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АНГЛИЙСКИЙ ЯЗЫК ДЛЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ

ЧАСТЬ II

Учебное пособие

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Содержит тексты из оригинальной литературы по теме «Компьютеры и информационные системы»; учебные задания, способствующие усвоению и запоминанию специальных терминов по компьютерным технологиям; задания для развития навыков чтения и составления аннотаций. Пособие включает аутентичный текстовый материал общенаучного и технического характера для аудиторной и самостоятельной работы с целью формирования иноязычной профессиональной компетенции студентов

Предназначено для студентов, обучающихся на дневном отделении по техническим специальностям: 230000 «Информатика и вычислительная техника»; 230100 «Информационная и вычислительная техника»; 230200 «Информационные системы»; 230202 «Информационные технологии в образовании»; 230201 «Информационные системы и технологии»; 090900.62 «Информационная безопасность».

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ВВЕДЕНИЕ

В современном информационном мире владение компьютерными технологиями является абсолютно необходимым для каждого грамотного человека. Неотъемлемым компонентом компьютерной грамотности следует признать должный уровень владения определенными понятиями и терминами языка компьютерных технологий. По существу речь идет об изучении специального, функционального аспекта английского языка.

Цель данного пособия – обучить языковым средствам для эффективного общения с компьютером; пониманию специальных научно-технических текстов в области компьютерных и информационных технологий; умению свернуть и развернуть информацию при подготовке рефератов и аннотаций на русском и английском языках.

Учебное пособие содержит:

- тексты из оригинальной литературы по теме «Компьютеры и информационные системы»;
- учебные задания, способствующие усвоению и запоминанию специальных терминов по компьютерным и информационным технологиям;
- задания для развития навыков чтения, составления аннотаций на английском языке;
- задания по совершенствованию навыков письменного перевода;
- упражнения по усвоению грамматических явлений, характерных для научно-технических текстов;
- тест в начале курса, а также контрольные тесты в конце каждого раздела;
- англо-русский словарь специальных технических терминов, в состав которого включен лексический минимум, необходимый для изучения курса информатики;
- краткий словарь сокращений и условных обозначений с элементами толкования.

Данное пособие будет способствовать углубленному изучению английского языка и повышению грамотности студентов в области информационных технологий.

Предназначено для расширенного изучения английского языка в области информационных технологий. Представленный материал позволяет обучающимся не только углубить знания в английском языке, но и овладеть основами компьютерной грамотности.

PLACEMENT TEST 1

1. Fill in the missing forms of the irregular verbs

Base form	Past Tense	Past Participle
arise		arisen
begin	began	
buy		bought
	caught	caught
deal		dealt
feed		fed
	found	found
get	got	
hang	hung	
	hid	hidden
keep		kept
lay		laid
	let	let
make	made	
pay		paid
put	put	put
	ran	run
	saw	seen
shake		shaken
sink	sank	
smell	smelled/smelt	
	spoke	spoken
swear		sworn
swing	swung	
steal	stole	
teach	taught	
	told	told
throw	threw	
	won	won
write		written

2. Present Tense – Simple or Progressive: fill in the correct form

1. She usually (learn) languages very fast but she (have) problems with Chinese at the moment.
2. He never (go) to the theatre.
3. Do you (watch) television every night?
4. He always (pay) his bills on time.
5. My father usually (eat) his breakfast at eight.
6. How long it (take) to get to the office? It (take) me half an hour.
7. The boat (leave) Victoria Station at 9.
8. You (know) how old I am?
9. Jane's husband (not smoke).
10. It often (not rain) in Egypt.
11. Florence (lie) on the river Arno.
12. He usually (speak) so quickly that I (not understand) him.
13. How you (get) to work? – I usually (go) by car but tomorrow I (go) inTom's car.
14. Why you (put) on your raincoat? – I (go) for a walk. – You (want) to go with me?
15. I always (buy) lottery tickets but I never (win).

3. Fill in the correct form of the verb – All tenses

1. They (be) in Moscow for 20 years.
2. I (see) a wonderful film in the cinema last night.
3. The sun (set) at 6:38 yesterday evening.
4. The sun (not shine) when the climber reached Mount Everest.
5. I promise that I (not tell) this secret to anyone.
6. Unfortunately, just as we got to the airport their plane (take) off.
7. Mike (not go) to the movies often.
8. I was tired yesterday because I (work) well the night before.
9. Mary and Ann (listen) to our conversation!
10. When I came the home this evening, it (rain).

4. Change the sentences to passive voice

1. Someone reads the newspaper to him every day.
2. The Chinese discovered acupuncture thousands of years ago.
3. Has he given you back the book yet?

