**UNIT 1**

**I. Answer these questions:**

1. What types of computers do you know?

*PC, supercomputers, laptops, servers*

1. What type of computer do you prefer to work on?

*PC, laptop*

1. Do you like to improve certain parameters of your own computer? If so, which ones? If not, why?

*I don’t want to improve my PC, because I have already done it this summer*

1. Which computer programs do you use?

*Browser, Word, Visual Studio*

1. Are you longing for brand new programs, or you’re a conservative who prefers to use well-known, old and reliable ones?

*I don’t see a problem in using new programs*

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

Floppy disk, digital computer, analog computer, microcomputer, transportable

computer, mainframes, hardware, software, application program, to execute

program instructions, to control the operation, central processing unit (CPU),

to carry out calculations, random access memory (RAM), to run simultaneously,

to be volatile, read-only memory (ROM), to boot the computer.

**III. Read and translate the text:**

**СOMPUTER AND ITS COMPONENTS**

|  |  |
| --- | --- |
| Computeris a programmableelectronic machine that processes data and performs calculations and other symbol-manipulation tasks. It cantake information from a person through the keyboard or mouse, from a device like CD or floppy disk or from the network through a modem. There are three types of machines: the digital computer, which manipulates information coded as binary numbers; the analog computer, which works with continuously varying **quantities**; and the hybrid computer, which has characteristics of both analog and digital computers.  *Digital computers* are widely spread and corresponding to their size and intended use they could be divided into four types.  *Microcomputers* are the smallest used in small business, at home, and in schools. They are usually single-user machines.  *Laptop* is a transportable computer, the best partner of yours when going somewhere on business, **particularly** in conferences, talks, etc.  *Mainframes* which can often service several hundred users simultaneously, are found in large organizations, such as national companies and **government departments**.  *Supercomputers* are mostly used for extremely complex scientific tasks, such as analyzing the results of nuclear physics experiments and weather forecasting. The mechanical, electrical and electronic components of a computer system is called *hardware.*  A collection of programs and procedures for making a computer perform a specific task is called software. *Software* is created by programmers and is either distributed on a suitable medium, such as a *floppy disk*, (either) built into the computer in the form of firmware. Examples of software include operating system, compilers and application programs. No computer can function without some form of software.  The main component of a computer that executes individual program instructions and controls the operation of other parts is the central processing unit (*CPU*). It includes the arithmetic and logic unit that carries out all calculations and logical operations, and control unit, which helps to run information around the system, **since** it decodes, synchronizes and executes program instruction.  The next important component of a computer is called random access memory or *RAM*. The memory is **considered** “random access’ because the memory locations can be accessed directly rather than requiring sequential access. It means that the data can be selected without having to skip over earlier data first. The CPU must load application programs and the data they need into RAM before they can perform any **processing**. RAM is always **supplemented** by virtual memory, which increases the number of applications that can be run simultaneously.  Virtual memory-space on a hard disc used to temporarily store data and swap it in and out of RAM as needed.  RAM is the short-term memory of the computer. It is volatile, which means that any information stored in it will be lost if power goes out.  A permanent type of memory storage used by the computer for important data that does not change is called read-only memory (*ROM*). It does not lose its components when power is removed. ROM contains programs that are critical to the operation of the computer, for example, the instructions necessary to boot the computer when it is turned on.  *BIOS* (basic input/output system) is a type of ROM that is used by the computer to establish basic communication when the computer is turned on.  *Cash* is a special memory subsystem within a computer that temporarily holds data or program instructions to improve overall computer performance. Most cashes copy data [or] from a standard computer memory (RAM) to a type of memory that allows faster data access by the CPU. | quantities – величины  particularly – в частности  government department – госслужба  since – после  considered – считается  processing – обработка  supplemented – дополняется |

**IV. Match the terms in the left-hand column with their definitions in the right-hand column.**

|  |  |
| --- | --- |
| 1. digital computer | 4. a device, which manipulates information coded as binary numbers |
| 2. software | 6. a collection of programs |
| 3. hardware | 7. the mechanical, electrical and electronic components of a computer system |
| 4. scanner | 8. a device for copying texts and pictures |
| 5. driver program | 3. a program that controls a peripheral device |
| 6. CPU | 1. a device that executes individual program instructions and controls the operations of other parts of the computer |
| 7. VDT | 5. visual display terminal |
| 8. floppy disk | 9. a flexible disk, a storage device on which data is recorded magnetically |
| 9. CD ROM | 2. a hard disc on which data is stored in the form of etched pits |
| 10. DDT | 11. debugging program |
| 11. bug | 10. a software error or flaw |
| 12. RAM | 13. short-term memory |
| 13. ROM | 12. a permanent type of memory storage for important data that does not change |

**V. Give full answers to these questions:**

1. What is a computer?

*Computer**is a programmable**electronic machine that processes data and performs calculations and other symbol-manipulation tasks.*

1. How can it take information from a person?

*It can**take information from a* *person through the keyboard or mouse, from a device like CD or floppy disk or from the network through a modem.*

1. What types of computers are mentioned in the text?

*Microcomputers, mainframes, laptop, supercomputers.*

1. What type of computer is used by every dignified businessman?

*Laptop is used by every dignified businessman.*

1. What types of computers are used for complex scientific tasks?

*Supercomputers are used for complex scientific tasks.*

1. What is the difference between software and hardware?

*Software is a collection of programs, hardware is the mechanical, electrical and electronic components of a computer system.*

1. What does the CPU mean?

*CPU means central processing unit.*

1. What are the main components of a computer?

*The main components of a computer are CPU, RAM, ROM, BIOS.*

**VI. Retell the text briefly using the following words and expressions:**

Programmable electronic machine, process data, digital computer, analog computer, hybrid computer, microcomputers, laptops, mainfraimes, supercomputers, hardware, software, central processing unit, immediate access memory, volatile, read-only memory, to boot the computer.

