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«Белорусский государственный университет
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Кафедра иностранных языков №2

МЕТОДИЧЕСКИЕ УКАЗАНИЯ И КОНТРОЛЬНЫЕ ЗАДАНИЯ ПО АНГЛИЙСКОМУ ЯЗЫКУ ДЛЯ СТУДЕНТОВ ЗАОЧНОЙ ФОРМЫ ОБУЧЕНИЯ

DIRECTIONS AND TESTS FOR CORRESPONDENCE STUDENTS

Минск БГУИР 2010

УДК 811.111(076)
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М54

С о с т а в и т е л и:

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Данное издание содержит контрольные работы для студентов 1–2-го курса заочной формы обучения и имеет целью формирование навыков самостоятельного чтения литературы по специальностям вуза на английском языке.

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ВВЕДЕНИЕ

Данная методическая разработка предназначена для студентов-заочников 1–2 курсов технических специальностей. Студент-заочник должен выполнить контрольные работы согласно учебному плану заочного факультета. Прежде чем приступить к выполнению работы, необходимо изучить грамматический материал, предусмотренный учебным планом кафедры.

Цель обучения: при заочном обучении в неязыковых вузах практическое владение английским языком означает умение самостоятельно читать и переводить со словарем литературу на английском языке по специальности широкого профиля, извлекать необходимую для работы информацию.

Для развития навыков чтения общенаучной литературы и литературы по специальности широкого профиля решающими факторами являются:

а) накопление словарного запаса;

б) овладение грамматическими формами и оборотами, необходимыми для понимания текста и перевода с английского языка на русский.

При выполнении письменных контрольных работ следует учитывать следующее:

1. Количество контрольных работ и график их выполнения устанавливаются учебным планом университета.

2. Каждая контрольная работа в данном пособии предлагается в пяти вариантах. Студент должен выполнить один из пяти вариантов в соответствии с последней цифрой шифра студенческого билета . Студенты, шифр которых оканчивается на цифру **1** или **2**, выполняют вариант **1**, на **3** или **4** – вариант **2**, на **4** или **5** – **3**, на **7** или **8** – **4**, на **9** или **0** – **5.**

3. При выполнении контрольной работы следует оставлять широкие поля для замечаний и указаний рецензента.

4. Выполненные контрольные работы следует представлять в университет для проверки и рецензирования в установленные сроки.

5. Получив рецензию, студент должен ознакомиться со всеми замечаниями и проработать те правила, на которые допущены ошибки. Все предложения с ошибками следует переписать начисто в исправленном виде в конце контрольной работы.

КОНТРОЛЬНАЯ РАБОТА №1

Вариант 1

1. *Перепишите следующие предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. Unless you are studying engineering, you don't need to become a computer system architect.
2. Most people know how to formulate a mental picture of a computer.
3. Computers manipulate data in many ways.
4. He is typing the name of the file. Wait a minute.
5. These programs form the software that sets up a computer to do a specific task.

2. *Перепишите следующие предложения, поставьте глаголы в нужную форму (Past Simple/Present Perfect). Письменно переведите предложения на русский язык.*

1. Sohn von Neumann *(contribute*) to the idea of storing data and instructions in a binary code.
2. Computers (*move*) into society rapidly and completely.
3. The most common device used to transfer information from the user to the computer (*be*) the keyboard.
4. Since the 1980s PCs (*become*) commodity items.
5. In 1980 IBM (*set up*) a special team to develop the first IBM PC.

3. *Перепишите следующие предложения, подчеркните глаголы-сказуемые и укажите в скобках видовременные формы, выражающие будущее время. Письменно переведите предложения на русский язык.*

1. We will have published the results of the tests in the journal by May.
2. Our specialists are going to develop a new type of software to overcome current system failures.
3. The use of combination analog devices will continue to increase.
4. The company launches a new pen-based system next month.
5. The developers are testing and debugging new software next week.

4. *Перепишите следующие предложения, подчеркните глаголы-сказуемые и в скобках укажите их видовременную форму. Письменно переведите предложения на русский язык.*

1. A programmer was computing a new program when I came in.
2. Manufacturers will have produced a new video digitizer which could convert input from any type of video device.

3. Computers have changed the way we view our lives.
4. A microcomputer *Voice User Interface*, capable of recognizing input from a variety of individuals will be a standard soon.
5. By the 20th century electromechanical machines had been developed and were used for business data processing.

5. *Перепишите и письменно переведите предложения*.

1. There exist 5 generations of computers.
2. There are different types of computers.
3. There are computer programs which assist preschool children in learning.
4. There exist computer-based projects which are excellent for individuals or group activity.
5. There are four different elements in a digital computer.

6. *Прочтите и письменно переведите текст.*

Computer Literacy

Informed citizens of our information-dependent society should be computer-literate, which means that they should be able to use computers as everyday problem-solving devices. They should be aware of the potential of computers to influence the quality of life.

There was time when only privileged people had an opportunity to learn the basics, called the three R's: reading, writing and arithmetic. Now, as we are quickly becoming an information society, it is time to restate this right as the right to learn reading, writing and computing. There is little doubt that computers and their many applications are among the most significant technical achievements of the century. They bring both economic and social changes. "Computing" is a concept that embraces not only the old third R, arithmetic, but also a new idea – computer literacy.

Because computers have moved into society so rapidly and so completely, you need basic computer skills just to pursue your career goals and function effectively in society. In short, you need computer literacy, sufficient computer knowledge to prepare you for working and living in a computerized society.

For many people, computer literacy means simply knowing which key to press. That knowledge is important, but isn't enough. You need to understand some fundamental concepts about how computer systems are setup and how they work.

In an information society a person who is computer-literate need not be an expert on the design of computers. He needn't even know much about how to prepare programs which are instructions that direct operations of computers. All of us are ready to become computer-literate. Just think of your everyday life. If you receive a subscription magazine in the post-office, it is probably addressed to you by a computer. If you buy something with a bank credit card or pay a bill by check, computers help you process the information. When you check out at the counter of

your store, a computer assists a checkout clerk and a store manager. When you visit your doctor, your schedules and bills and special services, such as laboratory tests, are prepared by computer. Many actions that you have taken or observed have much in common. Each relates to some aspect of data processing system.

Вариант 2

1. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. They operate on the basis of an analogy to the process that is being studied.
2. They aren't testing this computer's basic units now.
3. In a computer most processing takes place in the central processing unit (CPU).
4. Memory is an area of a computer that temporarily holds data.
5. Portable computers are ideal for mobile users because they are easy to carry and use outdoors.

2. *Перепишите предложения, поставьте глаголы в нужную форму* (*Past Simple/Present Perfect*). *Письменно переведите предложения на русский язык.*

1. The widespread availability of computer (*change*) the world for ever.
2. The first real calculating machines (*appear*) in 1820 as the result of several people's experiment.
3. Computers (*become*) commonplace in offices, research institutes.
4. When IBM (*introduce*) its first personal computer in 1981 the firm chose the name IBM Personal Computer.
5. Computers (*become)* valuable medical diagnostic tools.

3. *Перепишите следующие предложения, подчеркните глаголы-сказуемые и укажите в скобках видовременные формы, выражающие будущее время. Письменно переведите предложения на русский язык.*

1. The delegation of IT experts from Manchester Technical Institute arrives to test a new optical character recognition system.
2. The invention of a new electronic memory system will depend on the latest advances in IT sphere.
3. Our colleagues are presenting an optical scanner designed by them at the next exhibition.
4. This company is going to produce hardware components suitable for computers of the next generation.
5. Very large-scale integration technologies will have reduced the size of computers by the end of the decade.

4. *Перепишите предложения, подчеркните глаголы-сказуемые и в скобках укажите их видовременную форму. Письменно переведите предложения на русский язык.*

1. Analog sensors will provide input to the control centers of these systems.
2. They were discussing a new input device when we came.
3. Many business, scientific and industrial computers applications rely on the combination of analog and digital devices.
4. Since then computers have used the stored-program concept.
5. By 1970 keyboard terminals had replaced punched cards.

5. *Перепишите и письменно переведите предложения*.

1. There are 5 elements of the computing process.
2. There are different shapes and sizes of a computer.
3. There exist computer programs which assist preschool children in learning alphabet.
4. There are two fundamentally different types of computers: analog and digital.
5. There exist several devices used for inputting information into the computer.

6. *Прочтите и письменно переведите текст.*

A Computer Is …

Most people can formulate a mental picture of a computer, but computers do so many things and come in such a variety of shapes and sizes that it might seem difficult to distill their common characteristics into an all-purpose definition. At its core, a computer is a device that accepts input, processes data, stores data, and produces output, all according to a series of stored instructions.

Computer input is whatever is typed, submitted, or transmitted to a computer system. Input can be supplied by a person, by the environment, or by another computer. Examples of the kinds of input that a computer can accept include words and symbols in a document, numbers for a calculation, pictures, temperatures from a thermostat, audio signals from a microphone, and instructions from a computer program. An input device, such as a keyboard or mouse, gathers input and transforms it into a series of electronic signals for the computer to store and manipulate.

In the context of computing data refers to the symbols that represent facts, objects, and ideas. Computers manipulate data in many ways, and this manipulation is called processing. The series of instructions that tell a computer how to carry out processing tasks is referred to as a computer program, or simply a “program”. These programs form the software that sets up a computer to do a specific task. Some of the ways that a computer can process data include performing calculations, sorting lists of words or numbers, modifying documents and pictures, keeping track of your score in a fact-action game, and drawing graphs. In a computer, most processing takes

place in a component called the central processing unit (CPU), which is sometimes described as the computer's "brain".

A computer stores data so that it will be available for processing. Most computers have more than one place to put data, depending on how the data is being used. Memory is an area of a computer that temporarily holds data waiting to be processed, stored, or output. Storage is an area where data can be left on a permanent basis when it is not immediately needed for processing.

Output is the result produced by a computer. Some examples of computer output include reports, documents, music, graphs, and pictures. An output device displays, prints, or transmits the results of processing.

Вариант 3

1. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. Output is the result produced by a computer.
2. In a fast developing computer world floppy disks are becoming obsolete.
3. A CD drive is a storage device that uses laser technology to work with data.
4. AU computer systems perform the functions of inputting, storing, processing, controlling and outputting.
5. The engineers are carrying out complex calculations with the help of the mainframe how.

2. *Перепишите следующие предложения, поставьте глаголы в нужную форму (Past Simple/Present Perfect). Письменно переведите предложения на русский язык.*

1. Early computers (*be*) really no more than calculating devices.
2. With the coming of expensive microcomputers their applications (*become*) more versatile.
3. The first personal computers (*be*) desktop models.
4. It has been estimated that in 2015 microcomputers (*be*) common as TV sets.
5. Many technical developments of electronic digital computers (*take place*) in the 1940s and 1950s.

3. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках видовременные формы, выражающие будущее время. Письменно переведите предложения на русский язык.*

1. The larger computer developers are planning to introduce "green" computers to the market next year.
2. We're going to use a trackball instead of an optical mouse as it requires less desktop space.

3. Recently certain binary machines have been announced which will be capable of utilizing magnetic disc file memories.
4. Manufacturers will have produced a new notebook with multiprocessing capabilities by the end of this year.
5. According to the schedule we begin to distribute a new software product next month.

4. *Перепишите предложения, подчеркните глаголы-сказуемые и в скобках укажите их видовременную форму. Письменно переведите предложения на русский язык.*

1. The creation of the microprocessor has changed the world.
2. The control unit interprets the instructions and issues commands to the other functional units.
3. Second-generation computers were easier to program than the first-generation computers.
4. We were carefully checking up the results of experiments all day yesterday.
5. It was announced that Russia had allocated 1.1 billion roubles to build supercomputers.

5. *Перепишите и письменно переведите предложения*.

1. There are four different elements in a digital computer.
2. There exist two types of mouse: optical and mechanical.
3. There are two categories of output: soft copy and hard copy.
4. There exist several devices used for inputting information into the computer.
5. There are two fundamentally different types of computers.

6. *Прочтите и письменно переведите текст.*

Application of Computers

At present a great deal of the work force of most countries is engaged in creating, processing, storing, communicating and just working with information. Computers have become commonplace in homes, offices, stores, schools, research institutes, plants.

The use of computers in business, industry and communication services is widespread today. Computer-controlled robots are able to improve the quality of manufactured products and to increase productivity. Computers can control the work of power stations, plants and docks. They help in making different decisions and in management of economy.

The work of banks depends upon computer terminals for millions of daily operations. Without these terminals, records of deposits and withdrawals would be

difficult to maintain, and it would be impossible to make inquiries about the current status of customer accounts.

Computers form a part of many military systems including communication and fire control. They are applied for automatic piloting and automatic navigation. Space exploration depends on computers for guidance, on-board environment and research.

Weather forecasting, library information services can benefit from computers too. It is interesting to note that computers are widely used in medicine. They became valuable medical diagnostic tools. Computers are used for optical scanning and image processing, ranging from pattern recognition to image processing. Technicians can operate computer tomography scanners which combine X-rays with computer technology to give sectional views of the body of patients. The views then can be combined into a single image shown on the screen.

It should be noticed that learning on a computer can be fun. Students spend more time with computer-aided instruction performing the assigned task, as compared with conventional classroom.

Air traffic control is impossible without computer application. It fully depends on computer-generated information.

Many other uses of computer that we cannot imagine at present will become commonplace in the transition from an industrial to post industrial, or information society.

Вариант 4

1. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. Larger computer systems are beginning to use a new type of hard disk storage.
2. An output device displays, prints or transmits the results of processing.
3. A floppy disk is a storage device that reads and writes data on floppy disks.
4. Is he still loading the program now? Why doesn't the system work properly?
5. Actually, the more common term "computer" is fast replacing the term "electronic data processing machine".

2. *Перепишите предложения, поставьте глаголы в нужную форму (Past Simple/Present Perfect). Письменно переведите предложения на русский язык.*

1. The microcomputer industry (*be split*) between the Apple and IBM families of microcomputers since 1981.
2. *Mark I*, the name given to the first digital computer, (*be completed*) in 1944.
3. Computers (*change*) the way we view our lives.
4. In 1946 two engineers at the University of Pennsylvania (*build*) their digital computer with vacuum tubes.
5. The rapid development of science and technology (*change*) the world.

3. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременные формы, выражающие будущее время. Письменно переведите предложения на русский язык.*

1. They will equip this kind of computers with a disc file of extremely high capacity and access speed.
2. We are participating in a world trading show with a new ergonomic keyboard which gives an advantage to avoid key errors.
3. Our country begins to present its latest developments in IT sphere at the world trading exhibition next year.
4. Manufacturers are going to spend millions of dollars on research and development of relatively few models of supercomputers.
5. The company will have launched a new optical recognition system by next year.

4. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. The age of minicomputers started in the late 1960s.
2. Some individuals in the computer industry believe that a new generation of pointing devices will soon replace the mouse.
3. The computers have moved into society rapidly and completely.
4. We were using speech recognition systems in many types of settings during that project.
5. It was stressed that technological advances of computers had affected games.

5. *Перепишите и письменно переведите предложения*.

1. There are computer based projects which are excellent for individual or group activity.
2. There exist two basic kinds of files: program files and data files.
3. There exist several devices used for inputting information into the computer.
4. There are good reasons to use magnetic tape, despite the disadvantages.
5. There exist many shapes and sizes of mice.

6. *Прочтите и письменно переведите текст.*

Computer Categories

The rapid development of science and technology has changed the world. In recent years computers have been used in all fields of human activities: business, industry, education, culture, health care service, economics, politics, mass, media, arts, in everyday life of different people. At present people have to keep step with the time not to be lost in the world of information. So computers are becoming of great

importance for most adults and youth. Computers come in many sizes and shapes such as special-purpose, laptop, desktop, minicomputers, supercomputers.

Special-purpose computers can perform specific tasks and their operations are limited to the programs built into their microchips. These computers are the basis for electronic calculators and can be found in thousands of electronic products, including digital watches and automobiles. Basically, these computers do the ordinary arithmetic operations such as addition, subtraction, multiplication and division.

General-purpose computers are much more powerful because they can accept new sets of instructions. The smallest fully functional computers are called notebook computers. Most of the general-purpose computers known as personal or desktop computers can perform almost 5 million operations per second.

Minicomputers are high-speed computers that have greater data manipulating capabilities than personal computers do. These machines are primarily used by larger businesses or by large research and university centers. The speed and power of supercomputers, the highest class of computers, are almost beyond comprehension, and their capabilities are continually being improved. The most complex of these machines can perform nearly 32 billion calculations per second and store 1 billion characters in memory at one time, and can do in one hour what a desktop computer would take 40 years to do. They are used commonly by government agencies and large research centers. Linking together networks of several small computer centers and programming them to use a common language has enabled engineers to create the supercomputer. The aim of this technology is to elaborate a machine that could perform a trillion calculations per second.

Вариант 5

1. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. Pen-based computing is just beginning to gain widespread acceptance.
2. Most desktop computers use a separate monitor as a display device.
3. The commitment to create the fastest, most powerful computer in the world is still driving the development of supercomputers.
4. A computer printer is an output device that produces a computer-generated text.
5. If the read/write head encounters an obstacle, specialists are trying to solve this problem.

2. *Перепишите предложения, поставьте глаголы в нужную форму (Past Simple/Present Perfect). Письменно переведите предложения на русский язык.*

1. The widespread availability of computer (*change*) the world for ever.
2. The first real calculating machines (*appear*) in 1820 as the result of several people's experiment.

3. Computers (*become*) commonplace in offices, research institutes.
4. When IBM introduced its first personal computer in 1981 the firm (*choose*) the name IBM Personal Computer.
5. Computers (*become*) valuable medical diagnostic tools.

3. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременные формы, выражающие будущее время. Письменно переведите предложения на русский язык.*

1. Developers are going to create video digitizers which could capture input from virtually any type of video device.
2. A new pen-based system introduced by the postgraduate students will have been tested in our laboratory by May.
3. According to the plan AU computer distributors in the country start to form electronic customer files keeping track of orders, purchases, system failures and returns.
4. Our partners are visiting an international IT exhibition next week.
5. The fourth step is testing the program to be sure that it will run correctly no matter what happens.

4. *Перепишите предложения, подчеркните глаголы-сказуемые и укажите в скобках их видовременную форму. Письменно переведите предложения на русский язык.*

1. Our lab will have launched a new model of data communication network by the next exhibition.
2. The first supercomputer became the world's fastest and most powerful computer of the time.
3. We were carrying out experiments when you came in.
4. Computer designers have discovered that they can increase the speed of the processor.
5. Digital computers deal with discrete rather than continuous quantities.

5. *Перепишите и письменно переведите предложения*.

1. There are special interesting computer programs which enhance learning at home.
2. There are a lot of different techniques and tools that can be applied in most of cases very effectively.
3. There are manipulators that are used while operating with graphical interface.
4. There exist several reasons why hard discs perform much better than floppy discs.
5. There are different types of microcomputer platforms with varying capabilities.

6. *Прочтите и письменно переведите текст.*

Digital Computers

There are two fundamentally different types of computers: analog and digital. In current usage, the term "computer" usually refers to high-speed digital computers. These computers are playing an increasing role in all branches of economy.

Digital computers are based on manipulating discrete binary digits (1s and 0s). They are more effective than analog computers: they are faster; they can transfer huge data bases more accurately; and their coded binary data are easier to store and retrieve than analog signals.

For all their apparent complexity, digital computers are considered to be simple machines. Digital computers are able to recognize only two states in each of its millions of switches, "on" or "off", or high voltage or low voltage. By assigning binary numbers to there states, 1 for "on" and 0 for "off", and linking many switches together, a computer can represent any type of data from numbers to letters and musical notes. It is this process of recognizing signals that is known as digitization.

The power of computers influences the characteristics of memory-storage devices. Most digital computers store data both internally, in what is called main memory, and externally, on auxiliary storage units. As a computer processes data and instructions, it temporarily stores information internally on special memory microchips.

Output devices let a user see the results of the computer's data processing. Being the most commonly used output device, the monitor accepts video signals from a computer and shows different kinds of information such as text, formulas and graphics on its screen. With the help of various printers information stored in one of the computer's memory systems can be easily printed on paper in a desired number of copies.

Programs, also called software, are detailed sequences of instructions that direct the computer hardware to perform useful operations. In large corporations software is often written by groups of experienced programmers, each person focusing on a specific aspect of the total project. For this reason, scientific and industrial software sometimes costs much more than do the computers on which the programs run.

КОНТРОЛЬНАЯ РАБОТА №2

Вариант 1

1. *Перепишите и письменно переведите предложения. Подчеркните в каждом из них модальные глаголы.*

1. You must transfer the information to a storage device, such as a disk drive, if you want to keep the information permanently.
2. Computers can operate in only two states: on and off.
3. Adding more memory chips may be necessary to run large or graphics-intensive applications.

4. Most memory chips are now mounted on boards and all you need to do is to plug the board into a slot on the mother board.
5. There are some reasons why users might be reluctant to purchase a computer.

2. *Перепишите предложения, вставьте в них следующие модальные глаголы:* ***should, can, need to, might, must****. Письменно переведите предложения.*

1. A file header … be read by the computer, but never appears on the screen.
2. A RISC processor … require more instructions to complete a task than a CISC processor.
3. Installing a peripheral device you … remember that the cable you use … match the peripheral device and a port on the computer.
4. To find out how your home, work, or lab computer stacks up, you'll … know a few of its specifications.
5. The instructions that a computer … to process for a particular program are held in RAM.