4. The police locked up the criminals.
5. They must have left the keys behind.
6. The robbers made up the story.
7. The boy is eating the cake.
8. Dad promised by a box of chocolates.
9. The spider scared her.
10. The guide will show us the Natural History Museum in the afternoon.
11. The dentist is cleaning the woman's teeth.
12. She showed her relatives the new house.

PLACEMENT TEST 2

1. Fill in the missing forms of the irregular verbs

Base form	Past Tense	Past Participle
bite	bit	
bleed		bled
	blew	blown
break	broke	
	built	built
come	came	
	cost	cost
	drew	drawn
dream		dreamt/dreamed
eat	ate	
fall	fell	
	flew	flown
forget	forgot	
	gave	given
grow	grew	
hear		heard
	hid	hidden
know	knew	
lead		led
lend	lent	
lie	lay	
	met	met
read		read
	said	said
sell	sold	
	shot	shot
shine		shone
sing	sang	
spend		spent
stand		stood

2. Present Tense – Simple or Progressive: fill in the correct form

1. You can't see Tom now. He *(have)* a bath.
2. He usually (*drink*) coffee, but today he (*drink*) tea.
3. I won't go out now because it (rain) and I (not have) an umbrella.
4. In Spain women usually (not wear) hats.
5. Who (make) that terrible noise? It is John. He (blow) his nose.
6. My dentist always keeps (tell) me to clean my teeth. I hate that.
7. He never (go) to the theatre.
8. I (spend) this weekend in London. I (go) there nearly every week.
9. My wife always keeps (ask) for more money at the end of the week.
10. Who you (speak) to on the phone?
11. Anne (make) all her clothes. At the moment she (make) a dress for herself.
12. What's that smell? Something (burn) in the kitchen.
13. I (work) overtime this month because I (save) up to buy a new car.
14. He (smoke) thirty cigarettes a day but at the moment he (try) very hard to stop.
15. The sun (rise) in the east and (set) in the west.

3. Fill in the correct form of the verb – All tenses

1. I think Bob (leave) for USA this very moment.
2. The train (leave) in a few minutes.
3. I (not get) up at 7 every morning but this morning I (not sleep) long and I (get) up until 8.
4. I (wear) my watch because it is being fixed.
5. They (not live) in an apartment right now because they find a cheap house.
6. Everyone (feel) when the earthquake hit the small town.
7. He (not live) by herself since her divorce.
8. I was angry that I (make) such a stupid mistake.
9. Nothing much (happen) when I got to the meeting.
10. My parents (be) in Moscow two weeks from today.

4. Change the sentences to passive voice

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1. Many people begin new projects in January.
2. You must wash that shirt for tonight's party.
3. Mum is going to prepare the food.
4. They make shoes in that factory.
5. We will have to examine you again.
6. They had finished preparations by the time the guests arrived.
7. The delegation will meet the visitors at the airport.
8. We have produced skis here since 1964.
9. All workers will read the memo.
10. Nobody can beat Tiger Woods at golf.
11. They also speak German at EU meetings.
12. We must look into the question.

MODULE 3

UNIT 1.   NETWORKS AND TELECOMMUNICATIONS

I. READING

1.1. Read and translate the following text "The Networking"[30]

THE NETWORKING

The term internetworking refers to linking individual LANs together to form a single internetwork. This internetwork is sometimes called an enterprise network because it interconnects all of the computer networks throughout the entire enterprise.

There are three major types of devices used for internetworking: bridges, routers, and switches.

Bridges and ***routers*** are both special kinds of devices used for internetworking LANs that is, linking different LANs or LAN segments together. Many organizations have LANs located at sites that are geographically distant from each other. Routers were originally designed to allow users to connect these remote LANs across a wide area network, but bridges can also be used for this purpose. By placing routers or bridges on LANs at two distant sites and connecting them with a telecommunications link, a user on one of the LANs can access resources on the other LAN as if those resources were local.

Bridges and routers link adjacent LANs. Local bridges and routers were first used to extend the area a network could cover by allowing users to connect two adjacent LANs to maintain performance by reducing the number of users per segment. Both Ethernet and Token Ring specify limits on maximum distances between workstations and hubs, hubs and hubs, and a maximum number of stations that can be connected to a single LAN. To provide network connectivity for more people, or extend it to cover a larger area, it is sometimes necessary to link two different LANs or LAN segments. Bridges and routers can both provide this function.

Today, however, these internetworking devices are also increasingly used to segment LANs to maintain performance by reducing the number of users per segment. When users on a single LAN begin to experience slower response times, the culprit is often congestion: too much traffic on the LAN. One method users are employing to deal with this is to break large LANs with

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many users into smaller LANs, each with fewer users. Adding new network users may require the organization to create new LANs to accommodate them. Implementing new applications on an existing LAN can create so much incremental traffic that the organization may need to break the LAN into smaller LANs segments to maintain acceptable performance levels.

