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ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)

ПОСОБИЕ

**по одноименному курсу для студентов
специальностей факультета автоматизированных
и информационных систем дневной формы обучения**

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Иностранный язык (английский) : пособие по одноим. курсу для студентов специальностей фак. автоматизир. и информ. систем днев. формы обучения / Г. В. Ромичева, Т. Н. Валевиц. – Гомель : ГГТУ им. П. О. Сухого, 2009. – 50 с. – Систем. требования: PC не ниже Intel Celeron 300 МГц ; 32 Mb RAM ; свободное место на HDD 16 Mb ; Windows 98 и выше ; Adobe Acrobat Reader. – Режим доступа: <http://lib.gstu.local>. – Загл. с титул. экрана.

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Содержит задания для формирования умений и навыков практического владения английским языком, чтения и понимания текстов по специальности, совершенствования навыков письменной и устной коммуникации. Включены тексты по профилю, комплексы упражнений на развитие произносительных, речевых и грамматических навыков.

Для студентов специальностей факультета автоматизированных и информационных систем дневной формы обучения.

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Предисловие

Данное учебное пособие предназначено для студентов факультета автоматизированных и информационных систем и направлено на развитие языковых и коммуникативных навыков в сферах социально обусловленного профессионально ориентированного общения.

Пособие состоит из 3 частей. Первая часть включает упражнения, предназначенные для формирования языковых навыков, задания для обучения чтению и говорению, для активизации речи и для обучения письменной речи.

Вторая часть предназначена для развития навыков чтения, извлечения и обработки информации по специальности.

Третья часть представлена устной темой «My Speciality», которая включает собственно текст темы и задания к ней.

Комплекс заданий основан на функционально-коммуникативном подходе, предполагает взаимосвязанное обучение всем видам речевой деятельности. Он реализует определенные коммуникативные задачи в ситуациях социально обусловленного и профессионально ориентированного общения и направлен на формирование коммуникативно-компетентной личности инженера.

UNIT I. COMPUTING

Part I. COMPUTERS TODAY

I. Study the vocabulary list

accept – принимать; допускать, признавать, соглашаться
access – доступ
to have access to – иметь доступ к
according to – согласно, в соответствии с
accurately – точно
add – складывать
available – доступный; имеющийся в распоряжении
calculation – вычисление
to do calculations – производить вычисления
calculating machine – устройство для вычислений
communicate – сообщать, передавать; общаться
compile – компилировать
compile a programme – составлять программу
CPU (Central processing Unit) – центральный процессор
data – данные, факты, информация
decision – решение
to make a decision – принимать решение
define – определять, устанавливать значение
display – выводить данные на экран; дисплей
divide into – делить
drive – дисковод
dull – скучный; монотонный
embrace – включать, заключать в себе, содержать
employ – применять, использовать
encoding – кодирование
fail – повреждаться, выходить из строя, отказывать
floppy – гибкий (магнитный) диск
hardware – аппаратное обеспечение
input – ввод
keyboard – клавиатура
make up – составлять, комплектовать
memory – память
mouse – мышь (устройство указания)
multiply – умножать
network – вычислительная сеть, сеть
output – вывод

owing to – по причине, вследствие, благодаря
peripheral – периферийное устройство; периферийный
permanent – постоянный, неизменный, долговременный
powerful – сильный, могучий, мощный
precisely – точно
primarily – прежде всего, главным образом
process – обрабатывать
to process information – обрабатывать информацию
processor – процессор
remain – оставаться, пребывать в прежнем состоянии
replace – заменять, замещать
screen – экран
software – программное обеспечение
storage – запоминание; хранение (информации)
store – хранить
subtract – вычитать
supply – поставлять, доставлять, давать; поставка
transmit – отправлять, посылать, передавать
user – пользователь
with the help of – с помощью

II. Make up all possible nouns of the following verbs

to decide –	to add –
to instruct –	to operate –
to inform –	to multiply –
to divide –	to subtract –
to employ –	to perform –

III. Find in B the word close in the meaning to the word in A

A		B	
1) to supply	a) to process	b) to give	c) to accept
2) to employ	a) to define	b) to operate	c) to use
3) to store	a) to keep	b) to perform	c) to carry out
4) network	a) task	b) web	c) circuit
5) to embrace	a) to include	b) to solve	c) to communicate

IV. Ask your friend to name these computer components in English

клавиатура	мышь
процессор	сканер

дискета
КОЛОНКА
ДИСКОВОД

принтер
МОНИТОР

V. Match a line in A with a line B

A

1. What is a computer?
2. Do you often work in the computer centre?
3. What is a programme?
4. What basic job does a computer perform?
5. Do modern computers operate quickly?
6. What is the most popular Internet service?

B

- A. It's a set of instructions in a special computer language.
- B. Yes, they do.
- C. I think, e-mail.
- D. Well, it's a complex electronic machine.
- E. Not very often.
- F. It receives and processes information.

Grammar: PRESENT SIMPLE (Active)

I. Study this chart and make sentences about Michael and Ann, Paul and yourself.

- EXAMPLE 1:** A. Michael and Ann seldom *leave* the work half done.
B. Paul always *leaves* the work half done.
C. I ...

How often do you ...?	Michael and Ann	Paul	You
leave the work half done	seldom	always	?
employ minicomputers	frequently	sometimes	?
attend classes in programming	usually	seldom	?
compile programmes for a computer	often	never	?
use the Internet	regularly	rarely	?
work at the Internet centre	every week	once a month	?

- EXAMPLE 2:** 1. Michael and Ann *don't test* computer programmes every day.
 2. Paul *doesn't test* computer programmes every day.

What do you do every day?	Michael and Ann	Paul	You
1. test computer programmes	—	—	?
2. solve different problems	+	—	?
3. study different programming languages	+	—	?
4. perform arithmetic operations	—	+	?
5. work on a computer	—	—	?

II. Give the opposite to the following sentences.

A computer doesn't usually make different types of decisions.

A computer stores information in its "memory".

The new calculating machine does many kinds of calculations.

Modern personal computers don't perform work at high speeds.

The electronic machines receive and store information.

III. Answer your partner's questions.

EXAMPLE 1: to prepare computer programmes

A: *Do you prepare* computer programmes?

B: Yes, I *do*. I often *prepare* computer programmes.

or B: No, I *don't*. I never *prepare* computer programmes.

to work at the computer centre

to solve different problems

to perform arithmetic operations

to use floppy disks

to print information on paper

EXAMPLE 2: a) to carry out logical operations

A: *Does* a computer usually *carry out* logical operations?

B: Yes, it *does*. A computer usually *carries out* logical operations.

b) to supply new information

A: *Does* a computer *supply* new information?

B: No, it *doesn't*. It *doesn't supply* new information.

to process information

to do the work at high speeds

to increase the labour force

to replace people in dull tasks

to present information

IV. Put all possible questions to the following statements.

		A computer	processes	information	rapidly.
	Does	a computer	process	information	rapidly?
What	does	a computer	process		rapidly?
How	does	a computer	process	information?	
		What	processes	information	rapidly?

Computers control mechanical operations in the car industry.

The design of computers changes quickly.

Technicians usually install new computers in our laboratory.

Computers change the conditions of our work to a great extent.

V. Think of some questions for the following answers. The answers needn't be true.

1. Not very often.
2. It is a calculating machine.
3. I don't think so.
4. It usually does.
5. At the computer centre.
6. Yes, it is very important nowadays.

