

Name: M.N. KHAN

ID: 2216080041

Course code: CSE-435

Course title: Data communication

• Mid Assessment "

Ans: Q: No: 02

(a) There are mainly 5 components of a data communication system: -

1. Message: This is most useful asset of data communication system.

2. Sender: The transfer message from source to destination, someone must be there who will play role of source.

3. Receiver: It is destination where finally message sent by source has arrived.

4. Transmission Medium: In entire process of data communication, there must be something which could act as a bridge between sender & receiver.

5. Set of rules (protocol): To given data communication, various sets of rules had been already designed by the designers of the communication system.

Advantage & disadvantage of network topology:

Topology	Advantage	Disadvantage
Bus	On expensive simple to expand easy to implement.	Prone to faults limited scalability difficult to isolate faults.
Ring	Equal access Deterministic Avoid collision.	Fault in any link affects whole network difficult to add or remove nodes.
Mesh	Redundant Fault tolerant Highly scalable	Very expensive difficult to setup & configure.
Star	Easy to setup, Easy to expand Fault isolation.	Hub is a single point of failure limited bandwidth.
Tree	Expansion of star some fault tolerance low cost.	Bus cable is a single point of failure difficult to configure.
Hybrid	Flexibility fault tolerance High Performance.	Complex costly to implement difficult to troubleshoot.

Q6) Ans: Micro Waves: Microwaves are defined as electromagnetic radiations with a frequency ranging between 300 MHz to 300 GHz. In contrast the wavelength radiation is commonly referred around 30 cm. Microwave radiation is commonly they fall between and radio waves is the electromagnetic spectrum.

Characteristics of Micro waves:

1. Shorter wavelength.
2. Higher Frequency.
3. Non-ionizing.
4. Penetration & Absorption.
5. Propagation.

These are commonly work for micro waves.

Ans:

## Disadvantage of LAN:

1. Limited distance.
2. Information security issue created.
3. Installing LAN is expensive.
4. Limited scalability.
5. Single point of failure.

## Disadvantage of WAN

1. Security Issue.
2. Installation cost.
3. Troubleshooting Issue.
4. Maintenance Issue.
5. And others problem facing.

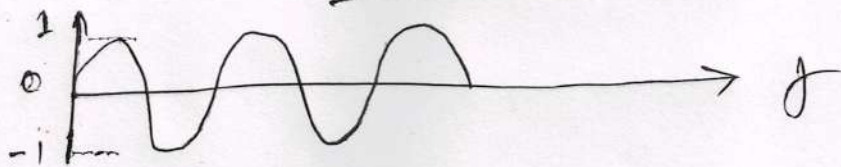
# DisADVantage of MAN

1. The problem of less security.
2. Wired Required.
3. Technical assistance.
4. Difficult to manage.

Al ready we told that CAN, WAN, &  
MAN's Disadvantages.

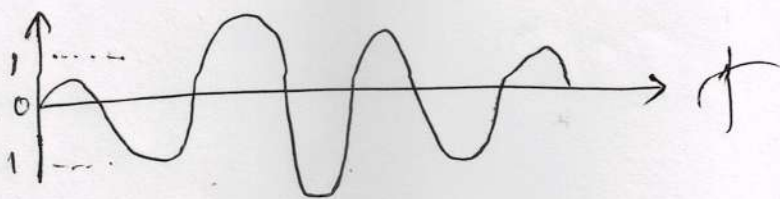
————— X —————

① Periodic signals: A periodic signal is a signal that repeats itself at regular intervals of time. A periodic signal can be represented as a sum of sinusoidal functions with frequencies that are higher/integer multiples of the fundamental frequency of the signal.



\* Non periodic signals: A non periodic signal is a signal that does not repeat itself at regular intervals. This means that it does not have a fundamental frequency that are integer multiple generally not composed of discrete frequencies.

non periodic signal



## (b) Transmission Impairment:

Transmission impairment occurs when the received signal is different from the transmitter signal. As we know, a signal can be transmitted as analog signal or it can be transmitted as a digital signal.

In analog signals due to transmission impairment the resulting received signals gets different amplified or the shape. In the case of digitally transmitted signals at the receiver side we get changes in bits, (0's or 1's).

---

X

---