In all of these cases, it is still critical that users on one LAN be able to reach resources on other LANs within the organization. But the LANs must be connected in such a way that packets are filtered, so that only those packets that need to pass from one LAN to another are forwarded across the link. This keeps the packets sent between two stations on any one LAN from crossing over onto the other LANs and thereby congesting them. A general rule of thumb suggests that 80 percent of the packets transmitted on a typical workgroup or department LAN are destined for stations on that LAN. Both bridges and routers can be used to segment LANs.

Bridges are the simpler, and often less expensive, type of device. Bridges filter packets between LANs by making a simple forward/don't forward decision on each packet they receive from any of the networks they are connected to. Filtering is done based on the destination address of the packet. If a packet's destination is a station on the same segment where it originated, it is not forwarded. If it is destined for a station on another LAN, it is connected to a different bridge port and forwarded to that port. Many bridges today filter and forward packets with very little delay, making them good for large traffic volumes.

Routers are more complex internetworking devices and are also typically more expensive than bridges. They use Network Layer Protocol Information within each packet to route it from one LAN to another. This means that a router must be able to recognize all of the different Network Layer Protocols that may be used on the networks it is linking together. This is where the term multiprotocol router comes from a device that can route using many different protocols. Routers communicate with each other and share information that allows them to determine the best route through a complex internetwork that links many LANs.

Switches are another type of device used to link several separate LANs and provide packet filtering between them. A LAN switch is a device with multiple ports, each of which can support a single end station or an entire Ethernet or Token Ring LAN. With a different LAN connected to each of the switch's ports, it can switch packets between LANs as needed. In effect, it acts like very fast multiport bridge packets are filtered by the switch based on the destination address. Switches are used to increase performance

on an organization's network by segmenting large networks into many smaller, less congested LANs, while still providing necessary interconnectivity between them. Switches increase network performance by providing each port with dedicated bandwidth, without requiring users to change any existing equipment, such as NICs, hubs, wiring, or any routers or bridges that are currently in place. Switches can also support numerous transmissions simultaneously.

Deploying technology called dedicated LAN is another advantage of using switches. Each port on a Fast Ethernet switch supports a dedicated 100 Mbps Ethernet LAN. Usually, these LANs comprise multiple stations linked to a 100BASE-TX hub, but it is also possible to connect a single high-performance station, such as a server, to a switch port. Using LAN switches allows a network designer to create several small network segments. These smaller segments mean that fewer stations are competing for bandwidth, thereby diminishing network congestion.

In this case, that one station has an uncontested 100 Mbps Fast Ethernet LAN all to itself. Packets forwarded over it from other ports on the switch will never produce any collisions because there are no other stations on the LAN at that port. As was noted earlier, LAN switching is a relatively new technology. Today's switching devices switch relatively large, variable-length LAN packets between different local area networks. ATM is another type of switching technology that switches small, fixed-length cells containing data. ATM networks can be run at much higher data rates than today's LANs. Eventually, they will be used to carry voice, video, and multimedia traffic, as well as computer-generated data over both short and long distances. ATM will be one of the dominant enterprise networking technologies of the future, and many companies are beginning to develop strategies to incorporate ATM in their existing LANs and LAN Internet works.

Study the meaning of the following words and word combinations:
- *an enterprise*
- *adjacent*
- *to extend*
- *Token Ring*
- *to segment*
- *response time*
- *congestion*
- *incremental*

- *to destine*
- *simultaneously*
- *dedicated LAN*
- *to diminish*
- *a culprit*
- *uncontested*

1.2. Answer the following questions:

1. What are the similarities and differences between a router and a bridge?
2. What are switches used for?
3. What networking hardware do you know?

1.3. Say whether the following statements are fact or possibility:

1. They haven't met this symbol. They can't have met this symbol.
2. The computer is broken. The computer must be broken.
3. This computer system isn't effective.
4. This computer system can't be effective.
5. This digital computer is better then previous one.
6. This digital computer must be better than previous one.
7. He might have lived there. He lived there.

1.4. Read and translate the following text "Peer-to-Peer versus a Client-Server"[32]

PEER-TO-PEER VERSUS A CLIENT-SERVER

Every network, regardless of whether it is "peer-to-peer" or "client – server" based requires some form of special software in order to control the flow of information between the users being networked. A *Network Operating System*, or *"NOS"*, is installed on each computer requiring network access. The *NOS* monitors, and at times controls, the exchange and flow of files, email, and other network information.