VI. Correct mistakes in the following sentences.

1. He often work on a computer.
2. My friends doesn't learn any programming language.
3. What operations a modern computer performs?
4. Do you often employ minicomputers? – No, we doesn't.
5. Alex have a new computer-notebook.
6. Always computers help people solve difficult tasks.

VII. Translate the sentences into English using your active vocabulary.

1. Какие операции выполняет компьютер?
2. Компьютер не думает, не так ли?
3. Компьютер выполняет многие виды расчетов быстро и точно.
4. Студенты технических вузов часто выполняют математические операции при помощи компьютера.
5. Компьютер получает, хранит и обрабатывает информацию.
6. Мы используем разные виды компьютеров, не так ли?

7. Компьютеры состоят из программного и аппаратного обеспечения.

8. Компьютерная сеть Интернет охватывает миллионы пользователей.

Reading and Speaking

I. Match the component with the function. Look through the text to check your answers.

A component

1. Storage device
2. Input device
3. Output device
4. Main memory
5. Processor

A function

- A. It displays the processed data.
- B. It holds the programmes and data the processor uses.
- C. It does all the processing and controls the peripherals.
- D. It provides permanent storage.
- E. It enters data.

II. Read the text attentively and find the answers to the following questions.

What are computers?

What operations do computers perform?

A computer doesn't think? Does it?

Is a computer a simple electronic machine? Why/why not?

Computers are electronic machines. They **communicate** with the **user**, perform different kinds of arithmetic operations, such as **addition**, **subtraction**, **division and multiplication**, solve a series of logical problems and make thousands of logical **decisions**. Modern computers operate quickly and **accurately**. However, they don't think.

Every computer **consists of** software and hardware. Information in the form of programmes and **data** is called **software**, but the pieces of equipment that **make up** the computer system are known as **hardware**.

The most important item of hardware is the **CPU (Central Processing Unit)**. This is the electronic unit at the centre of the computer system. The brain of the computer is the **processor**. It does all the processing and controls all the devices in the computer system. The **main memory stores** all the programmes and data used by the processor.

All the other devices in the computer system are known as **peripherals**. These include input devices, output devices and storage

devices. An **input device supplies** information into the computer. The most commonly use input device is a **keyboard**. An **output device** such as a monitor or a printer **displays** the processed data. A **storage device** is used for the **permanent** storage of information on **floppy discs** or CD-ROM discs.

III. Cross out the odd word.

processor, main memory, software
input device, data, storage device
monitor, floppy discs, printer
hardware, programme, data

IV. This is a summary of the lecture on computers that was taken from a student's notebook. But the teacher was speaking too fast and the student couldn't follow him. Help him restore the necessary information.

Computers are complex electronic machines. They perform arithmetic ... such as ..., ..., ..., ... and thousands of logical All modern computers ... quickly and

Computers consist of software and Software includes ... and data. Hardware contains the Central ... Unit and the peripherals.

The processor is the ... of the computer. It ... all the processing. The ... memory ... all the programmes and data used by the

An input device ... information into the

An output device ... the processed data.

A ... device is used for the ... storage of information.

Further reading

I. Before reading the text answer the following questions.

1. How many people use the Internet these days?
2. What popular Internet services do you know?
3. Do you often use the Internet? What for?

II. Now read the text about the Internet service.

The Internet

The Internet is a global computer **network** that **embraces** millions of users all over the world. It dates back to 1969 when it began as a military experiment. Information that people send over the Internet takes

the shortest path available from one computer to another. Because of this, any two computers on the Internet stay in touch with each other as long as there is a single route between them. This technology is called *packet switching network*¹. **Owing to** this technology, if some computers on the network fail, the information just routes around them.

One of the most popular Internet services is e-mail. Most of the people, who **have access** to the Internet, use the network only for sending and receiving e-mail messages. However, other popular services are available on the Internet: reading USENET News, using the World-Wide Web and Intranet.

However, some problems remain. The most important is security. When you send an e-mail message to somebody, this message travels through many different networks and computers. Special computers that are called *routers*² direct the data towards its destination. That is why it becomes possible to get into any of computers along the route and even change the data that we send over the Internet. This happens because the Internet **transmits** nearly all the information, which we send without any form **encoding**.

¹сеть коммутации пакетов

²маршрутизаторы

III. Say whether the following sentences are true or false. Correct the false sentences.

Only one million people use the Internet.

The most popular Internet service is e-mail.

People use the Internet only for sending and receiving e-mail messages.

It is impossible to get into any of computers along the route.

There is a special form of encoding with the help of which the Internet transmits nearly all the information.

IV. Read the translation of the 1st paragraph. Compare it with the original and say if everything is right.

Глобальная компьютерная сеть Интернет включает миллионы пользователей во всем мире. Информация, которую отправляют по Интернету, проходит самый короткий путь от одного компьютера к другому. По этой причине, любые два компьютера в сети Интернет связаны друг с другом до тех пор, пока они находятся в локальной сети.

Writing

I. Write two paragraphs, one about the advantages and the other about the disadvantages of computers.

II. Translate the text into Russian.

Computer is a complex electronic machine. Its basic job is the processing of information. For this reason, computers are known as devices, which accept two kinds of information in the form of instructions. The former is called programmes and the latter is known as data.

A modern computer today performs millions of logical operations and it doesn't get tired. Sometimes it seems that a computer operates like a mechanical "brain". However, it cannot do anything *unless*¹ a person tells it what to do and gives it the *appropriate*² information. Computers replace people in dull, routine tasks, but they will not replace human beings in every sphere of life. *Though*³ nowadays scientists are trying to devise the "Intelligent Computer".

¹ пока ...не

² необходимый

³ хотя

Part II. From the History of Computers

Language practice

I. Complete the list of derivatives. Use your dictionary if necessary.

<i>Verb</i>	<i>Noun</i>	<i>Adjective</i>
1)	1). invention	1)
2) calculate	2)	2)
3)	3)	3) devisable
4)	4) production	4)
5)	5)	5) independent
6)	6) experiment	6)
7)	7)	7) reduced/reducible
8) compute	8)	8)

II. Find in B the correct translation to the word in A.

A		B	
1) изобретать	a) to reduce	b) to invent	c) to employ
2) считать	a) to count	b) to operate	c) to communicate
3) продолжать	a) to produce	b) to embrace	c) to go on
4) разрабатывать	a) to work	b) to devise	c) to divide
5) много	a) a great deal of	b) a few	c) several
6) зависеть	a) to reduce	b) to define	c) to depend
7) счеты	a) counter	b) abacus	c) device

III. Match the words from both columns to make all possible word combinations.

1) calculating	a) network
2) wide	b) tables
3) easy	c) mathematics
4) logarithm	d) device
5) branch of	e) disc
6) global	f) way
7) floppy	g) application

Grammar: Past, Future, Simple Active

I. Give the Past Simple of the following verbs. Pay attention to irregular verbs.

to break	to understand	to change
to compile	to express	to be
to try	to break	to give
to read	to perform	to process
to think	to take	to drive
to find	to write	to know

II. Use one of the given verbs below to fill each gap. Put the verb in the Past Simple.

test read understand study solve compile

1. Andrew *compiled* a new programme yesterday.
2. I ... a book on the history of computers a week ago.
3. The students ... a calculating machine at the laboratory class last month.
4. All the students ... the basic concepts in computer science.

5. Julia ... a complicated problem at the lesson of Mathematics.
6. We ... scientific application of computers last week.