**VII. Fill in the gaps with the missing prepositions. Help yourself referring to text.**

1. The hybrid computer has characteristics **of** both analog and digital computers.
2. Microcomputers are used **in** small businesses, **at** home and **in** schools.
3. Supercomputers are mostly used **for** complex scientific tasks.
4. Software is created **by** programmers.
5. Software is either distributed **on** a suitable medium or built **into** the computer.
6. CPU can carry **out** all calculations and logical operations.
7. Peripheral devices are attached **with** a computer.
8. Nonvolatile memory does not lose information even when computer is

Switched **off**.

1. Volatile memory stores programs and data only while the computer is

switched **on**.

1. Today you can buy a computer according **to** your taste and needs.

**VIII. Rearrange the words and get the right sentences.**

1. Computer processes data and performs calculations.
2. Computer can take information from a person through a modem.
3. Mainframes can service several hundred users.
4. Software includes a collection of programs.
5. CPU is the main component of a computer.
6. It carries out all calculations and logical operations.

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

1. (a) computer, (b) laptop;

*It’s digital computers / Laptop is transportable*

1. (a) floppy disk, (b) hard disk;

*It’s disk for information storage / They have different way of storage*

1. (a) hardware, (b) software.

*It’s parts of a computer / Hardware has physical implementation, software – digital*

**X. Give the opposites of the following words:**

Paralyze - mobilize, late - early, complex - obvious, positive - negative, run - stand, build - destroy, spend - earn, cheap - expensive, go back - go out, individual - general, connect - disconnect, possible - impossible, large - tine, volatile - permanent, external memory - internal, flexible - inflexible, tight - soft, formal - informal, foreign - native.

**XI**. **Give the synonyms of the following words:**

switch on - turn on, address - location, execute - carry out, support - help, purpose - goal, control - manage, connect - join, perform - execute, create - build, contain - involve, locate - place.

**XII. Use the words to complete the sentences.**

*data, simultaneously, transportable, programmers, virtual memory, microcomputers, calculations, floppy disk, executes, goes out, controls, temporarily holds, random access memory*

1. Computer is a programmable electronic machine that processes **data** and performs **calculations**.
2. **Microcomputers** are usually single-user machines.
3. Laptop is a **transportable** computer, the best partner of yours when going somewhere on business.
4. Mainframes can often service several hundred users **simultaneously**.
5. Software is created by **programmers** and is distributed on a suitable medium, such as a **floppy disk**, built into the computer in the form of firmware.
6. The main component of a computer that **executes** individual program instructions and **controls** the operation of other parts is the central processing unit (*CPU*).
7. The next important component of a computer is called **random access memory**.
8. RAM is supplemented by **virtual memory**, which increases the number of applications that can be run simultaneously.
9. RAM is volatile, which means that any information stored in it will be lost if power **goes out**.
10. Cash is a special memory subsystem that **holds temporarily** data or program instructions to improve overall computer performance.

**XIII. Supply the articles where necessary:**

1. Digital computers are widely spread.
2. **The** main component of **a** computer is **the** central processing unit.
3. **The** CPU includes **the** arithmetic and logic units.
4. **The** control unit helps to run **an** information around **the** system.
5. Every of peripheral devices connected to **a** computer needs **a** driver program.
6. Driver insures that **the** communication between **the** computer and **a** peripheral device is successful.
7. **The** memory is one of **the** most important components of **a** computer.
8. Tom bought **a** new program.
9. It turned out that **the** program was extremely interesting and useful for him.
10. As **a** matter of fact all professionals have their own specific colloquial language.

**XIV. Translate into English**.

1. С моим компьютером что-то произошло; такое впечатление, что он сломался.

*Something happened with my computer; looks like it’s broken*

1. Трудно представить современного специалиста без компьютера.

*It’s hard to imagine today specialist without a computer*

1. Память является очень важным элементом компьютера, но не менее важен процессор.

*Memory is a very important computer part, but the CPU isn’t less important*

1. Для периферийных устройств необходимы соответствующие драйверы.

*Appropriate drivers are necessary for peripheral devices*

1. Компьютер без программного обеспечения является бесполезным металлом.

*A PC without software is a useless metal*

1. Для длительного хранения информации ее переписывают на дискеты и жесткие диски.

*An information is rewritten to floppy disks and CD for long storage*

1. Сканеры необходимы в тех случаях, когда требуется копировать тексты или изображения.

*Scanners are necessary in cases when it’s required to copy texts or images*

1. Драйверы обеспечивают успешную связь компьютера с периферийными устройствами.

*Drivers provide successful connection between computer and peripheral devices*

1. Для безопасности желательно проинсталлировать надежную антивирусную программу.

*A reliable antivirus program installation is preferable for safety*

1. Вирус может погубить не только полезную информацию, но также и программы.

*A virus can ruin not just useful information, but programs*

**XV. Read the text, try to understand the topic and put the items in the right order. Take into account that the first one is in the right position.**

1. A virus is a program that will seek to duplicate itself in memory and on discs, but in a subtle way that will not immediately be noticed.
2. Therefore a computer on the same network as an infected computer or that uses an infected disc (floppy or CD) or that downloads and runs an infected program can itself become infected.
3. A virus can only spread to computers of the same platform.
4. For example, on a network consisting of a WinTel box, a Mac and a Linux box, if one machine acquires a virus the other two will probably still be safe.
5. Note also that different platforms have different general levels of resistance. Unix machines are almost immune. Win ’95/’98 /Me is quite vulnerable, and most others lie somewhere in between.