Network Operating Systems are classified according to whether they are *peer-to-peer* or *client-server* Network Operating Systems. A Peer-to-peer capable network operating system, such as Windows 95, Windows 98 and Windows for Workgroups are usually the best choices for home and small

office networks. They do an excellent job of sharing applications, data, printers, and other local resources across a handful of computers. Client-Server network operating systems, such as Windows NT and Novel NetWare are better for larger scale organizations that require fast network access for video, publishing, multimedia, spreadsheet, database, and accounting operations. However, with the recent decreases in hardware costs, don't shy away from a client-server installation in your home or home-office if you feel that faster network access for such things as streaming video, video and web page publishing and database operations would make life easier for you.

Peer-to-Peer Networks: peer-to-peer networks allow you to connect two or more computers in order to pool their resources. Individual resources such as disk drives, CD-ROM drives, scanners and even printers are transformed into shared resources that are accessible from each of the computers. Unlike client-server networks, where network information is stored on a centralized file server computer and then made available to large groups of workstation computers, the information stored over a peer-to-peer network is stored locally on each individual computer. Since peer-to-peer computers have their own hard disk drives that are accessible and sometimes shared by all of the computers on the peer-to-peer network, each computer acts as both a *client* (or node) and a *server* (information storage).

Although not capable of handling the same rate of information flow that a client-server network would, all three computers can communicate directly with each other and share each other's resources. A peer-to-peer network can be built with either 10 Base T cabling and a hub (as above) or with a thin coax backbone (10 Base 2). 10 Base T is best for small workgroups of 16 or fewer computers that are not separated by long distances, or for workgroups that have one or more portable computers that may be disconnected from the network from time to time.

Once the networking hardware has been installed, a peer-to-peer network software package must be installed on each of the computers. This software package allows information to be transferred back and forth between the computers, hard disks, and other devices connected to the computers or to the network when users request it. Windows 95 and Windows 98 both have networking software built into the operating system and you can add other forms of peer-to-peer network operating software such as Artisoft LANtastic, and NetWare Lite. Frankly though, if you already have Windows 95 or Windows 98 (including Windows 98 Second Edition), there's really no need for additional networking software unless you have a software package that requires it.

Most network operating system software (such as Windows 95 and

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Windows 98) allows each peer-to-peer computer to determine which resources will be available for use by all other users of the remaining computers on the network. Specific hard and floppy disk drives, directories, files, printers, and all other resources can be attached or detached from the network via software. When one computers disk has been configured so that it is being shared, it will usually appear as a new or additional drive to the other computer users. As an example, if user A has an **A** and **C** drive on his computer, and user B configures his entire **C** drive so that it is shared, user A can *map* to the user B's **C** drive and have an **A**, **C**, and **D** drive (user A's **D** drive is actually user B's **C** drive). Directories operate in a similar fashion. If user A has an **A** & **C** drive, and user B configures his "C:\WINDOWS" and "C:\DOS" directories as sharable, user A can *map* to those directories and then have an **A**, **C**, **D**, and **E** drive (user A's **D** is user B's C:\WINDOWS, and **E** is user B's C:\DOS). Did you get all of that?

Because drives can be easily shared between peer-to-peer computers, data only needs to be stored on one computer, not two or three. As an example, let's say that three computers have Microsoft Word installed. Instead of saving documents and other data on all three machines, you can save all of the documents on one computer.

The advantages of peer-to-peer over client-server NOS's include:
- No need for a network administrator.
- Network is fast and inexpensive to setup and maintain.
- Each computer can make backup copies of its data to other computers for security.
- Peer-to-peer is, by far the easiest type of network to build for either home or office use.

Client-Server Networks: in a client-server environment like Windows NT or Novell NetWare, files are stored on a centralized, high speed file server PC that is made available to client PCs. Network access speeds are usually faster than those found on peer-to- peer networks, which is reasonable given the vast numbers of clients that this architecture can support. Nearly all network services like printing and electronic mail are routed through the file server, which allows networking tasks to be tracked. Inefficient network segments can be reworked to make them faster, and users' activities can be closely monitored. Public data and applications are stored on the file server, where they are run from client PCs' locations, which makes upgrading software a simple task. Network administrators can simply upgrade the applications stored on the file server,

rather than having to physically upgrade each client PC. In the client-server diagram below, the client computers are separate and subordinate to the file server. The primary applications and files used by each of the clients are stored in a common location on the file server. File servers are often set up so that each user on the network has access to his or her "own" directory, along with a range of "public" or *shared* directories where applications and data are stored. If the clients below want to communicate with each other, they must do so through the file server. A message from one client to another client is first sent to the file server, where the server then routs it to its destination. It becomes obvious then, that if you were to have tens or hundreds of client computers, a file server would be the only way to manage the often complex and most times simultaneous operations and transactions that large networks with many clients would generate.