III. Make the following sentences negative.

EXAMPLE: *Computers* **reduced** *manpower.*
 Computers **didn't reduce** *manpower.*

1. The computer processed a lot of information.
2. First computers solved problems slower than a human being.
3. A computer changed my lifestyle to a great extent.
4. Mechanical devices increased labour productivity in industry.
5. The new computer stored data with high accuracy.

IV. Put all possible questions to the following statements.

First-generation computers came out in the USA in the 1950s.

Did first-generation computers come out in the USA in the 1950s?

When did first-generation computers come out in the USA?

Where did first-generation computers come out in the 1950s?

What came out in the USA in the 1950s?

1. Engineers designed computers for particular purposes.
2. My groupmate studied the application of minicomputers last term.
3. The book on the history of computers dealt with basic capabilities of computers.
4. Computers changed the condition of our work and life to a great extent.

V. Choose the correct verb form.

1. The engineers *discussed/were discussing* new computer technology at 4 o'clock yesterday.
2. He *explained/was explaining* basic computer terms to us two days ago.
3. I *was testing/tested* a new device when you called me.
4. I *was writing down/wrote down* the results of the experiment from 9 to 10 a.m. yesterday.
5. Helen *learned/was learning* two computer languages when she was studying at University.

VI. You are discussing computers of the future with your groupmates. Say what the computers will look like.

A computer of the future	will perform	operations faster
	will not (won't) be	very big

- to process data at higher speeds
- to change the conditions of our work to a great extent
- to differ from the computers in use today
- to use tiny integrated circuits
- to resemble a human being
- to replace a person in every sphere of life

VII. Your friend studies computer science. Ask your friend when he will do these things.

EXAMPLE: *to work on a microcomputer*

A: When *will* you work on a microcomputer?

B: I *will work* on a microcomputer tomorrow.

- To study the capabilities and limitations of a new computer *tomorrow*
- to discuss advantages and disadvantages of a PC *in a day (three days)*
- to study the microcomputer technology *the day after tomorrow*
- to check the main components of a computer *next Monday (week, month)*

VIII. Put all possible questions to the following statements.

- They will discuss experimental data in a week.*
- Will they discuss experimental data in a week?
- What will they discuss in a week?
- When will they discuss experimental data?
- Who will discuss experimental data in a week?

1. Our industry will introduce complex robots with minicomputers into production in the future.
2. Computers will find wide applications in different branches of engineering soon.
3. The students will compile new programmes in a month.
4. We will discuss all advantages and disadvantages of the Internet at tomorrow's conference.

IX. Insert the necessary prepositions.

1. Students at the Technical University often carry ... different experiments.
2. Although Ivan gets very tired he always goes ... working.
3. A lot depends ... computers today.
4. Minicomputers save a great deal ... time.
5. All the students of our University have access ... the Internet.
6. This new device will find wide application ... many branches of industry.

X. Correct mistakes.

1. I studied the capabilities of a new computer tomorrow.
2. First-generation computers will come out in 1950.
3. During the 18th century many people try to find easy ways of calculating.
4. The first calculating machine don't perform operations at high speeds.
5. Modern computers will to save a great deal of time.
6. Henry Briggs didn't invented calculus.
7. Soon a new generation of computers will appears.
8. Third-generation computers did appear in 1965.

XI. Translate the sentences into English using your active vocabulary.

1. Через несколько лет компьютеры станут меньше и более мощными.
2. Эти роботы будут использовать микрокомпьютеры.
3. Первые вычислительные машины появились в 1920 г.
4. Вы сравнили возможности двух видов компьютеров?
5. Они сделают программу для компьютера через неделю?
6. Наш профессор разработал новое устройство для вычислений.
7. Новое поколение компьютеров будет выполнять миллиард операций в секунду.
8. Компьютеры второго поколения выполняли работу в 10 раз быстрее, чем компьютеры первого поколения.

Reading and Speaking

I. Learn to read these words properly. Do you know their Russian equivalents? If not, consult the dictionary.

abacus ['æbəkəs]
bead [bi:d]
logarithm ['lɒgərɪðəm]

gear [gɪə]
binary ['baɪnəri]

II. Before reading the text try to answer the following questions.

1. What was the 1st calculating device?
2. What is the abacus? Do people still use it nowadays?
3. Who invented calculus?
4. When did the 1st real calculating machine appear?
5. What is Charles Babbage famous for?

III. Now read the text about the history of computer systems and check your answers.

History of Computer Systems

The very first calculating device was the ten fingers of a man's hand. This, in fact, is why today we still **count** in tens and multiples of tens. Then people invented the abacus, a bead **frame** in which the beads move from left to right. People **went on** using some form of abacus well into the 16th century, and it is used in some parts of the world because it's not necessary to know how to read in order to use it.

During the 17th and 18th centuries many people tried to find easy ways of calculating. The French **scientist** Blaise Pascal invented the first adding machine in 1642. His machine was mechanical in nature and it used gears to store numbers. John Napier, a Scotsman, **devised** a mechanical way of multiplying and dividing. He also **produced** the first logarithms. All mathematicians today use logarithm tables. Leibnitz, a German mathematician, **developed** the binary system of mathematics in the 1600s. Binary mathematics uses only the 0 and the 1, and arranges them to represent all numbers.

The first real calculating machine appeared in 1820 as the result of several people's experiments. This type of machine, which **saved** a great deal of time and **reduced** the possibility of mistakes, **depended on** a series of *gear wheels*¹ and used "punched cards". In 1830 Charles Babbage, an Englishman, began to design a machine that was later called "the *Analytical Engine*"². Babbage showed this machine at the Paris Exhibition in 1855. It **contained** all of the basic elements of an automatic computer –

storage, working memory and input device. Many of his ideas were the basis for building today's computers.

¹зубчатые колеса

²аналитическая машина

IV. Arrange the following calculating devices according to the time of their invention.

the first adding machine the "Analytical Engine" the abacus
the first multiplying and dividing device
the modern calculator the computer

V. Match these people with the country of their origin. Say what you know about each of them.

- | | |
|---------------------|-------------|
| 1. John Napier | a) England |
| 2. Charles Babbage | b) Germany |
| 3. Wilhelm Leibnitz | c) France |
| 4. Blaise Pascal | d) Scotland |

VI. How are the following ideas expressed in the text?

1. Then people *created* the abacus.
2. People *continued to use* some form of abacus well into the 16th century.
3. J.Napier *invented* a mechanical way of multiplying and dividing.
4. This machine saves *a lot of* time.
5. This type of machine *is based on* a series of gear wheels.

VII. Work in pairs. In the Technical University tomorrow there will be an exhibition "A long way to computers".

Student A:

The Dean of your Department has asked you to be a guide at this exhibition and describe to the visitors all the calculating devices displayed. Ask a specialist on computer history to find out as much information as possible about these devices. They are: *a picture of a man's two hands, an abacus, logarithm tables, the first adding machine, the Analytical Engine.*

Student B:

You are a specialist on computer history. Answer the guide's questions about different calculating devices.

You may start like this:

Student A:

Dear Mr Kosov, I would like to ask you several questions about some calculating devices.

Student B:

Yes, what devices are you interested in?

A: Well, what was the very first calculating device?

B: ...

A: ...

Further Reading

I. Are you good at computers? Try to answer the following questions to check your knowledge. Is there anybody in your group who knows all the answers?

1. When did the first generation of computers appear?
2. The first-generation computers used vacuum tubes, didn't they?
3. What did the second-generation computers use instead of vacuum tubes?
4. How did the computers of the third generation differ from those of the first and the second generations?
5. Do we have computers that complete millions of operations per second?
6. What was the first PC called?