3. *Перепишите предложения, переведите их, обратив внимание на различные функции местоимения* ***it****.*

1. It would never be able to reconstruct the words and sentences of your term paper.
2. It is the most important component of a computer.
3. A computer performs operations on the data to transform it in some way.
4. Consider where you are going to use the computer. Does it need to be portable?
5. It might be worthwhile when selecting a home accounting package to decide whether you would like to do your own income taxes on your computer.

4. *Перепишите предложения, исправив ошибки; письменно переведите предложения.*

1. The parts of a computer you can to touch are hardware.
2. Do you should give files names that describe exactly what they contain?
3. People don't may buy a computer that cannot run the programs they already own.
4. The programmer in an assembly language must paying careful attention to how the machine works.
5. Early transistor could responds at a rate of a few million times a second.

5. *Перепишите предложения, поставьте модальные глаголы в форме: а) прошедшего времени; б) будущего времени.*

1. Computers can replace people in dull routine work.
2. The program is a set of instructions that may also include data to be processed.
3. Computer-controlled robots must increase the productivity of industry.
4. Data as well as instructions are to flow into and out of primary storage.
5. A computer cannot do anything unless a person tells it what to do and gives it the necessary information.

6. *Прочтите и письменно переведите текст.*

The Computer

The term hardware refers to the physical parts of the computer. The parts of a computer you can touch, such as the monitor or the Central Processing Unit (CPU) are hardware. Computer hardware is versatile – what it does depends on the computer program you use. All hardware except the CPU and the working memory are called peripherals. Computer programs are software. The operating system (OS) is software that controls the hardware. Most computers run the Microsoft Windows OS. MacOS and Linux are other operating systems. The CPU controls how fast the computer processes data. We measure its speed in megahertz (MHz) or gigahertz (GHz). The higher the speed of the CPU, the faster the computer will run. You can type letters and play computer games with a 500 MHz CPU. Watching movies on the Internet needs a faster CPU and a modem.

We measure the Random Access Memory (RAM) of the computer in megabytes (MB). RAM controls the performance of the computer when it is working and moves data to and from the CPU. Programs with a lot of graphics need a large RAM to run well. The hard disk stores data and software programs. We measure the size of the hard disk in gigabytes (GB). Computer technology changes fast, but a desktop PC (Personal Computer) usually has a tower, a separate monitor, a keyboard and a mouse. The CPU, modem, CD-ROM and floppy disk drives are usually inside the tower. A notebook is a portable computer with all these components inside one small unit. Notebooks have a screen, not a monitor, and are usually more expensive than desktops with similar specifications.

Вариант 2

1. *Перепишите и письменно переведите предложения. Подчеркните в каждом из них модальные глаголы.*

1. Because one byte equals only one character, devices must be capable of storing thousands, millions, or ever billions of bytes.
2. The computer can process data and describe the different kinds of memory.
3. The street address for a house doesn’t change even though different people may move in and out of the house.
4. You should be aware of the distinction between CISC and RISC.
5. In many computers some instructions occur within one cycle, but instructions might require multiple cycles.

2. *Перепишите предложения, вставьте в них следующие модальные глаголы:* ***should, can, need to, might, must****. Письменно переведите предложения.*

1. If you understand how CPUs are designed and know the kinds of CPUs available, you … quickly evaluate any computers capabilities.
2. The distinction between CISC or RISC … become meaningless.
3. When you change the configuration of your computer system, the data in CMOS … be updated.
4. You … make a back up copy of the data stored on your hard disk in case of a head crash.
5. To store some basic system information, your computer will … have a type of memory that's more permanent than RAM, but less permanent than ROM.

3. *Перепишите предложения, переведите их, обратив внимание на различные функции местоимения* ***it****.*

1. The smaller size reduces the distance electrical signals need to travel and it also requires less power and heat.
2. It will initially be aimed at servers and high-end workstations.
3. The key to the computers precision is the fact that it represents data digitally.
4. Using a portable computer with a docking station make it easy to carry large files between home and work.
5. All the research will take some time, but it will be time well spent.

4. *Перепишите предложения, исправив ошибки; письменно переведите предложения.*

1. CD-ROMs are very popular now because of the growing speed which CD-ROM drive can provides nowadays.
2. If you paste a word-processed letter into an e-mail it may to lose a lot of its formatting.
3. Do all elements must be organized so that each works smoothly and efficiently with the others?
4. Today's personal computers should being equipped with disks capable of storing more than one billion characters.
5. The third generation computers could performed many data processing operations in nanoseconds, which are billions of seconds.

5. *Перепишите предложения, поставьте модальные глаголы в форме: а) прошедшего времени; б) будущего времени.*

1. Computers can help in making different decisions.
2. The pupils may work with computers at the lessons.

3. Storage devices must have capacities for the input, output data and programs and for intermediate results.
4. An important objective in design of computer data processing systems is to allow computers to do what they do best and to free humans from routine tasks.
5. The *Save* command can't save existing documents.

6. *Прочтите и письменно переведите текст.*

The Desktop

For most users, what's inside the system unit – the big box that contains the processing circuitry and the storage devices – is a mystery. Yet a little knowledge of what's inside that box is essential for computer literacy. It is important that you know enough about processing to make intelligent selections when buying a computer.

The desktop is the screen that appears after you boot up, or turn on, your computer. It shows a number of icons on a background picture or colour. When you buy a new computer and boot up for the first time, the desktop will only show a small number of icons. In the Windows operating system, these usually include My Computer and the Recycle Bin. Double-clicking on an icon with the mouse opens a computer program, a folder or a file. Folders usually contain other files. You can move icons around the desktop add new ones or remove them by deleting them. Deleted files go to the Recycle bin. People usually put the programs they use most often on the desktop to find them quickly. When you double-click on My Computer another screen appears. This screen shows the A drive icon for floppy disk, the C drive icon, which usually contains all of the main programs and folders on your computer, the D drive icon, which is usually the CD-ROM drive, and the Control Panel folder.

When you double-click on Control Panel, another screen appears that shows many other icons, such as the Display icon and the Date/Time icon. Double-clicking on Display opens a box that lets you personalize your desktop by changing the screen saver (the moving image that appears when no one is using the computer) or the background picture.

Вариант 3

1. *Перепишите и письменно переведите предложения. Подчеркните в каждом из них модальные глаголы.*

1. Binary digits, also called bits, can be grouped to form letters, numbers, symbols.
2. You need to understand how the data bus width and system clock speed affect performance.
3. The machine language designed for a specific CPU must be designed to work with the CPU's instruction set.
4. RISC chips may become popular if enough native applications become available.
5. Numeric data consists of numbers that might be used in arithmetic operations.

2. *Перепишите предложения, вставьте в них следующие модальные глаголы:* ***should, can, need to, might, must****. Письменно переведите предложения.*

1. Some processors … execute several instructions in a single clock cycle.
2. Manufactures … decide whether to make the new chip downwardly compatible with previous models.
3. If the right type of port is not available, you'll … add on expansion card.
4. Your computer … know how much memory is available.
5. The list of instructions that a microprocessor … to execute is known as its instruction set.

3. *Перепишите предложения, переведите их, обратив внимание на различные функции местоимения* ***it****.*

1. Although a microprocessor is sometimes mistakenly referred to as "a computer on a chip", it can be described as "a CPU on a chip".
2. It's important that you know enough about processing to make intelligent selections when buying a computer.
3. The most important thing about a computer system is that it enables you to do all the tasks you want to accomplish.
4. It's also important to remember that your operating system requires a considerable amount of space.
5. The basic language of the computer is machine language, but it's in binary form.

4. *Перепишите предложения, исправив ошибки; письменно переведите предложения.*

1. Does hardcopy output can be held in your hand?
2. Adding more memory chips may being necessary to run large and graphics-intensive applications.
3. Software must to be written in accordance with a particular CPU's requirements.
4. Informed citizens of our information-dependent society should being computer-literate.
5. *Mark I* was the first machine that could figured out long lists of mathematical problems at a very fast rate.

5. *Перепишите предложения, поставьте модальные глаголы в форме: а) прошедшего времени; б) будущего времени.*

1. Electric pulses can move at the speed of light.
2. In order to solve scientific problems researchers must deal with the language of science – mathematics.
3. Memories may be classified as electronic or electromechanical.

4. The specific functions of internal storage are to store all data and instructions, intermediate and final results of processing.
5. Word processing is faster and easier than writing by hand and you can store documents on your computer which you can't usually do on a typewriter.

6. *Прочтите и письменно переведите текст.*

Hardware

Computer hardware can be divided into four categories: input hardware, processing hardware, storage hardware, output 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 handheld device connected to the computer by a 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.

The purpose of processing hardware is to 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 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 you can perform highly sophisticated tasks in a very short time.

Вариант 4

1. *Перепишите и письменно переведите предложения. Подчеркните в каждом из них модальные глаголы.*

1. One program often cannot read data created in another program unless the receiving program translates the other program's codes.
2. Programs written for one processor may not be compatible with a processor that is designed differently.
3. You should learn how to evaluate a processor's speed.
4. Programs must be written using instructions recognized by the CPU.
5. The exception is to have programs written for a particular operating system and then have the operating system tailored to fit the CPU.

2. *Перепишите предложения, вставьте в них следующие модальные глаголы:* ***should, can, need to, might, must****. Письменно переведите предложения.*

1. A photograph or drawing … be digitized by treating it as a series of colored dots.
2. Microprocessor manufacturers … carefully to consider compatibility when introducing new models.
3. You … know some key points about processors.
4. If a read-write head runs into a dust particle or some other contaminant on the disk it … cause a head crash, which damages some of the data on the disk.
5. Buying a computer, you'll … assess your budget.

3. *Перепишите предложения, переведите их, обратив внимание на различные функции местоимения* ***it****.*

1. The bus interface unit retrieves the instruction from RAM and passes it along to the prefetch unit.
2. Random-access memory is fast, but it has one drawback, it is volatile.
3. Hardware is the equipment – it includes storage and memory.
4. It doesn't matter whether someone else thinks that a feature isn't necessary; it may be necessary for you.
5. If you want a feature but it is too expensive to purchase now, look for a system that can be easily expanded.

4. *Перепишите предложения, исправив ошибки; письменно переведите предложения.*

1. Can computer hardware being divided into four categories: input, processing, storage, output?
2. Do programs must be written using instructions recognized by that CPU?
3. You may to be surprised to learn that people are part of the computing process.
4. It should being noticed that learning on a computer can be fun.
5. UNIVAC I is the example of the computers which could performed thousands of calculations per second.

5. *Перепишите предложения, поставьте модальные глаголы в форме: а) прошедшего времени; б) будущего времени.*

1. Business minicomputers can perform to 100 million operations per second.
2. Programmers must write application programs in a way that computers can understand.
3. Microsoftware may also include microinstruction manual, microassembler, etc.
4. The instructions are to be written according to a set of rules.
5. The computer cannot understand instructions written in just any old way.