Study the meaning of the following words and word combinations:
- *peer-to-peer network*
- *client-server network*
- *a flow*
- *a handful*
- *streaming video*
- *to map*
- *a backup copy*
- *inefficient*
- *to subordinate*

1.5. Answer the following questions:

1. What is a network operating system? What modern network operating systems do you know?
3. What types of NOS are used in small offices and large organizations?
4. Where is network information stored in "peer-to-peer" and "client-server" NOSs?

1.6. Say whether the following statements are false or true:

1. The NOS is the "brain" of the entire network, acting as the command center and enabling the network hardware and software to function as one cohesive system.

2. Client-server NOS can be useful at home and small offices as well as in large organizations.

3. The information stored over a client-server network is stored locally on each individual computer.

4. Network access speed on client-server network is faster than on peer-to-peer networks.

5. In a client-server network resources and data security are controlled through the server.

1.7. Read and translate the text "What is the Internet?"[30]

WHAT IS THE INTERNET?

What is this computer phenomenon called the Internet, or the Net? Do you personally have need of it? Before you decide to get "on" the Internet, you may want to know something about it. Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts, business, government, humanities, news, politics and recreation. People communicate through electronic mail (e-mail), discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

Using the Internet, David, a teacher in the United States, acquired course materials. A Canadian father accessed it to stay in contact with his daughter in Russia. A housewife used it to examine scientific research on the early beginnings of the universe. A farmer turned to it to find information about new planting methods that make use of satellites. Corporations are drawn to it because of its power to advertise their products and services to millions of potential customers. People around the globe read the latest national and international news by means of its vast reporting and information services.

The World Wide Web (WWW) is a part of the Internet. But it's not a collection of networks. Rather, it is information that is connected or linked together like a web. You access this information through one interface or tool

called a Web browser. The number of resources and services that are part of the World Wide Web is growing extremely fast. In 1996 there were more than 20 million users of the WWW, and more than half the information that is transferred across the Internet is accessed through the WWW.

By using a computer terminal (hardware) connected to a network that is a part of the Internet, and by using a program (software) to browse or retrieve information that is a part of the World Wide Web, the people connected to the Internet and World Wide Web through the local providers have access to a variety of information. Each browser provides a graphical interface. You move from place to place, from site to site on the Web by using a mouse to click on a portion of text, icon or region of a map. These items are called hyperlink or links. Each link you select represents a document, an image, a video clip or an audio file somewhere on the Internet. The user doesn't need to know where it is; the browser follows the link. All sorts of things are available on the WWW. One can use Internet for recreational purposes. Many TV and radio stations broadcast live on the WWW. Essentially, if something can be put into digital format and stored in a computer, then it's available on the WWW. You can even visit museums, gardens, and cities throughout the world, learn foreign languages and meet new friends. And, of course, you can play computer games through WWW, competing with partners from other countries and continents.

Study the meaning of the following words and word combinations:
- *to retrieve*
- *variety*
- *humanities*
- *recreation*
- *to share*
- *business transactions*
- *network*
- *access*
- *to link*
- *browser – to browse*
- *provider – to provide*
- *site*
- *hyperlink*
- *broadcast live*
- *to compete*

1.8. Answer the following questions:

1. Why so many activities such as e-mail and business transactions are possible through the Internet?
2. What is World Wide Web? What is Web browser?
3. What does a user need to have an access to the WWW?
4. What resources are available on the WWW?
5. What are the basic recreational applications of WWW?

1.9. Say whether the following statements are false or true:

1. There are still not so many users of the Internet.
2. There is information on all sorts of topics on the Internet, including education and weather forecasts.
3. People can communicate through e-mail and chat programs only.
4. Internet is tens of thousands of networks, which exchange the information in the same basic way.
5. You can access information available on the World Wide Web through the Web browser.
6. You need a computer (hardware) and a special program (software) to be a WWW user.
7. You move from site to site by clicking on a portion of text only.
8. Every time the user wants to move somewhere on the web he/she needs to step by step enter links and addresses.
9. Films and pictures are not available on the Internet.
10. Radio and TV-broadcasting is a future of Internet. They're not available yet.

II. WRITING

2.1. Write the English equivalents of the given Russian words and word combinations and make up sentences:

А) Введение информации; координатные устройства ввода; манипуляторы; мышь; трекбол; сенсорная панель; графические планшеты; цифровые камеры; сканеры; ТВ тюнеры; стандартная клавиатура; числовая и текстовая информация; световые индикаторы; клавиши; режим работы; презентация текста на мониторе; графический

интерфейс; программные средства; оптико-механическое устройство ввода; управлять движением курсора; упрощать ориентацию пользователя на экране; указывать и выбирать изображения; удерживать кнопки в нажатом состоянии; двойное нажатие; стирать объекты; ровная поверхность; вращать ролики; следить за вертикальным движением; легко скользить; портативный компьютер; рукописный текст; посредством; разрешающая способность

