

Day-1

Assignment-1

Ques-1 : What is Fundamental elements of telecom?

Ans-1 : Given are the few basic fundamental elements of telecom:

1. Sender(Client) - Sender is basically the computer system or machine or human using that machine to send some message or some signal through network to the Receiver(or Server).
2. Receiver(Server) - Receiver is the system or user handling that system which gets the message from the client and works what is being told to do by client and generate a response according to that and send this response back to the client through network.
3. Medium - Transportation of messages or signal can be possible through any source, for example-fibre cable. This source by which a communication between 2 systems are made possible is known as medium
4. Network - It includes connecting 2 or systems with each other to make communication between these systems on a large level. Networking can be done between 2 or more systems based upon the requirements.
5. Protocols - Set of rules which are to be followed by both the users, i.e., sender(client) and receiver(server) to make communication steady and efficient.
6. Requests - When a user (either client or server) ask the opposition to do some work or asks for some data or anything, it sends the request to the opponent.
7. Response - After getting the request from one user, the another user prepare the condition to do work as told by the first user and it also prepare the response to be sent to first user about the work second user have done.

Ques-2 : Evolution of telecom

Ans-1 : The improvement in communication between users over voice and data transfer since past 50 years is the evolution that happened. Various telecom channels in multiple generations were invented and modified in several years to make communication between 2 users (maybe not knowing each others locations) possible. Given are the multiple generations of network that happened since the creation of network and the changes made with time :

1. 1G -
 - a. Created in 1980s
 - b. Features: providing calling features
 - c. Not data transferable
 - d. Only voice call feature was there
 - e. Low capacity
 - f. Low quality
2. 2G -
 - a. 1G modified with new features in 1990s
 - b. Main feature : provided calling as well as internet feature
 - c. Communication by both medium that is over voice as well as on internet or text was made possible

- d. Higher capacity than 1G
 - e. Better quality than 1G
- 3. 3G -
 - a. Modified version of 2G, introduced during 2000s
 - b. Main feature : More higher internet speed and better voice quality
 - c. Video calls were made possible
 - d. Higher quality than previous generation networks
 - e. Higher capacity
- 4. 4G -
 - a. Innovative version after 3G, introduced in 2000-2010
 - b. Main feature: more faster internet, hundreds of mbps speed
 - c. Every feature present in above generations but with enhanced quality and reliability
 - d. Low latency
- 5. 5G -
 - a. Introduced in 2010-2020s
 - b. Main feature : best version of network generation till now being used by users
 - c. Mainly large data or internet usable with higher speed ever
 - d. Speed upto 10gbps
 - e. Low latency
 - f. Can work with multi media at the same time without failure