6. *Прочтите и письменно переведите текст.*

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 – thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. CD-ROM (compact disk read-only memory) is a compact disk 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.

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 or television programs. Printer is a computer output device that produces a paper copy of data or graphics. Modem is an electronic device that makes possible the transmission of data to and from computer via telephone or other communication lines. Hardware comes in many configurations, depending on what the computer system is designed to do.

Вариант 5

1. *Перепишите и письменно переведите предложения. Подчеркните в каждом из них модальные глаголы.*

1. A speck of dust or smoke on a disk can cause the computer to interpret a 0 as a 1, or vice versa.
2. To interpret the incoming information properly, each computer needs to show whether the other computer is using even parity or odd parity.
3. Software must be written in accordance with a particular CPU's requirements.
4. People may not buy a computer that cannot run the programs they own.
5. The purpose of the clock speed is to synchronize internal data movements.

2. *Перепишите предложения, вставьте в них следующие модальные глаголы:* ***should, can, need to, might, must****. Письменно переведите предложения.*

1. No processor … function without high speed memory.
2. With serial processing the processor … to complete all steps in the instruction cycle, before the next instruction.

3. Hard disks … be operated and moved with care.
4. If the new device is not recognized, you'll … install driver software.
5. A port … be built into the system until case of a desktop or notebook computer.

3. *Перепишите предложения, переведите их, обратив внимание на различные функции местоимения* ***it****.*

1. No processor could function without high-speed memory, where the processor can store the programs and data it is using.
2. The number travels back through the protection test unit to the execution unit, where it is stored.
3. Computer hardware is versatile – what it does depends on the computer program you use.
4. Consider where you are going to use the computer. Can it stay in one room?
5. Now you know why a needs assessment is important, it helps you focus on the software you need.

4. *Перепишите предложения, исправив ошибки; письменно переведите предложения.*

1. Microphone and video camera don't can affect the processing power and the speed of the computer.
2. The machine language designed for a specific CPU must being desired to work with a CPU's instruction set.
3. Today's computers may to run day in and day out for years without failure.
4. Do computer data processing systems should combine the capabilities of both humans and computers?
5. The Internet originated in the early 1970s when the USA wanted to make sure that people could communicated after a nuclear war.

5. *Перепишите предложения, поставьте модальные глаголы в форме: а) прошедшего времени; б) будущего времени.*

1. With a well-designed CPU you can perform highly sophisticated tasks in a very short time.
2. The computer memory must store the information transmitted from the input and other devices.
3. The I/O environment may be human-related or human-independent.
4. The computer cannot manipulate formulae, equations and calculations.
5. Any problem is to be specially processed for the computer to understand it, that is – coded or programmed.

6. *Прочтите и письменно переведите текст.*

Memory

Many people confuse memory and storage. Memory is temporary. When you turn off the computer, everything in memory is lost. Storage is usually permanent. On most computers, storage also has far greater capacity than memory.

Most computers have several types of memory: RAM, virtual memory, cache memory, and ROM. Memory has many different names. It is called random-access memory – or just RAM – as well as primary memory. And sometimes, just to confuse things further, memory is called primary storage. This storage is in contrast to storage devices that are referred to as secondary storage, such as disks. Generally speaking, the more memory, the better. With most personal computers, the computer's motherboard is designed so that you can easily add more memory – you just add memory chips. Most memory chips are now mounted on boards, and all you need to do is to plug the board into a slot on the motherboard. Adding more memory chips may be necessary to run large or graphics-intensive applications. RAM is fast, but it has one drawback, it is volatile – all the data disappears if the power fails.

Cache memory is a specialized chip used with the computer's memory. Cache chips are faster and more expensive than regular RAM chips. The computer stores the most frequently used instructions and data in cache. Cache has a relatively small storage capacity but can significantly increase the system's speed.

The instructions to start the computer are stored in read-only memory chips, which are not volatile. ROM chips are manufactured with instructions stored permanently on them. The instructions to start the computer are on a special chip known as a ROM BIOS (Basic Input/Output System) chip.

КОНТРОЛЬНАЯ РАБОТА №3

Вариант 1

1. *Перепишите предложения, подчеркните сказуемое и определите его видовременную форму. Письменно переведите предложения на русский язык.*

1. Application software is designed to solve a specific problem or do a specific task.
2. The number and variety of programs that run on Windows are unmatched by any other operating system.
3. When a PC is being used as a terminal with a minicomputer or mainframe computer, software makes the PC emulate a terminal.
4. Tapes can be recorded, erased, and reused many times, and they are inexpensive.
5. Graphics software has been designed to help you create, manipulate and print graphics.

2. *Перепишите предложения и поставьте глаголы в скобках в нужную видовременную форму. Письменно переведите предложения на русский язык.*

1. System programs (*to design*) for the specific pieces of hardware.
2. Data communication within and between computers systems (*to handle*) by system software.
3. The theory that is the basis for most modern software (*to propose*) by Alan Turing in 1935.
4. For many years computers (*to use*) to automate many tasks performed by hand.
5. The microcomputer industry (*to split*) between the Apple and I BM some years ago.

3. *Перепишите предложения и передайте их смысл в форме пассивного залога. Переведите предложения на русский язык.*

Например:

Developers modify support programs and data files.

Support programs and data files are modified by developers.

1. The supervisor controls the entire operating system.
2. ALGOL created in 1958 implemented some novel concepts.
3. However, Pascal did not implement dynamic arrays.
4. Ritchie developed C programming language for the new Unix system being created at the same time.
5. In 1994, the Java project team changed their focus to the Web.

4. *Перепишите предложения и письменно переведите их на русский язык, обратив внимание на перевод определительных конструкций.*

1. Software is the final computer system component.
2. The computer is merely a general-purpose machine which requires specific software to perform a given task
3. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software.
4. A file virus infects application programs, such as games.
5. The bottom line-software piracy negatively effects customer service.

5. *Перепишите и письменно переведите текст.*

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 computer 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. This 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 computers' 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.

Вариант 2

1. *Перепишите предложения, подчеркните сказуемое и определите его видовременную форму. Письменно переведите предложения на русский язык.*

1. A final group of utilities worth mentioning is designed for backing up and cleaning up hard disks.
2. A data base is simply a collection of date that is stored on one or more computers.
3. The operating system must first be loaded into primary storage.
4. Multitasking capabilities were once found only on minicomputers and mainframes.
5. Utility programs monitor how often and how quickly an application program is being executed compared to all the other programs in the system at the same time.

2. *Перепишите предложения и поставьте глаголы в скобках в нужную видовременную форму. Письменно переведите предложения на русский язык.*

1. Recently it (*to estimate*) that microcomputers will be as common as TV sets.
2. The desk microcomputers (*to divide*) into 2 types.
3. Computer software (*to call*) so to distinguish it from computer hardware.
4. Software (or firmware) also (*to use*) in video games
5. The term «software» first (*to use*) in this sense by John W. Tukey in 1958.

3. *Перепишите предложения и передайте их смысл в форме пассивного залога. Переведите предложения на русский язык.*

Например:

The kernel provides the most essential operating system services.

The most essential operating system services are provided by the kernel.

1. In 1995 Netscape licensed Java for use in their internet browser, Navigator.
2. Microsoft has extended BASIC in its Visual Basic product.
3. Lary Wall developed Perl in 1987.
4. Systems software do not solve specific problems
5. In the last ten years, police have installed speed trap units on many busy roads.

4. *Перепишите предложения и письменно переведите их на русский язык, обратив внимание на перевод определительных конструкций.*

1. A backup is usually stored on a different storage medium from the original files.
2. Most computer owners use what they have – a writable CD drive, zip drive of floppy disc drive.
3. Every processor has its own unique instruction set.
4. Clock speed is usually measured in millions of pulses or cycles.
5. For many people computer literacy means simply knowing which key to press.

5. *Перепишите и письменно переведите текст.*

Overview

Software includes all the various forms and roles that digitally stored data may have and play in a computer (or similar system), regardless of whether the data is used as code for a CPU, or other interpreter, or whether it represents other kinds of information. Software thus encompasses a wide array of products that may be developed using different techniques such as ordinary programming languages, scripting languages, microcode, or an FPGA configuration.

The types of software include web pages developed in languages and frameworks like HTML, PHP, Perl and others and desktop applications like Open Office, Microsoft Word developed in languages like C, C++, Java, C#, or Smalltalk. Application software usually runs on an underlying software operating systems such as Linux or Microsoft Windows. Software (or firmware) is also used in video games and for the configurable parts of the logic systems of automobiles, televisions, and other consumer electronics.

Computer software is so called to distinguish it from computer hardware, which encompasses the physical interconnections and devices required to store and execute (or run) the software. At the lowest level, executable code consists of machine language instructions specific to an individual processor. A machine language consists of groups of binary values signifying processor instructions that change the state of the computer from its preceding state. Programs are an ordered sequence of instructions for changing the state of the computer in a particular sequence. It is usually written in high-level programming languages that are easier and more efficient for humans to use (closer to natural language) than machine language. High-level languages are compiled or interpreted into machine language object code. Software may also be written in an assembly language, essentially, a mnemonic representation of a machine language using a natural language alphabet. Assembly language must be assembled into object code via an assembler.

The term "software" was first used in this sense by John W. Tukey in 1958. In computer science and software engineering, computer software is all computer programs. The theory that is the basis for most modern software was first proposed by Alan Turing in his 1935 essay Computable Numbers with an Application to the Decision Problem.

Вариант 3

1. *Перепишите предложения, подчеркните сказуемое и определите его видовременную форму. Письменно переведите предложения на русский язык.*

1. The speed, storage capability, and cost of tape are reasons why it is still frequently used as a backup medium.
2. Programs designed to act as intermediaries between the hardware and application programs are called system software.
3. Many times, the options were shown as icons, or pictures; the user could just point to an icon with the mouse and then click to indicate the choice.
4. System programs have been designed for the specific pieces of hardware.
5. The files on your hard disk can be viewed as if you are looking at a Web page.

2. *Перепишите предложения и поставьте глаголы в скобках в нужную видовременную форму. Письменно переведите предложения на русский язык.*

1. The information (*to store*) on a smart card for transfer to the police computer.
2. Some years ago application software *(to design*) to solve a specific problem or do a specific task.

3. The process of loading of the operating system (*to call)* booting the system.
4. The person who prepares systems software (to *refer to*) as a systems programmer.
5. In 1958 LISP (*to design*) for Artificial Intelligence research.

3. *Перепишите предложения и передайте их смысл в форме пассивного залога. Переведите предложения на русский язык.*

Например:

By using a keyboard buffer your computer never misses any of your keystrokes.	Not any of your keystrokes are missed by your computer due to using a keyboard buffer.

1. The radar sends out a beam of radio waves.
2. The microprocessor measures the difference in wavelength between outgoing and returning signals.
3. Operating systems control and manage the use of hardware devices.
4. IBM first released the IBM PC in 1981.
5. Most users will not purchase UNIX for their own use.

