation switch your computer ON.
4. If computer does not detect modem automatically, go to **Start, Settings, Control Panel, Phone and Modem Options**. Click **Add**, check option *Don't detect my modem; I will select it from a list*, click **Next**.
5. Click **Have Disk**, Click **Browse**, Go to drive **E**, go to folder **modemdrv**, then select the driver files and install modem driver.
6. After modem installation, you can configure your computer as *RAS Server* or *RAS Client* or *both* but you can use one service (Server/Client) at one time.

## RAS Server Setup:

1. Go to **Start, Settings, Network and Dial-up Connections**, open **Make New Connection**, then Click **Next**.
2. Check *Accept incoming Connections* option, then Click **Next**.
3. Check *modem*, click **Next**, Click **Next** again.
4. Select *usernames* to give privilege of RAS service, then click **Next**.
5. Click **Next** and Click **Finish**. Hence the client machine can connect to server machine and can access the local area network of server machine. If accessing local area network is stopped by the server machine, then client can only access the shared resources on the RAS server. For this purpose, go to *Incoming Connections Properties*, go to **Networking**, check *TCP/IP properties*, if you uncheck the option *Allow callers to access*

*my local area network* then client machine can not access local area network of RAS server.

### **RAS Client Setup:**

1. Go to **Start, settings, Network and Dial-up Connections**, open **Make New Connection**, then Click **Next**.
2. Check *Dial-up to Private Network* option, then Click **Next**.
3. Enter phone number of RAS Server, click **Next**, and then type *dial up* name like RAS EE-400 or anything you like, then click **Finish**.
4. A small window will appear connect to RAS EE-400, click on **Properties** and go to **Networking** and assign *TCP/IP* settings, like *DNS IP addresses*, *WINS IP address*, and *gateway IP address*.
5. Click on **Dial**, after get connected to the RAS Server, the client machine will be treated as if it is on the local area network of RAS server machine.