II. Read the text and check your answers.

Let's have a look at the history of computers. The first **general-purpose** electronic digital computer **came out** in the USA in 1946. It was called ENIAC (**Electronic Numerical Integrator And Computer**). ENIAC contained about 18,000 vacuum tubes, weighed more than 30 tons, **occupied** more than 1,500 square feet of floor space, and **consumed** 150 kilowatts of electricity during operation. The **first-generation** computer performed about 5,000 additions and 1,000 multiplications per second and was slow **in comparison with** modern machines. In the late 1950s the second generation of computers appeared and these performed work ten times faster than the first computers. The reason for this extra speed was the use of transistors instead of vacuum tubes. The third-generation computers appeared in 1965. They performed a million calculations per second, which was 1000 times as many as first-generation computers. Now tiny integrated circuits controlled computers.

By the late 1960s many large businesses depended on computers. Many companies **linked** their computers into networks and that made it possible for different offices to share information. During this time computer technology **improved** rapidly. In the 1970s there appeared a microprocessor. And in 1975 American engineers devised the first personal computer, Altair. Millions of individuals, families and schools began to use PCs.

Present-day computers complete millions of instructions per second. Some experts predict that a new generation of **intelligent** machines will process data with the help of beams of laser light, rather than electric current. They say that these computers will store data on individual molecules and that virtual reality will play a large role in education.

III. Complete the sentences.

1. First-... computers ... 5,000 ... and 1,000 2. The generation ... performed ... ten times faster than the ...-generation 3. Second-generation computers used ... instead of 4. Many companies ... their computer's into 5. Future computers ... probably ... data with the help of ... of laser light. 6. Some experts predict that ... will ... a large role in education.

IV. Expand these sentences with the information from the text.

1. First-generation computers were slow.
2. Second-generation computers used transistors.
3. There were many improvements in the third generation of computers.
4. People became dependent on computers.
5. Computers of the future will be better.

V. Give a title to the text.

Activity

I. Play a guessing game.

Student A:

Choose one of the calculating devices given below.

Student B will have to guess what device it is. Answer his questions (*no more than five!*).

the Analytical Engine, the abacus, the ENIAC

the calculator, the Altair, the modern computer

Student B:

Ask no more than five *general* questions to guess what calculating device Student A has chosen.

II. You and your friend are preparing for an exam in Computer Studies. Ask each other different questions to check your knowledge of the subject.

These are possible questions:

1. When and where did the first calculating machine appear?
2. What calculating machines do you know?
3. What is ENIAC?
4. ...

Writing

I. Describe the computer you would like to have in the future.

II. Do you know what computers of the future will look like? Translate the text into Russian to find it out.

Computers of the Future

In the 1980s some scientists predicted: “By the year 2000 we will have a network planet. In offices, shops, factories and homes there will be small machines that will help us communicate with distant computers. We will ask them questions, perform calculations and enter data that computers will store, process and act upon. Probably all the professions will have their own data banks. People will use home terminals for education, planning vocation and sheer entertainment. They will buy theatre tickets, airline tickets, and manage their bank accounts with the help of Internet”.

All this is reality nowadays. But the potential uses of computers are still endless. Today scientists predict that we will have machines that are as intelligent as we are. Here are some of their predictions:

- cars will report good and safe driving;
- a TV set will choose programmes that the viewer enjoys. Better yet, it will not repeat annoying commercials;
- a house will sense the mood of its owner: the coffee machine will kick in (= start working) when it's needed.

UNIT II. COMPUTERS

Text A: "WHAT IS A COMPUTER?"

The term computer is used to describe a device made up of a combination of electronic and electromechanical (part electronic and part mechanical) components. Computer has no intelligence by itself and is referred to as hardware. A computer system is a combination of five elements:

- Hardware
- Software
- People
- Procedures
- Data/information

When one computer system is set up to communicate with another computer system, connectivity becomes the sixth system element. In other words, the manner in which the various individual systems are connected – for example, by phone lines, microwave transmission, or satellite – is an element of the total computer system.

Software is the term used to describe the instructions that tell the hardware how to perform a task. Without software instructions, the hardware doesn't know what to do. People, however, are the most important component of the computer system: they create the computer software instructions and respond to the procedures that those instructions present.

The basic job of the computer is the processing of information. Computers accept information in the form of instruction called a program and characters called data to perform mathematical and logical operations, and then give the results. The data is raw material while information is organized, processed, refined and useful for decision making. Computer is used to convert data into information. Computer is also used to store information in the digital form.

Vocabulary:

characters – символы

data – данные

decision – решение

device – устройство

hardware – оборудование

instruction – команда

intelligence – разум

manner – манера, способ
microwave – микроволновая
procedures – процедуры, операции
purpose – цель
raw – необработанный, сырой
to come to life – оживать
to connect – соединять
to convert – превращать, преобразовывать
to create – создавать
to evaluate – оценивать
to refer to as – называть что-либо
to refine – очищать
to respond – отвечать
transmission – передача
various – различные

General understanding:

1. What does the term «computer» describe?
2. Is computer intelligent?
3. What are five components of computer system?
4. What is connectivity?
5. What is software? What's the difference between hardware and software?
6. Why people are the most important component of a computer system?
7. In what way terms «data» and «information» differ?
8. How does computer convert data into information?

Exercise 1. Which of the listed below terms have Russian equivalents: computer, diskette, metal, processor, scanner, information, data, microphones, printer, modem, Internet.

Exercise 2. Which of the listed above statements are true/false. Specify your answer using the text.

1. Computer is made of electronic components so it is referred to as electronic device.
2. Computer has no intelligence until software is loaded.
3. There are five elements of computer system: hardware, software, people, diskettes and data.
4. The manner in which computers are connected is the connectivity.

5. Without software instructions hardware doesn't know what to do.
6. The software is the most important component because it is made by people.
7. The user inputs data into computer to get information as an output.
8. Computer is used to help people in decision making process.

Exercise 3. Match the following:

1. ... doesn't come to life until it is connected to other parts of a system.
2. ... is the term used to describe the instructions that tell the hardware how to perform a task.
3. ... create the computer software instructions and respond to the procedures that those instructions present.
4. Information in the form of instruction is called a...
5. The manner in which the various individual systems are connected is...
6. ... is organized, processed and useful for decision making.
7. The basic job of the computer is the...
 - a) program
 - b) information
 - c) processing of information
 - d) software
 - e) connectivity
 - f) computer
 - g) people

Exercise 4. Translate the text. Retell the text, using the vocabulary.

Text B: "HARDWARE"

What is hardware? Webster's dictionary gives us the following definition of the hardware – the mechanical, magnetic, electronic, and electrical devices composing a computer system.

Computer hardware can be divided into four categories:

- 1) input hardware
- 2) processing hardware
- 3) storage hardware
- 4) output hardware.

Input hardware

The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing. The most common input

device is a keyboard. It looks very much like a typewriter. The mouse is a hand held device connected to the computer by small cable. As the mouse is rolled across the mouse pad, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

The light pen uses a light sensitive photoelectric cell to signal screen position to the computer. Another type of input hardware is optic-electronic scanner that is used to input graphics as well as typeset characters. Microphone and video camera can be also used to input data into the computer. Electronic cameras are becoming very popular among the consumers for their relatively low price and convenience.

