FACULTY OF ENGINEERING & TECHNOLOGY

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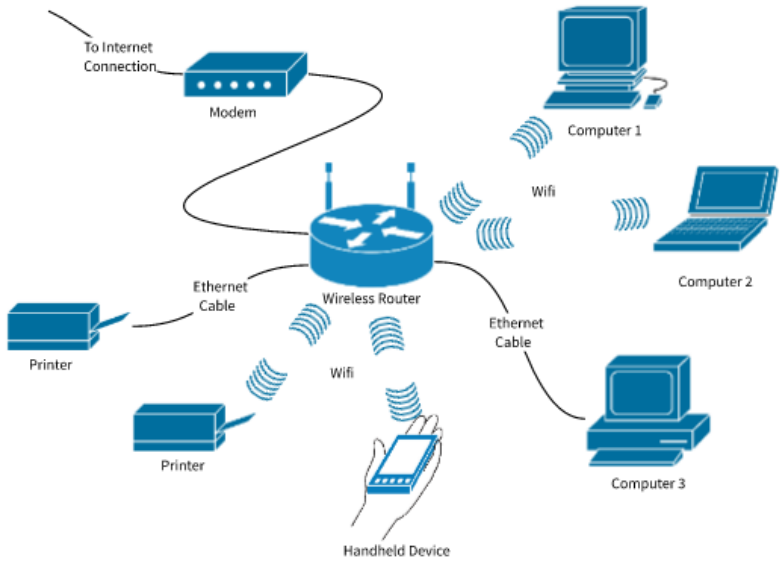
Topics Covered

Wireless Networks
Types of Wireless Networks
Advantages of Wireless Networks
Examples of wireless networks

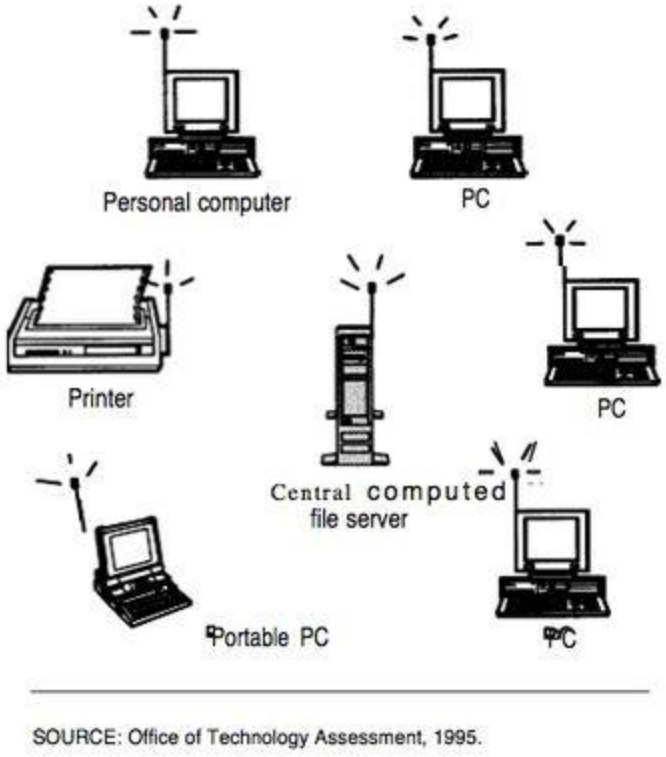
Wireless Networks

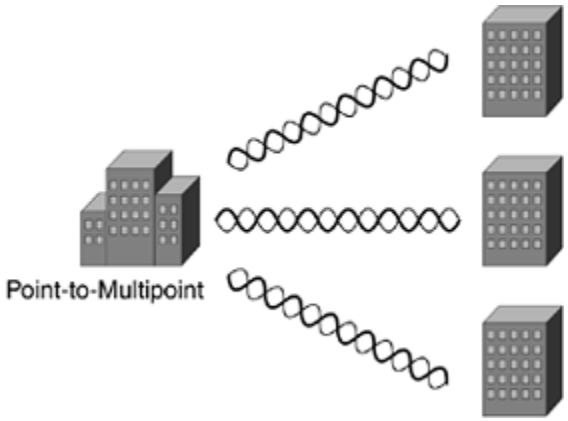
Computer networks that are not connected by cables are called wireless networks. They generally use radio waves for communication between the network nodes. They allow devices to be connected to the network while roaming around within the network coverage.

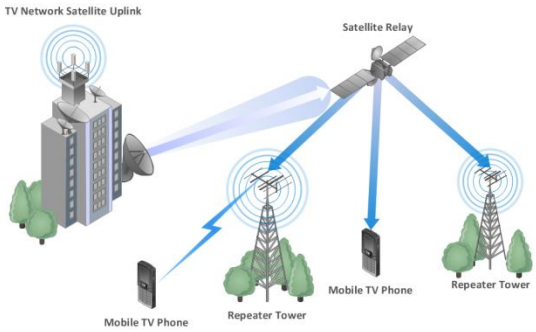


Types of Wireless Networks

Wireless LANs − Connects two or more network devices using wireless distribution techniques.
Wireless MANs − Connects two or more wireless LANs spreading over a metropolitan area.
Wireless WANs − Connects large areas comprising LANs, MANs and personal networks.







Advantages of Wireless Networks

It provides clutter-free desks due to the absence of wires and cables.
It increases the mobility of network devices connected to the system since the devices need not be connected to each other.
Accessing network devices from any location within the network coverage or Wi-Fi hotspot becomes convenient since laying out cables is not needed.
Installation and setup of wireless networks are easier.
New devices can be easily connected to the existing setup since they needn’t be wired to the present equipment. Also, the number of equipment that can be added or removed to the system can vary considerably since they are not limited by the cable capacity. This makes wireless networks very scalable.
Wireless networks require very limited or no wires. Thus, it reduces the equipment and setup costs.

Examples of wireless networks

Mobile phone networks
Wireless sensor networks
Satellite communication networks
Terrestrial microwave networks

MCQ

The advantage of using frequency reuse is
a. Increased capacity
b. Limited spectrum is required
c. Same spectrum may be allocated to other network
d. All of the above
ANSWER: All of the above
32) The strategies acquired for channel assignment are
a. Fixed
b. Dynamic
c. Regular
d. Both a and b
e. Both b and c
ANSWER: Both a and b
33) In a fixed channel assignment strategy, if all the assigned channels are occupied, the call
a. Gets transferred to another cell
b. Gets blocked
c. Is kept on waiting
d. All of the above
ANSWER: Gets blocked
34) In a fixed channel assignment strategy
a. Each cell is assigned a predetermined set of frequencies
b. The call is served by unused channels of the cell
c. The call gets blocked if all the channels of the cell are occupied
d. All of the above
ANSWER: All of the above
35) In a dynamic channel assignment strategy,
a. Voice channels are not permanently assigned
b. The serving base station requests for a channel from MSC
c. MSC allocates the channel according to the predetermined algorithm
d. All of the above