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Course - MCA - 2nd Sem
Section - 'B'

Computer Networks Assignment - 01

Ques 1. Discuss the history of computer networks.

Ans. A computer network is a group of computers that has the potential to transmit, receive and exchange voice, data, and video traffic.

A network connection can be set up with the help of either cable or wireless media. In modern times, computer networks are very important as information technology is increasing rapidly all over the world. The network and data communication are the essential factors to ripe information technology in the world as technology's advancement is on the system, including the gadgets. ARPANET began the networking long ago.

In 1957, when SPUTNIK Satellite was launched by Russia. An agency named ADVANCED RESEARCH PROJECT AGENCY (ARPA) was started by

American, & its first satellite was launched within 18 months after establishment. Then they used ARPANET to share the information on another computer. America's Dr. LIED LIEDER has this all responsibility. Then, ARPANET came to India in 1969, & its name changed from Indian to NETWORK.

For the United States Department of Defense, the funding of the design of the Advanced Research Projects Agency Network (ARPANET) was began by ARPA. In 1969, the network began to develops on the basis of the developed designs in the 1960s. Below are the complete history of computer networking:

- In 1961 - In this year, Leonard Kleinrock proposed the earliest computer networks, which was the idea of ARPANET.
- In 1965 - Donald Davies coined the term "packet" to describe how to send data between computers on a network.
- In 1969 - Although in 1966, the development of ARPANET began, officially started ARPANET in

1969. It was considered one of the first computer networks in which first two nodes, UCLA & SRI (Stanford Research Institute) were connected, & to use packet switching.

To provide & define information about network protocols, procedures, & computer communications, the first RFC surfaced as a document in April 1969.

- In 1969 - On 29 Aug, 1969, the first IMP & network switch were sent to UCLA. On ARPANET, the first data transmission was sent by using it.
- In 1970 - NCP, stands for NetWare Core Protocol, released by Steve Crocker & a team at UCLA for use with NetWare.
- In 1971 - The first e-mail was sent to across a network to others by Ray Tomlinson.
- In 1973 - While working at Xerox PARC, Robert Metcalfe developed the Ethernet in 1973. In the same year, ARPA deployed the first international network connection, known as SATNET.

In 1973, VoIP technology & capabilities were officially introduced, which made a VoIP call.