Processing hardware

The purpose of processing hardware is retrieve, interpret and direct the execution of software instructions provided to the computer. The most common components of processing hardware are the Central Processing Unit and main memory.

The Central Processing Unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Memory is the system of component of the computer in which information is stored. There are two types of computer memory: RAM and ROM.

RAM (random access memory) is the volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data.

ROM (read only memory) is non-volatile, nonmodifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform.

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office

filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are hard disk, floppy disk and CD-ROM.

Hard disk is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data.

Floppy disk (diskette) – thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. There are two formats for floppy disks: 5,25" and 3,5". 5.25" is not used in modern computer systems because of its relatively large size, flexibility and small capacity. 3.5" disks are formatted 1.4 megabytes and are widely used.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized read-only data can be stored. CD-ROMs are very popular now because of the growing speed which CD-ROM drives can provide nowadays.

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text (word or numbers) or graphics printed on it. Softcopy output is displayed on a monitor.

Monitor is a component with a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

Modem is an example of communication hardware – an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

Vocabulary:

amount – количество

capacity – вместительность

circuitry – эл. цепи

hard disk – жесткий диск, «винчестер»

input hardware – устройства ввода

lap – колени

modem – модем
output hardware – выходные устройства отображения информации
printer – принтер
processing hardware – устройство обработки данных
RAM – ОЗУ (оперативное запоминающее устройство)
ROM – ПЗУ (постоянное запоминающее устройство)
CD-ROM – накопитель на компакт-дисках (CD)
scanner – сканер
sensitive – чувствительный
sophisticated – сложный
storage hardware – устройства хранения данных
temporarily – временно
temporary – временный
the purpose – цель
tier – ярус
to affect – влиять
to connect – соединять
to convert – преобразовывать
to direct – управлять
to execute – выполнять
to interpret – переводить
to provide – обеспечивать
to reach – достигать
to retrieve – извлекать
to roll – катать, перекатывать
volatile – летучий, нестойкий, временный

General understanding:

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware? What are the examples of input hardware?
4. What is mouse designed for? What is a light pen?
5. What is processing hardware? What are the basic types of memory used in a PC?
6. Can a PC-user change the ROM? Who records the information in ROM?

7. What is storage hardware? What is CD-ROM used for? Can a user record his or her data on a CD? What kind of storage hardware can contain more information: CD-ROM, RAM or ROM?

8. What is modem used for? Can PC-user communicate with other people without a modem?

Exercise 5. Which of the listed below statements are true/false. Specify your answer using the text.

1. Computer is an electronic device therefore hardware is a system of electronic devices.

2. The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.

3. Scanner is used to input graphics only.

4. The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.

5. CPU reads and interprets software and prints the results on paper.

6. User is unable to change the contents of ROM.

7. 5.25" floppy disks are used more often because they are flexible and have more capacity than 3.5" disks.

8. Printer is a processing hardware because its purpose is to show the information produced by the system.

9. Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.

10. The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed for processing.

Exercise 6. Give definitions to the following using the vocabulary:

1) CPU

2) ROM

3) floppy-disk

4) CD-ROM

5) printer

6) modem

7) motherboard

8) hard disk

9) keyboard

10) sound-card

Exercise 7. Which of the following is hardware:

- 1) program
- 2) mouse
- 3) CPU
- 4) printer
- 5) modem
- 6) command
- 7) port
- 8) cursor or the pointer
- 9) keyboard
- 10) character

Exercise 8. Match the following:

- 1) процессор
- 2) клавиатура
- 3) мышь
- 4) дискета
- 5) «винчестер»
- 6) модем
- 7) экран
- 8) ПЗУ
- 9) ОЗУ

a) non-volatile, nonmodifiable computer memory, used to hold programmed instructions to the system;

b) the part of a television or computer on which a picture is formed or information is displayed;

c) rigid disk coated with magnetic material, for storing computer programs and relatively large amounts of data;

d) an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines;

e) a set of keys, usually arranged in tiers, for operating a typewriter, typesetting machine, computer terminal, or the like;

f) volatile computer memory, used for creating, loading, and running programs and for manipulating and temporarily storing data; main memory;

g) central processing unit: the key component of a computer system, containing the circuitry necessary to interpret and execute program instructions;

h) a palm-sized device equipped with one or more buttons, used to point at and select items on a computer display screen and for controlling the cursor by means of analogous movement on a nearby surface;

i) a thin, usually flexible plastic disk coated with magnetic material, for storing computer data and program.

Questions for group discussion:

1. Without what parts computer is unable to work?
2. What is the most expensive part of the hardware?
3. What other hardware devices do you know? What are they for? Do you know how to use them?

Text C: “TYPES OF SOFTWARE”

A computer to complete a job requires more than just the actual equipment or hardware we see and touch. It requires Software – programs for directing the operation of a computer or electronic data.

Software is the final computer system component. These computer programs instruct the hardware how to conduct processing. The computer is merely a general-purpose machine which requires specific software to perform a given task. Computers can input, calculate, compare, and output data as information. Software determines the order in which these operations are performed.

Programs usually fall in one of two categories: system software and applications software.

System software controls standard internal computer activities. An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory. This software contains information about memory capacity, the model of the processor, the disk drives to be used, and more. Once the system software is loaded, the applications software can be brought in.

System programs are designed for the specific pieces of hardware. These programs are called *drivers* and coordinate peripheral hardware and computer activities. User needs to install a specific driver in order to activate a peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which, though, commonly goes along with your device. By installing the driver you “teach” your mainboard to “understand” the newly attached part.

Applications software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software. As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user. These class of programs is the most numerous and perspective from the marketing point of view.

Data communication within and between computers systems is handled by system software. Communications software transfers data from one computer system to another. These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.

Vocabulary:

aid – помощь
to attach – присоединять
control – управление
developer – разработчик
equipment – оборудование
general-purpose – общего назначения
internal – внутренний
mainboard – материнская плата
memory capacity – вместимость памяти
peripheral – периферийный
regard – отношение
regardless – несмотря на, безотносительно
security – безопасность
specific – конкретный, определенный
to boot – загружать
to check – проверять
to complete – совершать, завершать
to conduct – проводить
to develop – развивать, проявлять
direct – управлять, руководить
to handle – управлять, обратиться с

to install – устанавливать, встраивать
to provide with – обеспечивать чем-либо
to require – требовать
to secure – обеспечивать безопасность
to transfer – переводить, переносить

Web-browser – «браузер» (программа, позволяющая пользователю искать и считывать информацию с глобальной электронной сети Internet)

General understanding

1. What is software?
2. In what two basic groups software (programs) could be divided?
3. What is system software for?
4. What is an operating system – a system software or application software?
5. What is a “driver”?
6. What is application software?
7. What is application software used for?
8. What is the tendency in application software market in the recent years?
9. What is the application of the communication software?

Exercise 9. Which of the following is software:

1. Program
2. Mouse
3. CPU
4. Word processor
5. Modem
6. Web-browser
7. Operating system
8. Scanner
9. Printer
10. Display

Exercise 10. Which of the listed below statements are true/false. Specify your answer using the text:

1. Computer programs only instruct hardware how to handle data storage.
2. System software controls internal computer activities.

3. System software is very dependable on the type of application software being used.

4. The information about memory capacity, the model of the processor and disk drives are unavailable for system software.

