UNIT III

I. **Make sure that you know the following words:**

To communicate, to share information, computer network, to interact, LAN, WAN, modem, server, workstation, mainframe, to handle, desktop system, explosion, e-mail, file transfer, domain name, internet address, login, identification, indispensable, disperse, joint venture.

II. **Read and translate the text.**

INTERNET

People always wanted to communicate and share information. That was the main reason for the development of computer network.

Computer network is a group of computers that can interact by means of a shared communication link. There are two types of network:

- *Local area network (LAN)* is a network where computers are connected together directly, usually by cable. It is used in offices etc.
- *Wide area network (WAN)* is a network of local area networks connected together. The connection might be a cable or a mixture of cable, fiber optic, and satellite connectivity.

Modem (abbreviation for modulate / demodulate) is a device that allows computers to communicate over ordinary phone lines. It converts digital computer data back and forth for use with analog phone line. There are two types of modems: internal and external. Internal means that modem goes inside your computer. External modem is outside your computer and must be plugged into it.

A server is a computer designed to provide various services for an entire network. It is typically either a workstation or a mainframe because it will usually be expected to handle far greater loads than ordinary desktop systems.

The roots of the Internet go to 1969, when the Defense Advances Research Projects arm of the Department of Defense created ARPANET for research in networking. The project title was “Resource Sharing Computer Networks”. The work centered around the problem in the Department of Defense – how to keep military sites in communication across the country in the event of a nuclear war.

In the beginning research was the main goal of the system. In 1994 an explosion of direct connections to the Internet occurs. Research is not any more the only purpose of Internet. The Internet experiences a steady growing process. Not only universities, research companies and other organizations became part of the Internet, but many of small businesses and home were connected.

The estimate for year 2000 was 40 million people connected to the Internet and the large majority were home connections in more than 50 countries.

The Internet provides many services. Among them:

- *E-mail*. You can send or receive electronic messages from anyone on the Internet. Anything that can be stored in text file can be mailed.

- *File Transfer*. The File Transfer Protocol (FTP) provides for the copying of files from one computer to another.
- *Communication*. you can communicate with the help of the Internet with one person or a group of persons simultaneously.
- *Information*. On the Internet all addresses / domain names refer to "electronic addresses", e.g.:

  person-id@computer name.domain name

  There is never blank space between the components of the Internet address. User ids need not be unique (id – identification), e.g. two people with the same name can have it as login name as long as they operate on separate domains. But the domain name must be unique, however:

  Austin@galaxi.isr.umd.edu, Austin@euler.berkley.edu

  Austin is the person-id, "galaxy" and "euler" are computer names, "isr.umd.edu" and "berkeley" are domain names. Domain names are composed of sub-domain names: esr, umd, edu. In the computer address *isr.umd.edu* the sub-domain "edu" tells that the computer is located at an educational institution. The sub-domain name "umd" stands for University of Maryland, and "isr" means the collection of computers at the Institute for System Research, at the University of Maryland.

  If you want to send a message put down the word "mail" before the address.

  Today computers are seen as indispensable tools not only for computation and typing but for communications. The merging of computation and communications is making essential changes to day-to-day business activities of engineers. Suppose an engineer belongs to a geographically dispersed team. He can:
- Use the Internet ? E-mail for day-to-day communications.
- Conduct engineering analyses at remote sites.
- Share results among the team members.
- Participate joint ventures assembled over a network, and online bidding of projects etc.

III. Match the words in the left-hand column with their equivalents in the right-hand column:

1. access	1. the act of receiving
2. communicate	2. far away in time or space
3. convert	3. give; translate; perform
4. estimate	4. ask
5. goal	5. close and careful scientific study
6. handle	6. the base of anything; a source; the underground part of a tree
7. indispensable	**7**. a man-made object fired into space to orbit a planet

8. local	8. look over in order to find smth
9. majority	9. divide out among a number of people
10. mixture	10. happening or done at the same time
11. outline	11. constant
12. own	12. combine or join together
13. receipt	13. right or means of entry
14. remote	14. tell, make down
15. render	15. change (from one thing into another)
16. request	16. judge roughly the size, value etc of smth
17. research	17. anything aimed at
18. root	18. manage, cope with of a plant
19. satellite	19. necessary
20. search	20. of or confined to a certain place
21. share	21. the greater number or quality
22. simultaneous	22. smth made by combining different things
23. steady	23. line(s) showing a thing's shape
24. merge	24. have a possession

IV. Answer the following questions:

1. What is the Internet?
2. What does it mean 'computer network'?
3. Which types of networks do you know?
4. What do we need modem for?
5. What are the 'duties' of server?
6. What types of computers are used as servers?
7. What can you tell about the roots of the Internet?
8. Which services does the Internet provide?
9. Which of the Internet services do you prefer to use mostly?
10. Does The Internet help you in your study or work? How?
11. What does the FTP provide?
12. What does the domain name of the computer mean?