4. *Перепишите предложения и письменно переведите их на русский язык, обратив внимание на перевод определительных конструкций.*

1. The Practice Manager uses a payroll package based on spread sheet to calculate salaries for each employee of health center.
2. Computer software typically consists of many files that contain user-executable programs, support programs and data files.
3. A program editor is any word processor that can be used for basic editing tasks.
4. Reception staff use specially tailored software developed from a database to enter all appointment dates and times for each doctor.
5. Electronic bulletin board systems (BBS) are a new means of casual communications for computer users.

5. *Перепишите и письменно переведите текст.*

Hardware, Software and Firmware

The units that are visible in any computer are the physical components of a data processing system, or hardware. Thus, the input, storage, processing and control devices are hardware. Not visible is the software – the set of computer programs, procedures, and associated documentation that make possible the effective operation of the computer system. Software programs are of two types: systems software and applications software.

Systems software is the programs designed to control the operation of a computer system. They do not solve specific problems. They are written to assist people in the use of the computer system by performing tasks, such as controlling all of the operations required, to move data into and out of a computer and all of the steps in executing an application program. The person who prepares systems software is referred to as a systems programmer. Systems programmers are highly trained specialists and important members of the architectural team.

Applications software is the programs written to solve specific problems (applications), such as payroll, inventory control, and investment analysis. The word program usually refers to an application program, and the word programmer is usually a person who prepares applications software.

Often programs, particularly systems software, are stored in an area of memory not used for applications software. These protected programs are stored in an area of memory called read-only memory (ROM), which can be read from but not written.

Firmware is a term that is commonly used to describe certain programs that are stored in ROM. Firmware often refers to a sequence of instructions (software) that is substituted for hardware. For example, in an instance where cost is more important than performance, the computer system architect might decide not to use special electronic circuits (hardware) to multiply two numbers, but instead write instructions (software) to cause the machine to accomplish the same function by repeated use of circuits already designed to perform addition.

Вариант 4

1. *Перепишите предложения, подчеркните сказуемое и определите его видовременную форму. Письменно переведите предложения на русский язык.*

1. Other parts of the operating system are kept on disk and loaded into primary storage only when needed.
2. When a computer is first turned on, one of the systems programs is booted or loaded into the computer memory.
3. After the system software has been loaded, the applications software can be brought in.
4. System programs are called drivers and coordinate peripheral hardware and computer activities.
5. The information was stored on a smart card for transfer to the police computer.

2. *Перепишите предложения и поставьте глаголы в скобках в нужную видовременную форму. Письменно переведите предложения на русский язык.*

1. FORTRAN (*to design*) at IBM for scientific computing in 1957.
2. It is interesting to note that a COBOL program (*to build)* in a way similar to an essay.
3. Some novel concepts (*to implement)* in ALGOL.

4. Programs for changing the state of the computer in a particular sequence usually (*to write*) in high-level programming languages.
5. Software thus encompasses a wide array of products that may (*to develop*) using different techniques.

3. *Перепишите предложения и передайте их смысл в форме пассивного залога. Переведите предложения на русский язык.*

Например:

Many new computers include dual core processors.	Dual core processors are included into many new computers.

1. Every year the DOS developers release a new version.
2. A company named Microsoft developed DOS.
3. System software controls standard internal computer activities.
4. Software determines the order in which the operations are performed.
5. The developers of application software rely mostly on marketing research strategies.

4. *Перепишите предложения и письменно переведите их на русский язык, обратив внимание на перевод определительных конструкций.*

1. People have talked of a “computer revolution” ever since the electronic industry used in 1970s silicon chips instead of transistors.
2. System software controls standard internal computer activities.
3. Software may also be written in an assembly language, essentially, a mnemonic representation of a machine language using a natural language alphabet.
4. If away from the radar, the waves will reflect with a slightly longer wavelength.
5. The additional program instructions for working with hardware devices were very complex and time-consuming.

5. *Перепишите и письменно переведите текст.*

Operating Systems

When computers were first introduced in the 1940s and 50s, 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 user's perspective, PC-DOS and MS-DOS are the same, each providing the same capabilities and commands.

The version of DOS released 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 programs. 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 larger minicomputers to which users accessed the systems using terminals and not PCs. 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 2000 & XP are the most popular user-oriented operating systems with a friendly interface and multitasking capabilities.

Вариант 5

1. *Перепишите предложения, подчеркните сказуемое и определите его видовременную форму. Письменно переведите предложения на русский язык.*

1. Data communication within and between computers systems is handled by system software.
2. The specifications have been written by a system analyst, who has worked closely with the person or group of people for whom the program is being written.
3. After the output has been designed and it has been determined that the required input data is available, the programming team can begin to design the program solution.
4. In particular, the first listed function, managing the computer's resources, is taken care of without the user being aware of the details.
5. Software (or firmware) is also being used in video games and for the configurable parts of the logic systems of automobiles, televisions, and other consumer electronics.

2. *Перепишите предложения и поставьте глаголы в скобках в нужную видовременную форму. Письменно переведите предложения на русский язык.*

1. Visual Basic most often (*to use*) today to create quick and simple interfaces to other Microsoft products.
2. Programming languages (*to develop*) for years and will remain so for many years to come.
3. The first major programming languages (*to characterize*) by the simple fact that they were intended for one purpose.
4. Visual Basic often (*to teach*) as a first programming language today.
5. High-level languages (*to compile*) or (*interpret*) into machine language object code.

3. *Перепишите предложения и передайте их смысл в форме пассивного залога. Переведите предложения на русский язык.*

Например:

The program sends the data to the display device or printer.

The data is sent to the display device or printer.

1. Communications software transfers data from one computer system to another.
2. These programs usually provide users with data security and error checking.
3. Programming software usually provides tools to assist a programmer in writing computer programs.
4. Drivers coordinate peripheral hardware and computer activities.
5. System software handles data communication within and between computers.

4. *Перепишите предложения и письменно переведите их на русский язык, обратив внимание на перевод определительных конструкций.*

1. UNIX was the wonder operating system of the 1970s and 1980s.
2. An operating system kernel on its own isn't a lot of use.
3. General-purpose software is the backbone of the microcomputer industry.
4. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users.
5. Most use premium rate telephone line charges.

5. *Перепишите и письменно переведите текст.*

Computer Applications

In the last ten years, police have installed speed trap units on many busy roads. These contain a radar set, a microprocessor and a camera equipped with a flash. The radar sends out a beam of radio waves at a frequency of 24 gigahertz. This is equivalent to a wavelength of 1.25 cms. If a car is moving towards the radar, the reflected signal will bounce back with a slightly smaller wavelength. If away from

the radar, the waves will reflect with a slightly longer wavelength. The microprocessor within the unit measures the difference in wavelength between outgoing and returning signals and calculates the speed of each vehicle. If it is above the speed pre-set by the police, the camera takes a picture of the vehicle. The information is stored on a smart card for transfer to the police computer. The owner of the vehicle can then be traced using the Driver and Vehicle Licensing Centre database.

Some drivers have now got used to these traps. They slow down when they approach one to ensure that the camera is not triggered. They speed up again as soon as they have passed. This is known as "surfing". One way of outwitting such motorists is a new computerized system. This consists of two units equipped with digital cameras positioned at a measured distance apart. The first unit records the time each vehicle passes it and identifies each vehicle by its number plates using optical character recognition software. This information is relayed to the second unit which repeats the exercise. The microprocessor within the second unit then calculates the time taken by each vehicle to travel between the units. The registration numbers of those vehicles exceeding the speed limit are relayed to police headquarters where a computer matches each vehicle with the DVLC database. Using mailmerge a standard letter is then printed off addressed to the vehicle owner.

КОНТРОЛЬНАЯ РАБОТА №4

Вариант 1

1. *Перепишите предложения, найдите в них инфинитив и подчеркните его, определите его форму. Письменно переведите предложения на русский язык.*

1. The system must tell us if someone tries to get into the system.
2. This sequence causes digitized images to be stored in core memory.
3. The program is not considered to have been used in that time.
4. The importance of mathematics for all sciences is known to be growing rapidly.
5. Your task is to learn the most important steps you can take to secure your Windows-based computer from intrusions.

2. *Перепишите предложения, подчеркните инфинитив и определите его функцию. Письменно переведите предложения на русский язык.*

1. To put your computer into sleep mode is not a sufficient protection.
2. Your task is to keep your computer up-to-date with the latest Windows security patches and service packs.
3. This software helps to keep your computer secure in several ways.
4. Check the site frequently to download the most recent patches.
5. The signals to represent data exist in your computer as digital signals.

3. *Перепишите предложения. Подчеркните в каждом инфинитивный оборот и определите его форму (объектный, субъектный или предложный инфинитивный оборот). Письменно переведите предложения на русский язык.*

1. The problem is far too involved for one to be able to solve it.
2. Many free ISPs require you to sign up for the service online.
3. A dial-up connection enables POTS to transport data between your computer and your ISP.
4. Each new communications technology or application seems to require its own standards.
5. The telephone system is expected to connect your telephone to a local switch.

4. *Преобразуйте предложения, воспользовавшись инфинитивом или инфинитивным оборотом и словами в скобках, если они даны. Письменно переведите полученные предложения на русский язык.*

1. He said: “Never give your home address or phone number”.
2. He did not have much money. He could not afford a licensed software package. (*enough*)
3. It is important that you should check support line charges. *(for*)
4. He was the first man who performed this task.
5. I am saving up. I want to buy a new computer.

5. *Перепишите предложения, употребив нужную форму прилагательного (much – many, (a)little – (a) few). Письменно переведите предложения на русский язык.*

1. … ISPs provide local call access numbers.
2. Very … cars had reversing lights.
3. … of the work of an operating system is hidden from the user.
4. M. Faraday had … chance to get an education.
5. … software tools are available today that make it easy to create Web site.

6. *Прочтите и письменно переведите текст*.

Internet Technology

The Internet appeared in 1969 as a project called ARPANET. It was designed to help scientists to communicate and to share valuable computer resources. At that time finding the information was not easy. Only in the early 1990s software developers created new user-friendly Internet access tools and Internet became available to everyone.

The Internet backbone consists of high-speed fiber-optic links connecting high-capacity routers that direct traffic. Large ISPs (Internet Service Providers) connect

directly to backbone routers. Smaller ISPs connect to a larger ISP to gain Internet access and supply it to their customers.

You can track the route of data you send using such Internet utilities as Ping and Traceroute. An Internet utility called Ping (Packet Internet Groper) sends a signal to a specific address and waits for a reply. If a reply arrives, Ping reports that the computer is online and displays the elapsed time for the round-trip message. Ping is also useful for finding out if the site is up and running. As for a utility called Traceroute, it records a packet's path from your computer to its destination.

Computer connects to the Internet in one of two ways: it can link directly to ISP using a device such as modem or satellite dish. Or, if your computer is part of a LAN (Local Area Network), an Internet connection can be provided by a LAN connection.