5. The driver is a special device usually used by car drivers for floppy-disk driving.

6. It is very reasonable to ask for a driver when you buy a new piece of hardware.

7. Software developers tend to make their products very small and with poor interface to save computer resources.

8. Communication software is in great demand now because of the new advances in communication technologies.

9. Application software is merely a general-purpose instrument.

10. Web-browsers is the class of software for electronic communication through the network.

Exercise 11. Find English equivalents in the text:

1. Программное обеспечение определяет порядок выполнения операций.

2. Прикладные программы выполняют поставленную вами конкретную задачу (удовлетворяют вашу потребность).

3. Этот класс программ – самый многочисленный и перспективный с точки зрения маркетинга.

4. Системные программы предназначены для конкретных устройств компьютерной системы.

5. Устанавливая драйвер, вы «учите» систему «понимать» вновь присоединенное устройство.

6. Когда компьютер впервые включается, одна из системных программ должна быть загружена в его память.

7. Развитие систем электронной коммуникации за последние пять лет стимулировало производство соответствующих программных продуктов возрастающим числом компаний-разработчиков.

Exercise 12. Give definitions to the following using the vocabulary:

1. Software.

2. Driver.

3. Application software.

4. Operating system.

5. Communication software.

6. Computer.
7. Peripheral device.
8. Operating system.

Questions for group discussion:

1. What do you think is more expensive – hardware or software?
2. Has anyone in your group ever purchased software? Why do you think piracy (audio, video, computer software) still exists?

FAMOUS PEOPLE OF SCIENCE AND ENGINEERING

Babbage, Charles (1792–1871), British mathematician and inventor, who designed and built mechanical computing machines on principles that anticipated the modern electronic computer. Babbage was born in Teignmouth, Devon, and educated at the University of Cambridge. He became a Fellow of the Royal Society in 1816 and was active in the founding of the Analytical, the Royal Astronomical, and the Statistical Societies.

In the 1820s Babbage began developing his Difference Engine, a mechanical device that could perform simple mathematical calculations. Although Babbage started to build his machine, he was unable to complete it because of a lack of funding. In the 1830s Babbage began developing his Analytical Engine, which was designed to carry out more complicated calculations, but this device was never built, too. Babbage's book, «Economy of Machines and Manufactures» (1832), initiated the field of study known today as operational research.

Text A: “OPERATING SYSTEMS”

When computers were first introduced in the 1940's and 50's, every program written had to provide instructions that told the computer how to use devices such as the printer, how to store information on a disk, as well as how to perform several other tasks not necessarily related to the program. The additional program instructions for working with hardware devices were very complex, and time-consuming. Programmers soon realized it would be smarter to develop one program that could control the computer's hardware, which others programs could have used when they needed it. With that, the first operating system was born.

Today, operating systems control and manage the use of hardware devices such as the printer or mouse. They also provide disk management by letting you store information in files. The operating system also lets you run programs such as the basic word processor. Lastly, the operating

system provides several of its own commands that help you to use the computer.

DOS is the most commonly used PC operating system. DOS is an abbreviation for disk operating system. DOS was developed by a company named Microsoft. MS-DOS is an abbreviation for "Microsoft DOS". When IBM first released the IBM PC in 1981, IBM licensed DOS from Microsoft for use on the PC and called it PC-DOS. From the users perspective, PC-DOS and MS-DOS are the same, each providing the same capabilities and commands.

The version of DOS release in 1981 was 1.0. Over the past decade, DOS has undergone several changes. Each time the DOS developers release a new version, they increase the version number.

Windows NT (new technology) is an operating system developed by Microsoft. NT is an enhanced version of the popular Microsoft Windows 3.0, 3.1 programmes. NT requires a 386 processor or greater and 8 Mb of RAM. For the best NT performance, you have to use a 486 processor with about 16 Mb or higher. Unlike the Windows, which runs on top of DOS, Windows NT is an operating system itself. However, NT is DOS compatible. The advantage of using NT over Windows is that NT makes better use of the PC's memory management capabilities.

OS/2 is a PC operating system created by IBM. Like NT, OS/2 is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse. Also like NT, OS/2 performs best when you are using a powerful system. Many IBM-based PCs are shipped with OS/2 preinstalled.

UNIX is a multi-user operating system that allows multiple users to access the system. Traditionally, UNIX was run on a larger mini computers to which users accessed the systems using terminals and not PC's. UNIX allowed each user to simultaneously run the programs they desired. Unlike NT and OS/2, UNIX is not DOS compatible. Most users would not purchase UNIX for their own use.

Windows 95 & 98 (Windows 2000) are the most popular user-oriented operating systems with a friendly interface and multitasking capabilities. The usage of Windows 95 and its enhanced version Windows 98 is so simple that even little kids learn how to use it very quickly. Windows 95 and 98 are DOS compatible, so all programs written for DOS may work under the new operating system.

Windows 95 requires 486 processor with 16 megabytes of RAM or Pentium 75–90 with 40 megabytes of free hard disk space.

Vocabulary:

complex – сложный
to consume – потреблять
consumer – потребитель
to realize – понять, осознать
smart – умный
decade – декада, десятилетие
version – версия
to enhance – увеличивать, расширять
top – верх, вершина
on top of DOS – «сверху», на основе ДОС
are shipped – поставляются
compatible – совместимый
with a click of a mouse – одним щелчком кнопки мыши
access – доступ
to allow – позволять
multiple users – многочисленные пользователи
simultaneously – одновременно
to desire – желать
to ship – поставлять, доставлять

General understanding:

1. What problems faced programmers in the 1940's and 1950's?
2. Why were the first programs «complex» and «time-consuming»?
3. What are the basic functions of operating system?
4. What does the abbreviation DOS mean?
5. What company developed the first version of DOS operating system? For what purpose was it done? Was the new operational system successful?
6. What is the difference between the PC-DOS and MS-DOS?
7. What does the abbreviation NT stand for? Is NT DOS-compatible?
What are the basic requirements for NT?
8. Who is the developer of OS/2?
9. What makes UNIX so different from the other operational systems?
10. What are the special features of Windows 95, Windows 98, Windows 2000?

Exercise 1. Match the following:

1. Like NT, ... is DOS compatible and provides a graphical user interface that lets you run programmes with a click of a mouse.

2. ... is the most commonly used PC operating system.
3. ... is a multi-user operating system that allows multiple users to access the system.
4. ... is an operating system developed by Microsoft, an enhanced version of the popular Microsoft Windows programs.
5. The usage of... is so simple that even little kids learn how to use it very quickly.
 - a) UNIX
 - b) DOS
 - c) NT
 - d) OS/2
 - e) Windows 95

Exercise 2. Which of the listed below statements are true/false. Specify your answer using the text.

1. When computers were first introduced in 40's and 50's programmers had to write programs to instruct CD-ROMs, laser printers and scanners.
2. The operational system controls and manages the use of the hardware and the memory.
3. There are no commands available in operating systems, they are only in word processors.
4. Microsoft developed MS-DOS to compete with IBM's PC-DOS.
5. NT requires computers with 486 CPU and 16 M random access memory.
6. OS/2 is DOS compatible because it was developed by Microsoft.
7. Traditionally, UNIX was run by many users simultaneously.
8. Windows 95 and Windows 98 are DOS compatible and have very «friendly» and convenient interface.

Exercise 3. Translate into English:

1. Современная операционные системы контролируют использование системного оборудования, например, принтера и мыши.
2. С точки зрения пользователя, операционные системы PC-DOS и MS-DOS идентичны, с равными возможностями и набором системных команд.
3. OS/2 является DOS-совместимой операционной системой, позволяющей запускать программы при помощи графического интерфейса пользователя.