V. Retell the text briefly using the following expressions:

Computer network, LAN, WAN, modem, to covert digital data, server, the roots of the Internet, connections to the Internet, e-mail, file transfer, communication, information.

VI. Fill in the gaps with the missing words from the text. Mind that in each item the first letter of the word is used:

1. N… is a group of computers that can i… by means of a shared communication link.
2. M… converts digital data b… and f… to use with phone line.
3. In the b… research was the main g… of the network.
4. A server is either a w… or a m… because it will be expected to handle much more loads than ordinary desktop system.
5. Many people connected to the Internet and the large m… were home connections.
6. With the help of the Internet you can communicate with a group of persons s… .
7. If you are going to send a message write down the word "m…" before the address.
8. There is never b… space between the c… of the Internet address.
9. The m… of computation and communication is making e… changes to day-to-day business activities.
10. Today computers are seen as i… tools not only for c… and typing but for c… .

VII. Rearrange the words and get the right sentences.

1. information / to communicate / and / share / want / people.
2. plugged / is / it / your / computer / must / modem / outside / and / be / external / into.
3. of / an / explosion / direct / to / the / later / Internet / occurs / connections.
4. businesses / and / small / homes / were / many / of / connected .
5. from / you / send / or / messages / can / anyone / on / the Internet / receive.
6. never / there / address / between / the / blank / components / is / of / the / space.
7. are / as / tools / seen / indispensable / computers / today.
8. people / are / information / the Internet / making / via / available.
9. information / helps / to find / necessary / browser.
10. ventures / a network / participate / over / joint / can / assembled / an / engineer.

VIII. **Supply the prepositions if necessary**.

1. A device that allows computers to communicate … ordinary phones lines is called modem.
2. External modem must be plugged … a computer.
3. ARPANET was created … research … networking.
4. Their work was centered around the problem – how military sites … communication … the country … the event of a nuclear war.
5. … the beginning research was their main goal.
6. The File Transfer Protocol provides … the copying of files .. one computer … another.
7. Many of small businesses were connected … the Internet.
8. The sub-domain 'edu' tells that the computer is located … educational institution.

IX. There are two words given in each item. You have to explain in what way they are similar and how they differ from each other.

1. (a) LAN, (b) WAN
2. (a) internal modem, (b) external modem
3. (a) server, (b) desktop system
4. (a) computer name, (b) domain name
5. (a) domain name, (b) sub-domain
6. (a) address, (b) mail address

X. Give the opposites of the following words:

external; beginning; connection; available; indispensable; find; combine; send; leave; remote.

XI. Give the synonyms of the following words:

research; render; project; type; purpose;. inform; many; share; own; concentrate.

XII. Translate into English:

1. Сначала основной целью интернета являлись исследования.
2. Корни интернета уходят к 1969 г.
3. Модем является сокращением слов модулятор и демодулятор.
4. Через интернет можно получать или отправлять письма или просто общаться.
5. Интернет позволяет быстро находить любую интересующую вас информацию.
6. Несмотря на то, что на ранней стадии Web имел своей целью развитие науки и образования, позже он приобрел существенное значение для бизнеса.
7. Для нахождения необходимой информации в интернете следует пользоваться специальной программой, которая называется «браузер».
8. Сервером называется компьютер, обслуживающий всю сеть.
9. Web-сервером называется программа, которая при получении запроса отсылает клиенту затребованный документ.
10. Для соединения с клиентом необходимо знание его адреса.

XIII. Read the text, try to understand the topic and put the items in the right order. The first item is in the right position.

1. Search engines as Altavista and Hotbot claim that they have indexed the contents of tens of millions of web pages. How can they do this?