В) Удобная для восприятия человека форма; наиболее часто употребляемые устройства вывода информации; различаться по рабочим характеристикам и внешнему виду; принтеры с посимвольной печатью; принтеры с построчной печатью; принтеры с постраничной печатью; различные методы печати; диапазон скорости; принтеры контактные и бесконтактные; ударять по ленте; печатать по одному символу; буквально все компьютеры; а также; требования печати; принтер с типографским качеством печати; точечно-матричные принтеры; струйные принтеры; разбрызгивать капли чернил; высокое содержание железа; магнитные поля; принимать форму символа; кажется, что печатают по строчке; барабанный принтер; цепочечные принтеры; лазерный принтер.

2.2. Write the Russian equivalents of the given English words and word combinations and make up sentences:

To accomplish: accomplished, unaccomplished, accomplishment.
To adapt : adaptable, inadaptable, adaptability, adaptation, adapter.
To digitize: digit, digital, digitization, and digitizer.
To erase: erasable, erasability, eraser, erasing, erasure.
To permit: permitted, permissible, permissibility, permission.
To print: printable, printed, printer, printing.
To recognize: recognition, recognizer, recognizable, unrecognizable.
To respond: response, responsible, irresponsible, responsibility, and irresponsibility.
To reverse: reversed, reversible, irreversible, reversion, reversibility.
To transform: transformer, transformation, transformational, transformative

2.3. Do the written translation of the following text and give the title to it:

The part of the Internet called World Wide Web (or Web) allows authors to use an old-fashioned idea - that of footnotes - in a new way. When an author of a magazine article or a book inserts a footnote symbol, we scan the bottom of the page and are possibly directed to another page or book.

Authors of Internet computer documents can do essentially the same thing using a technique that will underline or highlight a word, a phrase, or an image in their document.

The highlighted word or image is a clue to the reader that an associated Internet resource, often-another document, exists. This Internet document can be fetched and displayed immediately for the reader. The document may even be on a different computer and located in another country. David Peal, the author *of "Access the Internet",* notes that this technique "links you to actual documents, not just references to them." The Web also supports the storage and retrieval, or playing, of photographs, graphics, animations, videos, and sounds.

Everyone can obtain and play a short color movie of the current theories regarding the universe and hear the narration through computer's audio system.

III. ПОВТОРЕНИЕ ГРАММАТИКИ

The Present Simple Tenses

The Present Indefinite (Simple) Tense - это личная форма инфинитива без частицы *to*. В третьем лице единственного числа глагол принимает окончание -*s* или -*es*, которое читается по тем же правилам, что и окончание множественного числа имен существительных.

Лицо	Число	
	Единственное	Множественное
1	I work	
2	You work	We work
3	He works	You work
	She works	They work
	It works	

The Past Indefinite (Simple) Tenses

Лицо	**Число**	
	Единственное	Множественное
1	I worked	
2	You worked	We worked
3	He worked	You worked
	She worked	They worked
	It worked	

The Future Indefinite Tense

Лицо	**Число**	
	Единственное	Множественное
1	I will work	We will work
2	You will work	You will work
3	He will work	They will work
	She will work	
	It will work	

THE PERFECT (ACTIVE)

Present	*Past*	*Future*
Утвердительная форма		
{I, we, you, they} have written	{I, he, she, it, we, you, they} had written	{I,we} shall have written
{He, she, it} has written		{He, she, it, you, they} will have written
Вопросительная форма		
Have {I, we, you, they} written?	Had {I, he, she, it, we, you, they} written?	Shall {I, we} have written?
Has {he, she,it} written?		Will {he, she, it, you, they} have written?

Отрицательная форма

{I, we, you, they} have not written	{I, he, she, it, we, you, they} had not written	{I, we} shall not have written {He, she, it, you, they} will not have written

Времена группы Perfect употребляются для выражения действия законченного, завершенного к какому-то моменту времени в настоящем, прошедшем и будущем.

The Present Perfect *употребляется для выражения действия, законченного к настоящему моменту и связанного с настоящим своим результатом:*

I **have read** the book. (Я прочитал эту книгу.)
Действие закончилось к настоящему моменту, и результат действия налицо (книга прочитана).

The Present Perfect употребляется с наречиями неопределенного - времени: **today** сегодня, **this year** в этом году, **this week** на этой неделе, **already** уже, **always** всегда, **never** никогда, **so far** до сих пор, **ever** когда-либо, **just** только что, **often** часто, **not yet** еще нет.