4. Дополнительные программы для работы с устройствами системного оборудования были очень сложны и поглощали много времени.

5. Операционная система также позволяет запускать программы, такие как простейший текстовый редактор.

6. DOS – наиболее распространенная операционная система для персонального компьютера.

Questions for group discussion:

1. Why do you think Bill Gates, President of Microsoft Company is one of the richest people on the Earth?

2. Judging from your experience tell if UNIX is used nowadays? What about OS/2?

3. Ask the students in your group who have experience working with Windows 95 and Windows 98 about the advantages and disadvantages of these operational systems.

Text B: “WINDOWS 95”

Windows 95 is a new operational system with an easy interface based on the expanding windows principle which uses icons to graphically represent files and their types.

Windows 95 makes the way you and your computer interact easy. Most everyday tasks are now easier to accomplish than ever before. For example, the second mouse button has become a powerful weapon. The old Windows 3.0 Program Manager and File Manager have been replaced. The desktop tools that replace them are very like those found on a Macintosh. For example, there is a Recycle Bin that makes it easier to recover accidentally deleted files.

Your computer probably will crash less running Windows 95 than it did with Windows 3.1 and 3.0 or even DOS. Most memory related problems have been removed. Built-in networking features make it easy to reliably share files with co-workers across the room or across the world. And MS-DOS as we know it is so well hidden that you'll rarely give it a thought. Yes, you can still run DOS programs and older Windows applications but most users will probably want to spend most of their time using Windows 95 applications instead.

Microsoft says that it is moving forward to the time when we'll all think more about our data and less about the specific name-brand programs used to create them.

Windows 95 plug-and-play capability makes it easy to upgrade your computer hardware. And portable computer users will like what Microsoft has done to make their lives calmer.

A new Windows shortcuts capability makes it easy to reach frequently used files and other necessities. A new Find feature helps you to locate and examine the contents of files in a flash.

Most of this is accomplished without sacrificing performance. In fact, many things (like printing) usually happen faster now, due to 32-bit support and other Windows 95 advancements.

Vocabulary:

to interact – взаимодействовать

to accomplish – выполнять, достигать

weapon – оружие

to replace – замещать

Recycle Bin – корзина

to crash – ломаться, давать сбой

to remove – удалять

co-workers – коллеги, сослуживцы

rarely – редко

to plug – подключать

frequently – часто

support – поддержка

necessity – необходимость

flash – вспышка, зд. in a flash – моментально

to give smth. a thought – подумать о чем-либо

brand-name – торговая марка

calm – спокойный

shortcut – кратчайший путь

to sacrifice – жертвовать

advancement – прогресс, продвижение

General understanding:

1. What is Windows 95?
2. What new principles are used in Windows 95?
3. What is a Recycle Bin feature?
4. What problems has Windows 95 solved?
5. Is it possible to run old DOS programs under Windows 95?
6. What is a «plug-n-play» capability?

7. What is a «shortcut» capability?
8. What is a «Find» feature?
9. Why many things work faster now with Windows 95?

Exercise 4. Which of the listed above statements are true/false. Specify your answer using the text.

1. An «icon» is graphical image that represents file and its type.
2. Second button is not used in Windows 95 because most people use 1-button mouse.
3. There are no similarities between Macintosh and Windows 95 desktop tools.
4. Windows 95 has some tools which help to communicate with other people through computer network.
5. It's no longer possible to use MS-DOS commands and run MS-DOS files.
6. Microsoft corporation is oriented to produce as many programs as needed to meet people needs and make them buy specific brand-name products.
7. New plug-n-play capability is for those who like to play computer games 24 hours a day and seven days a week.
8. A new shortcut feature is used to cut long programs very short to save disk space.
9. New Find feature helps you to locate the contents of files.
10. It must be mentioned that all new Windows features are possible only because of the low level of performance and quality.

Exercise 5. Find the equivalents in the text:

1. Ваш компьютер, вероятно, будет давать меньше сбоев с Виндоуз 95, чем с более ранними версиями и даже ДОС.
2. Корпорация Майкрософт заявляет, что она делает все для того, чтобы приблизить время, когда мы все будем думать больше о наших данных, чем о конкретных «фирменных» программах, которые используются для создания этих данных.
3. Новая функция поиска позволяет обнаружить местоположение и исследовать содержимое файла в мгновение ока.
4. Большинство этих функций достигнуто в ущерб производительности.
5. ДОС, каким мы его знаем, так хорошо запрятан, что вы редко думаете о его использовании.

6. В Виндоуз 95 существует инструмент Корзина, который позволяет легко восстанавливать случайно удаленные файлы.

7. Инструменты Рабочего Стола очень схожи с инструментами Макинтоша.

8. Вторая кнопка мыши стала мощным оружием.

Exercise 6. What is:

- 1) window;
- 2) icon;
- 3) recycle bin;
- 4) plug-and-play capability;
- 5) shortcut feature.

Questions for group discussion:

1. What are the poor features of Windows 95?
2. Computer society thinks, that Intel company, the most powerful CPU producer, has an agreement with Microsoft corporation that the latter will develop more and more sophisticated, large and demanding software to force users to buy new processors and upgrade their computers. Do you think this might be true? How does this suggestion correlate with the new Windows 2000 and Microsoft Office 2000? Do you think that Bill Gates' monopoly on Windows operating systems is very dangerous for the competition and price-making process?
3. Ask anyone in the group who has a computer if Windows 98 is better than Windows 2000? Why and why not?

Text C: "INTRODUCTION TO THE WWW AND THE INTERNET"

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.

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 hyperlinks 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, 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.

Just a little bit of exploring the World Wide Web will show you what a lot of use and fun it is.

Vocabulary:

World Wide Web – «Всемирная Паутина»

to retrieve – извлекать

variety – разнообразие, спектр

recreation – развлечение

network – сеть

to share – делить

humanities – гуманитарные науки

business transactions – коммерческие операции

access – доступ

to browse – рассматривать, разглядывать

browser – браузер (программа поиска информации)

to provide – обеспечивать (чем-либо)

provider – провайдер (компания, представляющая доступ к WWW через местные телефонные сети)

broadcast live – передавать в прямом эфире

site – страница, сайт

to link – соединять

hyperlink – гиперссылка

to compete – соревноваться

General understanding:

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

Exercise 8. Which of the listed below statements are true/false. Specify your answer using the text.

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.

Exercise 9. Define the following using the vocabulary:

1. Internet
2. World Wide Web
3. Web browser
4. Internet provider
5. Hyperlinks

Exercise 10. Find the equivalents:

1. Объем ресурсов и услуг, которые являются частью WWW, растет чрезвычайно быстро.
2. Каждая ссылка, выбранная вами, представляет документ, графическое изображение, видеоклип или аудиофайл где-то в Интернете.
3. Интернет может быть также использован в целях развлечения.
4. Вы получаете доступ к ресурсам Интернета через интерфейс или инструмент, который называется веб-браузер.
5. Вся эта деятельность возможна благодаря десяткам тысяч компьютерных сетей, подключенных к Интернету и обменивающимся информацией в одном режиме.
6. Пользователи общаются через электронную почту, дискуссионные группы, чэт-каналы (многоканальный разговор в реальном времени) и другие средства информационного обмена.

Exercise 11. Match the following:

1. You access the information through one interface or tool called a ...
2. People connected to the WWW through the local ... have access to a variety of information.
3. The user doesn't need to know where the site is, the ... follows the ...
4. In 1996 there were more than 20 million users of the ...
5. Each ... provides a graphical interface.
6. Local ... charge money for their services to access ... resources.