A local area network is called an intranet. Intranets are popular with businesses that want to store information as Web pages but not provide them for public access. An intranet that provides external access is called extranet.

A computer can have a permanently assigned static IP address or a temporarily assigned dynamic IP address. Typically, ISPs, Web sites, web hosting servers and e-mail servers are constantly connected to the Internet and require static address.

Вариант 2

1. *Перепишите предложения, найдите в них инфинитив и подчеркните его, определите его форму. Письменно переведите предложения на русский язык.*

1. When you begin to work with a standalone computer or a LAN, Internet connections pose two kinds of risks: a malicious code and intrusions.
2. This appliance must be earthed.
3. A word processing program is likely to have been used in that time.
4. Our task is to adjust the program to the computer.
5. POP 3 email can be downloaded to your PC to read offline.

2. *Перепишите предложения, подчеркните инфинитив и определите его функцию. Письменно переведите предложения на русский язык.*

1. Today it's common to see terminals that include telephones, PCs, and larger computers.
2. The best way to protect your router is to use antivirus software and firewall software.
3. When a modem attempts to establish a connection, it automatically negotiates the modem on the other end.
4. To configure Automatic Updates, go to Control Panel, select System, and select a setting from the Automatic Updates tab.
5. When you transmit data, the signal to carry your data is modulated by your modem.

3. *Перепишите предложения. Подчеркните в каждом инфинитивный оборот и определите его форму (объектный, субъектный или предложный инфинитивный оборот). Письменно переведите предложения на русский язык.*

1. For the decision to be correct all facts must be considered.
2. The telephone communications system makes a tiered network transport calls locally, cross-country, and internationally.
3. A good communication program directs the modem to dial the telephone number needed.
4. He is certain to know the password.
5. A dial-up connection is supposed to transport data between your computer and your ISP.

4. *Преобразуйте предложения, воспользовавшись инфинитивом или инфинитивным оборотом и словами в скобках, если они даны. Письменно переведите полученные предложения на русский язык.*

1. He said: “This appliance must be earthed”.
2. He was very young. He could not solve the problem. (*too*)
3. It is important that you should have more than one free ISP account. (*for*)
4. He was the first man who carried out the investigation successfully.
5. It is expected that he will run anti-virus software.

5. *Перепишите предложения, употребив нужную форму прилагательного (much – many, (a) little – (a) few). Письменно переведите предложения на русский язык.*

1. … free ISPs restrict access to some or all newsgroups.
2. This system requires no installation and very … expenditure.
3. You spent too … time on the calculations.
4. … … domain names are not currently in use.
5. There are … reasons why server computers often have connected hard drives.

6. *Прочтите и письменно переведите текст*.

Cable Internet Service

One of the options of getting Internet connection is cable Internet service; with it your cable TV company becomes your Internet provider. In order to provide this type of connection, satellite dishes are installed. Usually they are installed for a community. From them a cabling system branches out to neighborhoods where customer computers are grouped into small networks. A router and high-speed connection provide the potential for Internet connectivity over every cable in the system.

With cable Internet service television and data signals are carried over the same cable. To offer both TV and Internet access, the cable’s bandwidth is divided among

three activities: TV channels, downstream data (the data you receive) and upstream data (the data you send).

When you subscribe for cable Internet, you are essentially connecting to an Ethernet-style LAN that connects a neighborhood of cable subscribers. The two requirements for this type of connection are circuitry to handle Ethernet protocols and a cable modem, which converts your computer's signal into the one that can travel over the cable TV network.

Cable Internet service provides an always-on connection that is "on" whenever your computer is powered up – whether or not you are online using a browser, an e-mail client or other Internet utility. With an always-on connection, you might have the same IP address for days or even months, depending on your ISP. Because your computer is connected to the Internet for long periods of time, an always-on connection is particularly vulnerable to hackers. Gaining access to unprotected computers allows hackers to steal data, launch virus attacks and send e-mails from your account.

When your cable connection is up and running, your computer becomes part of a neighborhood data network that includes any of your neighbors who subscribe to cable Internet. The cable you share with your neighbors has a certain amount of bandwidth. As more and more neighbors use the service, it might seem to get slower and slower.

Вариант 3

1. *Перепишите предложения, найдите в них инфинитив и подчеркните его, определите его форму. Письменно переведите предложения на русский язык.*

1. To configure your computer for Automatic Updates tab use Control Panel's System icon.
2. This technique is related to the criteria supposed to be built into the machine.
3. The world knows Babbage's ideas to have had a great influence on the computer development.
4. Internet addresses can be written as a series of numbers.
5. To understand how to use a computer one must fully appreciate a design.

2. *Перепишите предложения, подчеркните инфинитив и определите его функцию. Письменно переведите предложения на русский язык.*

1. It is important to check your browser's security options.
2. The biggest challenge is to control access by using passwords.
3. If you decide to assign private IP addresses to your workstations, you will hide them from hackers who will see only the IP address for your router.
4. To deal with a malicious code, such as viruses and worms, it is important to run antivirus software on a standalone computer.
5. Leibnitz was the first to use the word "function".

3. *Перепишите предложения. Подчеркните в каждом инфинитивный оборот и определите его форму (объектный, субъектный или предложный инфинитивный оборот). Письменно переведите предложения на русский язык.*

1. It is possible for the computers to handle all types of information.
2. The transmission mode enables the receiving computer to know where one byte ends and next byte begins on the transmission medium.
3. The modem waits for the ISP's modem to answer the call.
4. The program proved to be a great success.
5. When you use a dial-up connection, your computer's modem is supposed to place a regular telephone call to your ISP.

4. *Преобразуйте предложения, воспользовавшись инфинитивом или инфинитивным оборотом и словами в скобках, если они даны. Письменно переведите полученные предложения на русский язык.*

1. He said: "Avoid turning off the main power while the computer is running".
2. Some molecules are large. They could be seen on the electron microscope (*enough*).
3. It was important that the researchers fulfilled their work in time *(for*).
4. The system is the first one that tells us if someone tries to get into the system.
5. It appears that my monitor screen flickers.

5. *Перепишите предложения, употребив нужную форму прилагательного (much – many, (a)little – (a) few). Письменно переведите предложения на русский язык.*

1. … … days later I again tried to reset the parameters.
2. … free ISPs also offer Web-based mail.
3. It takes … time for the ISP's modem to answer the call.
4. How can one network offer so … information to so … people.
5. If the hard disk crashes … of your data is lost permanently.

6. *Прочтите и письменно переведите текст*.

DSL and ISDN

Although the standard equipment provided by telephone company limits the amount of data you can transmit and receive over a voiceband modem, the copper wire that runs from your wall jacks to the switching station actually has a fair amount of capacity. DSL and ISDN take advantage of this capacity to offer high-speed digital communication links for voice and data.

DSL (Digital Subscriber Line) is a high-speed, digital, always-on Internet access technology that runs over standard phone lines. It is one of the fastest Internet connections that are affordable to individual consumers. Several variations of this

technology exist, including ADSL (asymmetric DSL, with downstream speed faster than upstream speed). DSL is digital, so data doesn't need to be changed into analog form and then back to digital as it does when you use a dial-up connection.

A DSL connection can simultaneously carry voice and data, if permitted by your DSL provider. The digital data and analog voice signals travel over DSL line to the local switching station. There the voice signals are transferred to the telephone company's regular lines.

The speed of a DSL connection varies according to the characteristics of your telephone line, the equipment at your local switch and your distance from the switching station.

ISDN (Integrated Services Digital Network) connections move data at speed that is not as fast as DSL or cable Internet service. As with DSL, ISDN is an all-digital service with the potential to simultaneously carry voice and data. A device called ISDN terminal adapter connects a computer to a telephone wall jack and translates the computer's digital signals into signals that can travel over the ISDN connection. ISDN service is typically regarded as a high-speed Internet connection option for businesses that maintain small LANs.

Вариант 4

1. *Перепишите предложения, найдите в них инфинитив и подчеркните его, определите его форму. Письменно переведите предложения на русский язык.*

1. To prevent intrusions, you need to take additional precautions.
2. The equipment to be installed is very effective.
3. Automatic Management Systems are known to have appeared quite recently.
4. The development of the project appears to be improving.
5. The first electronic computer is thought to have been constructed in 1946.

2. *Перепишите предложения, подчеркните инфинитив и определите его функцию. Письменно переведите предложения на русский язык.*

1. It is necessary to deactivate file and printer sharing if your computer is not connected to LAN.
2. The first step is to make sure that operating systems security patches and service packs are up to date.
3. Although many people begin with a dial-up connection, many soon prefer to explore high-speed Internet access options.
4. Firewall software is designed to analyze and control incoming and outgoing packets.
5. How would you like high-speed Internet access to require no cables, no modem and no more subscription fees?

3. *Перепишите предложения. Подчеркните в каждом инфинитивный оборот и определите его форму (объектный, субъектный или предложный инфинитивный оборот). Письменно переведите предложения на русский язык.*

1. For a computer to be programmed each problem must be reduced to a series of very simple steps.
2. A remote terminal enables the user to operate the distant computer, just as if that person were sitting in front of the distant computer and using its keyboard.
3. The event is a message that causes a procedure (subprogram) attached to respond.
4. As your data arrives at the ISP, a router is likely to send it out over the Internet.
5. When you transmit data, your modem is sure to modulate the signal that carries your data.

4. *Преобразуйте предложения, воспользовавшись инфинитивом или инфинитивным оборотом и словами в скобках, если они даны. Письменно переведите полученные предложения на русский язык.*

1. He said: “No smoking, drinking or eating at the computer”.
2. He was very inexperienced. He could not conduct an experiment of this type. (*too*).
3. It is possible that computers can handle all types of information. *(for*)
4. He was the last man who left the office.
5. It is advisable that we should reboot the system if problems occur.

5. *Перепишите предложения, употребив нужную форму прилагательного (much – many, (a)little – (a) few). Письменно переведите предложения на русский язык.*

1. I haven’t given very … attention to this problem.
2. There are … … free ISPs who only charge local or national rates for their telephone helplines.
3. … … notebooks have built-in Wi-Fi transceivers and software.
4. Overseas transmission usually requires ... … more time.
5. It takes … time to get documents via the mail but they arrive in minutes via e-mail.

6. *Прочтите и письменно переведите текст.*

Wireless Internet Services

There are two primary options for connecting your home PC or LAN to the Internet: satellite Internet service or fixed wireless Internet service.

Most people are familiar with services that provide access to television programming over a personal satellite dish. Many companies that provide satellite TV also offer Internet access.

Satellite Internet service uses satellite to transmit computer data directly to and from a satellite dish owned by an individual. A satellite Internet modem connects the satellite dish to a computer. In many rural areas, satellite Internet service is the only alternative to a dial-up connection. But on the downside, satellite data transport is subject to latency delays of one second or more, which occur as your data is routed between your computer and a satellite that orbits 22,200 miles above the Earth. Latency might not pose much of a problem for general Web surfing and downloading files, but it can become a stopper for interactive gaming that requires quick reaction. Besides, satellite data transport speeds might seem to decline when other users subscribe to the service because the satellite's bandwidth is shared among all users.