2. Resource discovery is perhaps the most exciting application of web robots. It means
   that rather than relying solely on browsing, a Web user can combine browsing and searching to locate information.
3. A Web robot is a program that traverses the Web's hypertext structure by retrieving a document, and recursively retrieving all documents that are referenced. Such programs are sometimes called "spiders', "web anderers", or "web worms".
4. Even if the database doesn't contain the exact item you want to retrieve, it is likely to contain references to related pages, which in turn may reference the target item.
5. Web robots can be used for statistical analysis (e.g., to count the number of Web servers), for maintenance (e.g., summarize large segments of the web).

XIV. **Look through the text. Make a short summary of it.**

The World Wide Web

The World Wide Web is a system of Internet servers that supports hypertext to access several Internet protocols on a single interface.

Almost every protocol type available on the Internet is accessible on the Web. Internet protocol are sets of rules that allow for intermachine communication on the Internet. The following major protocols are accessible on the Web:

E-mail (Simple Mail Transport Protocol or SMTP) distributes electronic messages and files to one or more electronic mailboxes.

Telnet (Telnet Protocol) facilitates login to a computer host to execute commands.

FTP (File Transfer Protocol) transfers text or binary files between an FTP server and client.

Usenet (Network News Transfer Protocol or NNTP) distributes Usenet news articles derived from topical discussions on newsgroups.

HTTP (HyperText Transfer Protocol) transmits hypertext over networks.

Other protocols are also available on the Web e.g., the Voice over Internet Protocol (VoIP) allows users to place a telephone call over the Web. The World Wide Web provides a single interface for accessing all these protocols.

This creates a convenient and user-friendly environment. It is not necessary to be conversant in these protocols within separate, command-level environments. The Web gathers these protocols into a system and is the fastest-growing component of the Internet (taking into account its ability to work with multimedia and advanced programming languages).

HyperText. The operation of the Web relies primarily on hypertext as its means of information retrieval. HyperText is a document containing words that connect to

other documents. These words are called links and are selectable by the user. A single hypertext document can contain links to many documents. In the context of the Web, words or graphics may serve as links to other documents, images, video and sound. Hence, the WWW contains a complex virtual web of connections among a huge amount of documents, graphics, videos and sounds.

Producing hypertext for the Web is accomplished by creating documents with a language called HyperText Markup Language or HTML. With HTML, tags are placed within the text to accomplish document formatting, visual features such as font size, italics and bold, and creation of hypertext links. Graphics may also be incorporated into an HTML document. HTML is an evolving language, with new tags being added as each upgrade of the language is developed and released.

Pages on the Web. The World Wide Web consists of files, called pages and Web pages, containing information and links to resources throughout the Internet.

Web pages can be created by user activity. For example, if you visit a Web search engine and enter keywords on the topic of your choice, a page will be created containing the results of your search.

XV. Translate the text in written form.

Multimedia

The Web has become a broadcast medium. It is possible to listen to audio and video over the Web, both pre-recorded and live. For example, you can visit the sites of various news organizations and view the same videos shown on the nightly television news. Several plug-ins are available for viewing these videos. For example, Apple's Quick Time Player downloads files with the .mov extension and displays these as "movies" in a small window on your computer screen. Quick Time files can be quite large, and it may take patience to wait for the entire movie to download into your computer before you can view it.

The problem of slow download times has been answered by a revolutionary development in multimedia capability: streaming media. In this case, audio or video files are played as they are downloading or streaming into your computer. Only a small wait, called buffering, is necessary before the file begins to play. The RealPlayer plug-in plays streaming audio and video files. Extensive files such as interviews, speeches and hearings work very well with the RealPlayer. The RealPlayer is also ideal for the broadcast of real-time events. These may include press conferences, live radio and television broadcasts, concerts, etc. The Windows Media Player is another streaming media player.

Shockwave presents another multimedia experience. Shockwave allows for the creation and implementation of an entire multimedia display combining graphics, animation and sound.

Sound files, including music, may also be heard on the Web. It is not uncommon to visit a Web page and hear background music. Sound files are also available for

downloading independent of Web page visits. Sound files of many types are supported by the Web with the appropriate plug-ins. The MP3 file format, and the choice of supporting plug-ins, is the latest music trend to sweep the Web. The famous Napster site allows for the exchange of MP3 files.

Live cams are another aspect of the multimedia experience available on the Web. Live cams are video cameras that send their data in real time to a Web server. These cams may appear in all kinds of locations, both serious and whimsical: an office, on top of a building, a scenic locale, a special event, and so on.