I **have met** him **today**. Я встретил его сегодня**.**

The Past Perfect *употребляется для выражения прошедшего действия, которое совершилось до определенного момента в прошлом.* Этот момент может обозначаться:
1. обстоятельством времени с предлогом **by** к (by the beginning of, by the end of the month, by 10 o'clock, etc.):

By the beginning of the lecture the lab assistant had brought all the diagrams.
К началу лекции лаборант принес все схемы.

2. другим (более поздним по времени) прошедшим действием в Past Simple:

They **had translated** the article when he came.
Они уже перевели статью, когда он пришел.

The Future Perfect употребляется для выражения действия, которое будет закончено к какому-то моменту в будущем:

I **shall have done** all my work **by seven o'clock.**
К семи часам я уже сделаю свою работу.

На русский язык времена группы Perfect переводятся; глаголом совершенного вида. The Present и Past Perfect глаголом, как правило, прошедшего времени, а Future Perfect — глаголом будущего времени.

Modal Verbs of Probability

TYPE	USE	MODAL VERBS	EXAMPLE
1	to express possibilities for the future	COULD, MAY, MIGHT	It may rain tomorrow.
2	to express certainty	CAN'T, COULDN'T, MUST	She can't be Irish.
3	for possible explanations	COULD, MAY, MIGHT	She could be Scottish.

IV. GRAMMAR IN USE

4.1. Make up the compound sentences and the complex sentences from two simple sentences using the conjunctions "and", "but":

1. Coprocessor is a microprocessor element that adds functional capabilities to the main computer. It enhances instruction set to be used by a programmer.
2. All main parts of a computer are located on the system board. Others are located on the expansion board.
3**.** The CPU carries out a variety of computations, numeric comparisons. Data transfers in response to programs stored in memory.
4. Replacing chips on a circuit board, note the suffix. If the suffixes

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are different, the part may not operate at the proper speed.

5. I can do programming well. I do not know the entire computer programming languages.

4.2. Complete the sentences choosing adjectives or adverbs:

Variant I.
1. My cousin helped me paint the walls. He's done it very (*nice*).
2. Mum always dresses *(beautiful).*
3. He felt *(sick)* so he stayed at home.
4. The doctor said that that the wound looked very (*bad*).
5. Have you been to the cinema (*late*)?
6. The boys always greet (*friendly*).
7. I've (*near*) finished writing the book.
8. He is a (*high*) intelligent boy, probably the best in the class.
9. The girls wore (*bright*) colored skirts.
10. The headmaster has a very (*loud*) voice.
11. That hamburger tastes (*awful*).
12. When we got home from the airport we were all very (*sleepy*).
13. We ran as (*fast*) as we could.
14. The game had (*hard*) begun when it started to rain.
15. The exercise wasn't very difficult. We did it (*easy*).
16. She jumped around (*happy*) when she heard the news.
17. Mr Smith looked (*angry*) when he came into the room.
18. The soup tastes (*wonderful*).
19. My car broke down. I hope the mechanic can fix it (*quick*).
20. He became world champion because he races very (*good*).

Variant II.
1. She told me that I shouldn't work so (*hard*).
2. The ball stopped (*short*) of the goal post.
3. Jane sat there (*silent*), waiting for someone to come.
4. Australians and New Zealanders are (*close*) related.
5. They always get home (*late*) in the evening.
6. I felt (*bad*) about my final exams.
7. In the USA food is not as (*expensive*) as in Europe.
8. She sent her mother money (*regular*).
9. Does you car run fast enough to do (*good*) in the race?
10. She stayed (*calm*) even though she looked rather (*angry*).
11. We left the party (*early*) because we had to catch the (*early*) train.

12. The novel is (*interesting*) written.
13. I think you have practiced too much (*late*).
14. The jewels have (*mysterious*) disappeared.
15. John is a pretty (*good*) tennis player.
16. Everything went (*wrong*).
17. The driver of the car was (*serious*) injured in the accident.
18. Mr Higgins is (*terrible*) upset about losing his keys.
19. He looked at me (*sad*) as he told me the bad news.
20. She was (*friendly*) to him when she heard that he had lost his job (*unexpected*).

4.3. Reftesh your grammar and open the brackets using of the Present Perfect tense:

1. The earth (*to be*) here for billions of years.
2. We (*to play*) cards for the last few hours.
3. We (*to have*) problems with our new car recently.
4. (*you, to work*) on anything interesting lately?
5. Cuba (*to be*) a socialist country since 1959.
6. I (*to take*) care of my neighbour's cats while they are away.
7. I (*to have*) my car for three years.
8. (*the boxer, ever, to win*) an important fight?
9. It (*to rain*) hard since last night.
10. I'm tired because I (*not feel*) well lately.
11. (*your parents, always, to understand*) your problems?
12. The patient (*to take*) penicillin for several days now.
13. A big earthquake (*not hit*) San Francisco since 1906.
14. He got ill five weeks ago and (*not recover*) yet.
15. We (*to have*) very cold weather this year.
16. Where (*you, to hide*) the money?
17. My favourite team (*to win*) against its most important rival.
18. I (*to marry*) for 6 years.
19. Dad (*to have*) a number of jobs in the last few years.
20. The bank is still closed. It (*not open*) yet.
21. Our daughter (*to wear*) lipstick since she was 16.
22. She is angry because her boyfriend (*not show*) up yet and she (*to wait*) for half an hour.
23. I'm still waiting. They (*to make*) up their minds yet.
24. How many times (*Kim, to feed*) the cat today?