Satellite transmission and reception can be blocked by adverse weather conditions, such as snow and rain, which makes this type of data transport less reliable than most wired options.

Fixed wireless Internet service is designed to offer Internet access to homes and businesses by broadcasting radio frequency data signals over areas large enough to cover most cities and outlying areas. Wireless technologies such as WiMAX (Worldwide Interoperability for Microwave Access) have less latency than satellite Internet service and can offer connection speeds suitable for online gaming and teleconferencing. WiMAX is an Ethernet-compatible network technology that is essentially wide-area Wi-Fi.

With a fixed wireless connection, your wireless service provider supplies you with a wireless modem that you connect to your computer. The modem includes a transceiver to send and receive signals to a wireless point of access, usually located nearby.

Вариант 5

1. *Перепишите предложения, найдите в них инфинитив и подчеркните его, определите его форму. Письменно переведите предложения.*

1. Without any visible sign or warning, hackers can infiltrate your computer to obtain personal information.
2. Natural languages are believed to be applied in the 5^{th} generation computers.
3. To program in a good way the programmer needs detailed data about the program and the way it is to be done.
4. Dr. H. Aiken is known to have created the first completely automatic digital computer.
5. The difficulty will be to debug the program.

2. *Перепишите предложения, подчеркните инфинитив и определите его функцию. Письменно переведите предложения на русский язык.*

1. It is possible to secure remote connections by setting up virtual private network access to a remote access server.
2. Your ISP attempts to assign an IP address to your high-speed connection.

3. To initiate a VPN connection you have to dial your ISP as usual.
4. Network Address Translation is a way to configure a network so that workstations are hidden from Internet intruders.
5. It is an offence to make unauthorized access to computer materials.

3. *Перепишите предложения. Подчеркните в каждом инфинитивный оборот и определите его форму (объектный, субъектный или предложный инфинитивный оборот). Письменно переведите предложения на русский язык.*

1. Slooping programs remove the need for other users to wait for a busy printer to become free.
2. This software allows you to discover whether any hackers are trying to break into your computer.
3. Many systems let you check to see whether the recipient has accessed your message.
4. A modem at the other end of the transmission is supposed to demodulate the signal.
5. A modem is known to transmit a 1.070 Hz tone for a 0, and a 1.270 Hz tone for a 1.

4. *Преобразуйте предложения, воспользовавшись инфинитивом или инфинитивным оборотом и словами в скобках, если они даны. Письменно переведите полученные предложения на русский язык.*

1. He said: “Never make unauthorized access to computer materials”.
2. Would you be very good and forward my letters while I am away. (*so*)
3. There is a tendency that this method is used in all the experiments. (*for*)
4. He was the only one who realized the danger.
5. Is it likely that the time display on my computer is one hour slow.

5. *Перепишите предложения, употребив нужную форму прилагательного (much – many, (a)little – (a) few). Письменно переведите предложения на русский язык.*

1. We’ve made … progress.
2. Do computer users have … influence over the way the computing develops?
3. A basic Wi-Fi antenna can be created with … … wires and an empty Pringles container.
4. ... security measures for LANs are the same as for standalone computers.
5. Today very … companies don’t have a web site that provides information about their products and services.

6. *Прочтите и письменно переведите текст.*

Mobile Internet Access

When you are not using a computer with access to your home Internet connection, you can use a mobile Internet connection to surf the Web and check your e-mail. Devices such as cell phones, PDAs, notebook computers can be easily

configured for mobile Internet access. Currently, the two most popular options for mobile Internet access are Wi-Fi hotspots and cell phone service.

A Wi-Fi hotspot is wireless broadband Internet service offered in public locations such as libraries, schools and airports. Any Wi-Fi equipped device that enters a hotspot can gain access to the network's services. Some Wi-Fi hotspots offer free service; others require a service plan or one-time use fee.

Wi-Fi hotspots technology offers the convenience of broadband Internet access outside your home. The access speed can vary depending on your distance from the access point, the number of people logged on and interference from other networks. The biggest advantage of Wi-Fi hotspots is that you are using your notebook with its large screen, full keyboard and all your data. But Wi-Fi hotspot availability is currently limited. Many small towns have no hotspots and in big cities coverage is localized. Another drawback is that Wi-Fi service plans are not interchangeable. You can't, for example, access hotspot of one mobile phone company if you have Access service plan of another.

In order to use your cell phone service to access the Internet, you can subscribe to WAP (Wireless Access Protocol) plan offered by your cell phone company, or you can use a cell-ready modem with your notebook. WAP is a communications protocol that provides Internet access from handheld devices, such as cell phones and PDAs. WAP-enabled devices contain a microbrowser that simplifies Web and e-mail access on a small, low-resolution screen.

КОНТРОЛЬНАЯ РАБОТА №5

Вариант 1

1. *Перепишите предложения, подчеркните Participle I или Participle II. Письменно переведите предложения на русский язык.*

1. In addition to minimizing typing errors, a mouse makes operating a microcomputer easier for beginning users.
2. The programming languages discussed attracted attention of many users.
3. Preparing a computer program we translate ordinary business data into machine languages.
4. When all the errors are corrected and the program is debugged, the CPU will execute the instructions and the results will be tabulated.
5. Great plants producing computers are equipped with modern machinery.

2. *Перепишите предложения, найдите и подчеркните причастные обороты. Письменно переведите предложения на русский язык.*

1. All preparations having been made, we started writing the program.
2. The information having been stored, the computer was ready to operate.
3. A very basic syntax is used with assembler language, with each line of coding being composed of two basic files.

4. He had our program presented to the team leader.
5. This programming paradigm cannot be considered as being favourable.

3. *Перепишите предложения, подчеркните и укажите, в роли какого члена предложения употребляется герундий. Письменно переведите предложения на русский язык.*

1. Computer-aided testing is determined by the aims of educational procedure.
2. Programmers begin solving a problem by developing an algorithm.
3. Computer teaching programs often involve breaking a learning task down into a series of subtasks.
4. Most people don't really understand the process of transforming raw data into usable information.
5. A computer can be used as a tool simply by using it as a calculator or in complicated programs for analyzing data or displaying data in a clear and interesting way.

4. *Перепишите предложения, подчеркните герундиальные обороты. Письменно переведите предложения на русский язык.*

1. The name of Bill Gates became known all over the world for his having made great achievements in computer science.
2. This programming language owes its fame to looking easy but being hard.
3. To a large extent the skilled analyst's productivity may be attributed to his having acquired, through many repetitions, the necessary technique.
4. His having proved the advantages of the new system is very important.
5. In spite of being very complicated, the programming language C++ has been learned.

5. *Перепишите и письменно переведите предложения на русский язык.*

1. As soon as we write a program, we shall inform you.
2. If a program were written too hastily, valuable time might be lost subsequently in implementing the necessary changes.
3. Unless they had studied programming, they would not have compiled the program.
4. The system will fail to perform unless the requirements are satisfied.
5. I wish I knew the difference between machine and assembly languages.

6. *Прочтите и письменно переведите текст.*

Program Planning

The programming process begins with a problem statement that helps you clearly define the purpose of a computer program. In the context of programming, a problem statement defines certain elements that must be manipulated to achieve a

result or goal. A good problem statement for a computer program has three characteristics:

1. It specifies any assumptions that define the scope of the problem.
2. It clearly specifies the known information.
3. It specifies when the problem has been solved.

In a problem statement an assumption is something you accept as true in order to proceed with program planning. The "known information" is the information that you supply to the computer to help it solve a problem. There are also variables (values that can change) and constants (factors that remain the same) in computer programs.

Formulating a problem statement provides a minimal amount of planning, which is sufficient for only the simplest programs. A typical commercial application requires far more extensive planning, which includes detailed program outlines, job assignments, and schedules. To some extent, program planning depends on the language and paradigm used to code a computer program. The phrase programming paradigm refers to a way of conceptualizing and structuring the tasks a computer performs. For example, whereas one programmer might focus on the steps required to complete a specific computation, another one might focus on the data that forms the basis for the computation. Quite a number of programming paradigms exist, and a programmer might use techniques from multiple paradigms while planning and coding a program.

There are different program planning tools, such as flowcharts, structured English, pseudocode, UML diagrams, and decision tables, which are used to provide sufficient planning.

Regardless of the tools used, when planning is complete, programmers can begin coding, testing, and documenting. The process of coding a computer program depends on the programming language you use, the programming tools you select, and the programming paradigm that best fits the problem you are trying to solve. Programmers typically use a text editor, a program editor, or a VDE to code computer programs.

A text editor is any word processor that can be used for basic text editing tasks, such as writing e-mail, creating documents, or coding computer programs. When using a text editor to code a computer program, you simply type in each instruction. A program editor is a type of text editor specially designed for entering code for computer programs.

A VDE (visual development environment) provides programmers with tools to build substantial sections of a program by pointing and clicking rather than typing lines of code. A typical VDE is based on a form design grid that a programmer manipulates to design the user interface for a program. By using various tools provided by the VDE, a programmer can add objects, such as controls and graphics, to the form design grid. In the context of a VDE, a control is a screen-based object whose behavior can be defined by a programmer.

Вариант 2

1. *Перепишите предложения, подчеркните Participle I или Participle II. Письменно переведите предложения на русский язык.*

1. Until being tested this computer program didn't work correctly.
2. The students were discussing the advantages of high-level languages when the teacher came.
3. The avatars are computer animations designed to look and move like real people.
4. While studying computer systems it is necessary to distinguish between computers and calculators.
5. The applied method has led to another solution of the problem.

2. *Перепишите предложения, найдите и подчеркните причастные обороты. Письменно переведите предложения на русский язык.*

1. The object-oriented paradigm being popular, several existing programming languages were modified.
2. There being different program planning tools, such as flowcharts, pseudocode, UML diagrams, we used them in program planning.
3. Several extensions of the basic model having been made, we shall pursue the dynamic programming approach.
4. We have the program debugged.
5. This method, previously mentioned as affording good results, is being widely used.

3. *Перепишите предложения, подчеркните и укажите, в роли какого члена предложения употребляется герундий. Письменно переведите предложения на русский язык.*

1. Beginning the project requires writing programming specifications by a programming team.
2. The first step in developing a program is to define the problem.
3. The process of finding the bugs and correcting them is called debugging the program.
4. Voice input and control systems have the potential of revolutionizing the way we communicate with computers.
5. By using an information retrieval program students can store their own information or they can retrieve specific items of information and display them on the screen or on paper.

4. *Перепишите предложения, подчеркните герундиальные обороты. Письменно переведите предложения на русский язык.*

1. They succeeded in getting reliable information on dealing with this type of error.
2. Ch. Babbage's having designed his Analytical Engine was very important for the development of computer engineering.
3. I knew nothing of their having completed the program.