Words to match with:

web browser, providers, link, WWW

Questions for group discussion:

1. Some people think that Internet is very harmful, especially for young people, because it carries a lot of information about sex, drugs, violence and terrorism. Do you think that some kind of censorship is necessary on the WWW?

2. World famous authors and publishers say that the Internet violates their copyright because Web-programmers put all kinds of books, pictures, music, films and programs free on the Internet and this reduces their sales and profits?

3. Has anyone in your group experience working on the Internet? Ask them 1) about the difficulties they had; 2) useful information retrieved; 3) fun they got? Why so few people have experience working on the Internet?

UNIT III. Topic “MY SPECIALITY”

Vocabulary and Speech Exercises

Read the words and study their meanings:

engineering (n) – инженерное дело

deal with (v) – заниматься; иметь дело (с)

integrated circuit/chip – микросхема

particular (adj.) – специфический

memory system – запоминающее устройство

processing unit – процессор

trend (n) – тенденция

fit (v) – собирать; размещать

superconducting – сверхпроводящий

opportunity (n) – возможность

basics (зд.) – теоретические основы

hardware – электронная техника

relevant (adj.) – уместный, относящийся к делу

award (v) – присуждать

electronic engineer – инженер-электронщик

Language practice

1. Read the international words and guess their meanings. Mind the stress:

element	control	university	peripheral	communication
parallel	processor	engineer	engineering	unprecedented
commerce	material	transmission	integration	specialization
satellite	designer			microminiaturization
course	technology			
project				
system				

generate
miniature
specialize

2. Read and translate words of the same root:

special – speciality – specialize – specialized – specialization; skill – skilled; technology – technological; design – designer; combine – combination; produce – production; electron – electronic – electronics; process – processor – processing; engineer – engineering; program – programmer – programming – programmed; conduct – conductor – conductivity; apply – application; generate – generator – generation; transmit – transmission; industry – industrial

3. Read the following word-combinations and give their Russian equivalents:

aircraft designer; electronic circuit; electronic power; field of engineering; processing of information; computer network; explosive rate; communications satellites; missile control system; particular task; circuit element; particular occupation; employment opportunities; to graduate from.

Add to your active vocabulary:

to choose a career – выбирать карьеру

to improve one's qualification – повышать квалификацию

to look for a (new) job (work, position) – искать (новую) работу

to apply for a (new) job – претендовать на какую-либо работу

application for a position of – заявление на какую-либо работу

resume – резюме

C.V. (curriculum vitae) – автобиография

to be hired/fired – быть нанятым/уволенным

prestigious job/work – престижная работа

well-paid job – высокооплачиваемая работа

employee – наемный рабочий, служащий

employer – наймодатель

state-employed – государственный служащий

to be unemployed – быть безработным

READ THE TEXT AND GET READY TO ANSWER
THE QUESTIONS

My speciality

Last year I entered the Gomel State Technical University named after the famous aircraft designer Pavel Sukhoi. The University trains engineers in many fields of technology and business. I specialize in Electronics, as it is now the most rapidly growing field of engineering. It deals with the research, design, intergration and application of circuits and devices used in the transmission and processing of information. Information is now generated, transmitted, received and stored electronically through computer networks on a scale unprecedented in history, and there is every indication that the explosive rate of growth in this field will continue. The tools and products of the information age do not exist in a world by themselves. A computer system consists not only of software, hardware, data and procedures but also of people.

Electronic engineers play an essential role in the production of communications satellites, computers, industrial robots, medical and scientific instruments, missile control systems and radar, radio and television sets. Some engineers in the electronics field develop master plans for the parts and connections of miniature integrated circuits, which control the electric signals in most electronic devices. Many electronic engineers design, build and program complex computer systems to perform particular tasks.

The electronics of computers is the design and manufacture of memory systems, central processing units and of peripheral devices. One current trend in computer engineering is microminiaturization. Engineers continue to work to fit greater and greater numbers of circuit elements into smaller and smaller chips. Another trend is towards increasing the speed of computer operations through the use of parallel processors and superconducting materials. The capabilities of the desktop computers have been dramatically expanded.

The University I study at provides the opportunity for students to specialize in the chosen field of engineering and prepares them to enter particular occupations in industry, commerce and public services.

The typical academic program for the University students is composed of a varying number of courses or subjects within a field of specialization such as Basics of Electrical Engineering, Physical Foundations of Hardware, Electronic and Ionic devices, Personal Computers and their

applications. Courses are a combination of lectures, seminars, tutorials and laboratory work. Many students conduct research work which is directly relevant to their interests.

The course of study at the University is concluded by the presentation of the diploma project and the award of a diploma of an engineer. As there are a lot of employment opportunities in my field I don't worry about finding a job. To my mind every profession needs people who are hard-working, disciplined, well-qualified and responsible. The most important thing for me now is to study well and to graduate from the University.

I. ANSWER THE FOLLOWING QUESTIONS:

1. When did you enter the GSTU?
2. Why did you choose the electronics speciality?
3. What does electronics deal with?
4. How is information generated, transmitted, received and stored?
5. What kind of equipment do electronic engineers design, develop and improve?
6. What is the electronics of computers?
7. What are the current trends in computer engineering?
8. Does the GSTU provide opportunities for students to enter particular occupations?
9. What is the typical academic program composed of?
10. What special subjects do students of the electronics speciality study?
11. What is the course of study at the University concluded by?
12. Are there a lot of employment opportunities for the graduates?

II. COMPLETE THE FOLLOWING SENTENCES ACCORDING TO THE TEXT

1. Last year I entered ...
2. The University trains ...
3. I specialize in Electronics as ...
4. Electronics deals with ...
5. Information is now ...
6. Electronics engineers play ...
7. Some engineers in the electronics field ...
8. The electronics of computers ...
9. One current trend in computer engineering ...
10. Engineers continue to work ...

11. Another trend is towards ...
12. The University I study at provides ...
13. The typical academic program is composed of ...
14. Courses are a combination of ...
15. Many students conduct ...
16. The course of study is concluded by ...
17. I am optimistic about ... and the most important thing for me now is ...

III. PRACTICE WITH SOMEONE ASKING AND ANSWERING QUESTIONS ABOUT ELECTRONICS. USE THE FOLLOWING FORMULAS TO EXPRESS A REQUEST (1) AND GIVE A REPLY (2)

1. Could you (possibly) ... ?
Would (will) you, please ... ?
Would you kindly ... ?
I wonder if (whether) ... ?
Do you happen to know ... ?
2. With pleasure. Most willingly. All right.

IV. TRANSLATE FROM RUSSIAN INTO ENGLISH

1. В прошлом году я поступил в ГГТУ им. П. О. Сухого.
2. Университет готовит инженеров во многих областях.
3. Я выбрал профессию инженера-электронщика потому, что это наиболее перспективная область инженерии.
4. Электроника имеет дело с научными исследованиями, конструированием, сборкой и применением электронных схем и устройств, которые применяются в передаче и обработке информации.
5. Инженеры-электронщики принимают непосредственное участие в создании спутников связи, радаров, компьютеров, промышленных роботов, медицинского и научного оборудования, а также разрабатывают миниатюрные электронные схемы, которые контролируют электрические сигналы в разнообразных электронных устройствах.

V. SPEAK ON THE TOPIC "MY SPECIALITY"

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Учебное издание

**Ромичева Галина Васильевна
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