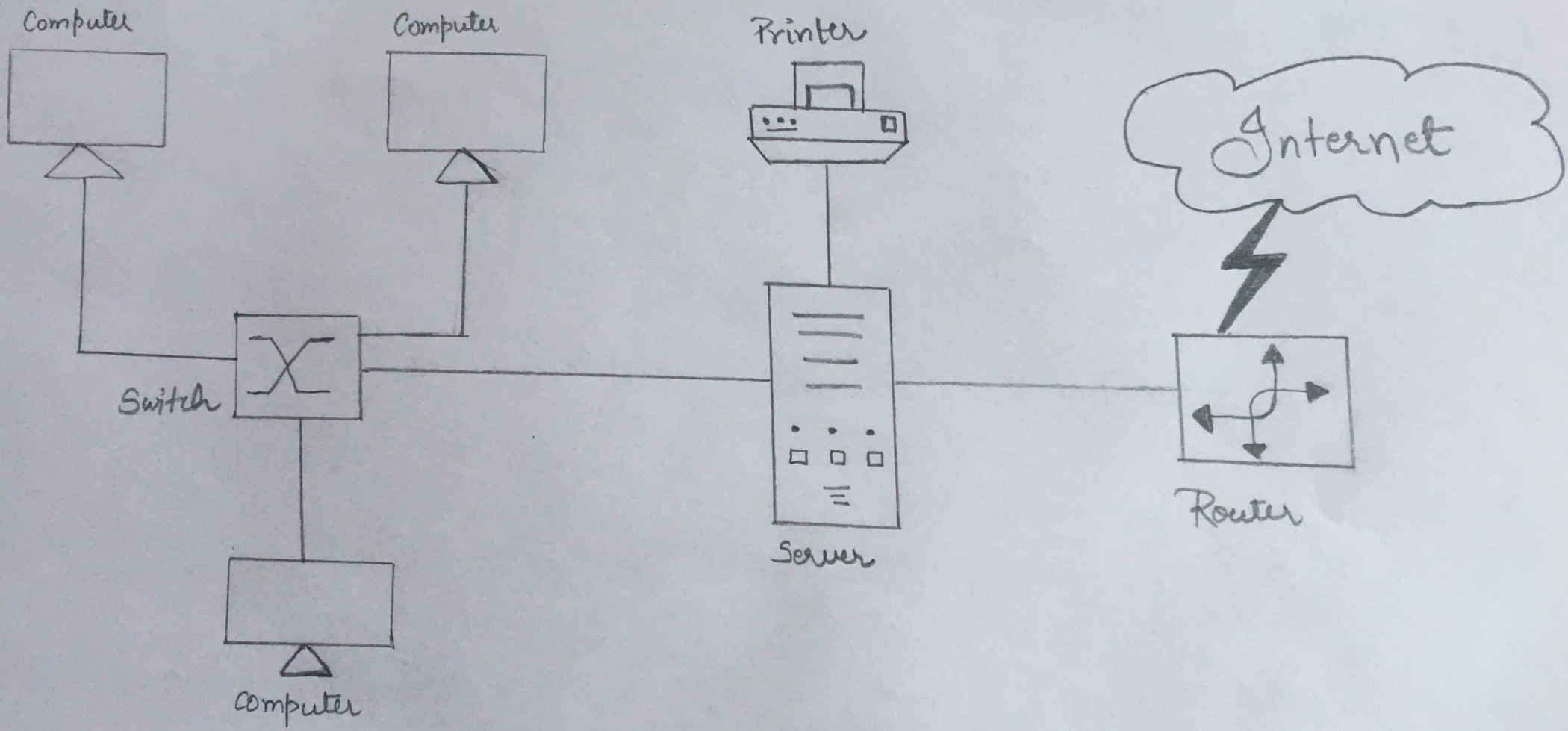
However, until 1955, the software was not

available for users that could make VoIP calls.

- In 1974 - The use of first router was begun, but they are not considered true IP routers.
- In 1976 - Originally called a gateway, Ginny Strazisar develop the first true IP router.
- In 1978 - The TCP/IP protocol was developed and invented by Bob Kahn for networks; it was developed with help from Vint Cerf.
- In 1981 - In the United States, between IBM mainframe Systems, BITNET was created in 1981 as a network. The U.S National Science foundation developed the CSNET (computer Science Network) in the same year 1981.
- In 1983 - For using TCP/IP, ARPANET finished the transition. The first DNS implement by Jon Postel & Paul Mockapetris in 1983.
- In 1986 - This is the year in which a backbone for ARPANET, the National Science foundation Network was came online, which finally took the place of ARPANET in 1990s. In the same year, with the original BITNET, BITNET II was introduced to deal with bandwidth issues.
- In 1988 - The first T1 backbone was included with ARPANET, AT&T, Lucent and NCR introduced the

WaveLAN network technology in 1988.

- In 1990 - The first network switch was developed & introduced by a U.S network hardware company named Kalpana in 1990.
- In 1996 - An IPv6 was introduced as an improvement over IPv4, as well as embedded encryption, improved routing.
- In 1997 - The 802.11 standards, containing transmission speeds up to 2 Mbps, for Wi-fi were introduced.
- In 1999 - The 802.11a standards, containing transmission speeds up to 25 Mbps to use the 5 GHz band was officially made.
- In 2003 - 802.11g devices, contained transmission speed upto 20 mbps were available to public in January 2003. In the same year, for use with 802.11g, the WPA encryption protocol is released.
- In 2004 - As a replacement for WPA, the WPA2 encryption protocol was introduced. By 2006, WPA2 certification was compulsory for all WI-FI devices.
- In 2009 - 802.11n standard can operate on the 2.4 GHz & 5 GHz bandwidths & offers higher transfer speeds over 802.11a & 802.11g.
- In 2018 - In January 2018, WPA3 encryption was released by the Wi-fi Alliance, which comprises security enhancements over WPA2.



COMPUTER Network Diagram