25. The kids (***to get***) on my nerves. They (***to make***) too much noise.
26. My company (***to make***) a lot of money in the last few years. They (***to work***) hard on an important project.
27. They (***not deliver***) our new refrigerator yet, but they will any day now.

4.4. Open the brackets using Active or Passive Voice:

1. Electronic devices *(help; are helped)* people discover new phenomena of nature.
2. The transistor *(replaced; was replaced)* by vacuum tubes thanks to its numerous advantages.
3. Due to transistors all circuit functions *(carried out; were carried out)* inside semiconductors.
4. Electronic devices (*use; are used*) in scientific research.
5. The reliability of electronic systems *(connect; is connected)* with the number of discrete components.
6. Semiconductor integrated circuits (*helped; were helped*) to increase reliability of devices.

4.5. Transform the given sentences from Active into Passive Voice:

1. Electronic devices control the work of power stations.
2. They calculate the trajectories of spaceships.
3. Scientists designed a variety of tubes for specialized functions.
4. American scientists invented the transistor in 1948.
5. Integrated circuits greatly reduced the size of devices.
6. New types of integrated circuits increased packing density.
7. Electronics has extended man's intellectual power.
8. Jack Kirby developed the concept of integrating device and built the first 1C in 1958.

4.6. Look at the following phrases and use one of the modal verbs in brackets to fill the gaps:

1. They *(may/must)* be away for the weekend but I'm not sure.
2. He *(can/could)* be French, judging by his accent.
3. They *(can't/may)* still be out!
4. With luck, tomorrow *(can't/could)* be a sunny day.
5. She's been revising 10 hours a day for 3 weeks. She *(could/must)*

be exhausted.
6. Nobody's answering. They *(can't/must)* be out.
7. He *(can't/may)* be from the USA. He doesn't speak English.
8. She (*can't/could*) steal things from shops. She's rich and famous.
9. This *(must/could)* be the right answer but we'll have to check with your teacher to make sure.
10. I (*can't/might*) go to the party but I'm not sure yet.
11. Dave reckons she's from The States but I think she *(can't/might)* be from Scandinavia.
12. It *(may/can't)* be true about a sauropod dinosaur living in Lake Telé in the Congo. It's impossible.
13. The exam *(can't/might)* be easy. You never know.
14. You (*can/might*) be right but I'm going to check anyway.

4.7. Translate the following sentences:

1. It is well known that personal computers enjoy great popularity among experimenters and hobbyists.
2. It took years to produce a high-speed computer performing a lot of functions.
3. When making up the summary of the text one should put down the exact title of the article, the author's name and the date of the edition.
4. It is difficult to imagine modern life without a computer.
5. It is quite impossible to listen to your English pronunciation: you make bad mistakes while reading.
6. Concerning these substances one must say that they vary in their composition.
7. When working with these substances one should be very careful.

8. It was once a universal practice to manifacture each of the components separately and then assembles the complete device by wiring the components together with metallic conductors.
9. It was no good: the more components and interactions, the less reliable the system.
10. It should first be made clear what the term "microelectronics" means.

V. SPEAKING

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5.1. Work in pairs and make up a dialogue on the topic "What hardware devices are used in order to connect a computer to a network?"

5.2. Convince your partner of the importance of this problem. Give 10 statements, using the appropriate words and expressions: "We can't imagine our everyday life without using of the Internet".

TEST YOURSELF

1. Match the terms and the definitions:

1. *a bridge*

2. *a router*

3. *a switch*

4. *a packet*

5. *a network*

6. *a file server*

7. *a hub*

8. *a workstation*

a. a computer that is configured with a network interface card, networking software, and the appropriate cables.

b. a device that selects the best path to route a message, based on the destination address and origin.

c. a very fast computer with a large amount of RAM and storage space, along with a fast network interface card.

d. a system of interconnected computer systems, terminals, and other equipment allowing information to be exchanged.

e. a device that provides a central connection point for cables from workstations, servers, and peripherals.

f. a unit into which a larger piece of data is broken down for more efficient transmission.

g. a device that allows you to segment a large network into two smaller, more efficient networks.

h. a device for connecting computers in a network .