4. This programming language differs from that one by being more complicated.
5. They insisted on the program being written for Linux operating system.

5. *Перепишите и письменно переведите предложения на русский язык.*

1. If you make a mistake in the use of the language, your computer will detect it and output a message to tell you that there is a syntax error.
2. If we had time, we should test the sample twice.
3. He could have written the program if he had tried.
4. He will achieve better results provided he applies this method.
5. I wish I knew the main types of programming languages.

6. *Прочтите и письменно переведите текст.*

Procedural Programming

The traditional approach to programming uses a procedural paradigm (sometimes called an "imperative paradigm") to conceptualize the solution to a problem as a sequence of steps. A program written in a procedural language typically consists of self-contained instructions in a sequence that indicates how a task is to be performed or a problem is to be solved. A programming language that supports the procedural paradigm is called a procedural language. Procedural languages are well suited for problems that can be easily solved with a linear, or step-by-step, algorithm. Programs created with procedural languages have a starting point and an ending point. The flow of execution from the beginning to the end of a program is essentially linear – that is, the computer begins at the first instruction and carries out the prescribed series of instructions until it reaches the end of the program.

An algorithm is a set of steps for carrying out a task that can be written down and implemented. An algorithm for a computer program is a set of steps that explains how to begin with known information specified in a problem statement and how to manipulate that information to arrive at a solution. In a later phase of the software development process, the algorithm is coded into instructions written in a programming language so that a computer can implement it. To design an algorithm, you might begin by recording the steps you take to solve the problem manually. The computer also needs the initial information, so part of your algorithm must specify how the computer gets it. Next, your algorithm should also specify how to manipulate this information and, finally, how the computer decides what to display as the solution.

You can express an algorithm in several different ways, including structured English, pseudocode, and flowcharts. These tools are not programming languages, and they cannot be processed by a computer. Their purpose is to give you a way to document your ideas for program design. Structured English is a subset of the

English language with a limited selection of sentence structures that reflect processing activities. Another way to express an algorithm is with pseudocode. Pseudocode is a notational system for algorithms that has been described as a mixture of English and your favorite programming language. A third way to express an algorithm is to use a flowchart. A flowchart is a graphical representation of the way a computer should progress from one instruction to the next when it performs a task.

Before finalizing the algorithm for a computer program, you should perform a walkthrough to verify that your algorithm works. To perform a walkthrough for a simple program, you can use a calculator, paper, and pencil to step through a sample problem using realistic "test" data. For more complex programs, a walkthrough might consist of a verbal presentation to a group of programmers who can help identify logical errors in the algorithm and suggest ways to make the algorithm more efficient.

The algorithm specifies the order in which program instructions are performed by the computer. Unless you do otherwise, sequential execution is the normal pattern of program execution. During sequential execution, the computer performs each instruction in the order it appears – the first instruction in the program is executed first, then the second instruction, and so on, to the last instruction in the program.

Вариант 3

1. *Перепишите предложения, подчеркните Participle I или Participle II. Письменно переведите предложения на русский язык.*

1. System design progresses through several stages, becoming more detailed in each stage.
2. If translated into Russian this article will be of great service to programmers.
3. Our programming team working on new projects is equipped with modern computers.
4. An official report released the day after the September attacks highlighted the vulnerability of America's computer networks.
5. Having been debugged the program had no errors.

2. *Перепишите предложения, найдите и подчеркните причастные обороты. Письменно переведите предложения на русский язык.*

1. The first automatic computers being not very reliable, scientists are going on to improve them.
2. Ch. Babbage designed his Analytical Engine to perform four arithmetic functions, the machine based on the principles of a modern computer.
3. Computers are considered as the answer to automatic production with the other problems treated as peripheral in nature.
4. They planned from the first the project as being primarily a communication experiment.
5. The experiment that is being conducted is of great interest and is thought of as being highly promising.

3. *Перепишите предложения, подчеркните и укажите, в роли какого члена предложения употребляется герундий. Письменно переведите предложения на русский язык.*

1. Programming is the process of creating a list of stored instructions that tell the computer what to do.
2. Computer-managed learning is processing and storing students' exam results, registering and timetabling.
3. Very few people who have tried word processing would consider going back to a paper-and-pencil method.
4. Programming is the process of creating a list of stored instructions that tell the computer what to do.
5. In CAL (Computer Assisted Learning) programs are designed to encourage knowledge by finding out and learning rather than by drill and practice.

4. *Перепишите предложения, подчеркните герундиальные обороты. Письменно переведите предложения на русский язык.*

1. Programmers insisted on solving a problem by developing an algorithm.
2. In spite of being very complicated the problem has been solved.
3. I know of Pascal's having built an adding machine at the age of 19.
4. Your having graphed the flowchart helped you to show the structure of the program.
5. The programming language C++ differs from C by being an object-oriented one.

5. *Перепишите и письменно переведите предложения на русский язык.*

1. If computers perform routine intellectual tasks, what will be left for humans living in the information society?
2. Providing all the requirements were met, the efficiency of the device would be increased.
3. They could have understood the task, if he had explained it clearly.
4. Provided all the errors are corrected and the program is debugged, the central unit will execute the instructions and the results will be tabulated.
5. I wish I knew why machine and assembly languages are called "low level".

6. *Прочтите и письменно переведите текст.*

Programming. Control Structures

Some algorithms specify that a program must execute instructions in an order different from the sequence in which they are listed, skip some instructions under certain circumstances, or repeat instructions. Control structures are instructions that specify the sequence in which a program is executed. Most programming languages have three types of control structures: sequence controls, selection controls, and

repetition controls. A sequence control structure changes the order in which instructions are carried out by directing the computer to execute an instruction elsewhere in the program. A sequence control structure directs the computer to the statements they contain, but when these statements have been executed, the computer neatly returns to the main program.

A selection control structure, also referred to as a "decision structure" or "branch", tells a computer what to do, based on whether a condition is true or false. A simple example of a selection control structure is the IF … THEN … ELSE command. A repetition control structure directs the computer to repeat one or more instructions until a certain condition is met. The section of code that repeats is usually referred to as a loop or "iteration". Some of the most frequently used repetition commands are FOR … NEXT, DO … WHILE, DO … UNTIL, and WHILE … WEND (which means "while ends").

All the first programming languages were procedural. The first widely used standardized computer language, FORTRAN, with its procedural paradigm set the pattern for other popular procedural languages, such as COBOL, APL, ALGOL, PL/1, Pascal, C, Ada, and BASIC. The procedural approach is best used for problems that can be solved by following a step-by-step algorithm. It has been widely used for transaction processing, which is characterized by the use of a single algorithm applied to many different sets of data. For example, in banking industry, the algorithm for calculating checking account balances is the same, regardless of the amounts deposited and withdrawn. Many problems in math and science also lend themselves to the procedural approach.

The procedural approach and procedural languages tend to produce programs that run quickly and use system resources efficiently. It is a classic approach understood by many programmers, software engineers, and system analysts. The procedural paradigm is quite flexible and powerful, which allows programmers to apply it to many types of problems.

The downside of the procedural paradigm is that it does not fit gracefully with certain types of problems – those that are unstructured or those with very complex algorithms. The procedural paradigm has also been criticized because it forces programmers to view problems as a series of steps, whereas some problems might better be visualized as interacting objects or as interrelated words, concepts, and ideas.

Вариант 4

1. *Перепишите предложения, подчеркните Participle I или Participle II. Письменно переведите предложения на русский язык.*

1. The detailed flowchart is used to show a program in a detailed preparation for coding.
2. Microcomputers helping much in research work were invented in the 1970s.
3. Most hard disks are permanently encased within the disk drive in a sealed environment free from dust and dirt.

4. Having obtained new information the programmers continued their work.
5. Based on a stage-by-stage schedule, the program embraces different fields of space research and exploration.

2. *Перепишите предложения, найдите и подчеркните причастные обороты. Письменно переведите предложения на русский язык.*

1. Personal computers being used for many purposes, scientists go on to improve their quality.
2. Knowledge being the most valuable wealth of our time, the information theory is of great importance for the national economy.
3. We have already mentioned this method as affording good results.
4. The disk removed, the computer can be switched off.
5. The problem was recognized by many scientists as being of great importance.

3. *Перепишите предложения, подчеркните и укажите, в роли какого члена предложения употребляется герундий. Письменно переведите предложения на русский язык.*

1. Formulating a problem statement provides a minimal amount of planning.
2. Today we cannot help witnessing a tendency in science to direct the collective efforts of a research team at the achievement of a common goal.
3. There are systems analysts who are responsible for analyzing and designing new applications as well as complete systems.
4. A high-level programming language is a way of writing programs using English-like words as instructions.
5. In considering the development of computers we must point out the oldest forms of mechanical devices for calculation.

4. *Перепишите предложения, подчеркните герундиальные обороты. Письменно переведите предложения на русский язык.*

1. A mistake can be made without being followed the rules of a programming language.
2. They objected to using a step-by-step solution to a problem.
3. The computer's being used in different spheres of our life is shown in the table above.
4. I am surprised at your friend's knowing so many programming languages.
5. In addition to being difficult to learn, the programming language Java is powerful.

5. *Перепишите и письменно переведите предложения на русский язык.*

1. If you want the information be available to others over the Web, you will put the information on a server.
2. If I had to code a computer program, I would choose the programming paradigm that best fits the problem solution.
3. This could have been noticed by the programmer if he would have inspected his program carefully.
4. Provided new data are obtained, we shall be able to proceed with our work.
5. I wish I knew the difference between the compiler and the interpreter.

6. *Прочтите и письменно переведите текст.*

Object-Oriented Programming

The abbreviation “OO”, which stands for object oriented, is used to describe a programming paradigm as well as a variety of computer programming languages. The object-oriented paradigm is based on the idea that the solution for a problem can be visualized in terms of objects that interact with each other. In the context of this paradigm, an object is a unit of data that represents an abstract or a real-world entity, such as a person, place, or thing. For example, an object can represent a $10.99 small pepperoni pizza. Another one can represent a pizza delivery guy named Jack Flash. Yet another object can be a customer living at 22 Pointe Rd.

The real world contains lots of pizzas, customers, and delivery guys. These objects can be defined in a general way by using classes. Whereas an object is a single instance of an entity, a class is a template for a group of objects with similar characteristics. For example, a Pizza class defines a group of gooey Italian snacks that are made in a variety of sizes, crafted into rectangular or round shapes, and sold for various prices. A class can produce any number of unique objects.

When taking the object-oriented approach to a problem, one of the first steps is to identify the objects that pertain to a solution. As you might expect, the solution to the pizza problem requires some pizza objects. Certain characteristics of pizzas provide information necessary to solve the problem. This information – the price, size, and shape of a pizza – provides the structure for the Pizza class. A class is defined by attributes and methods. A class attribute defines the characteristics of a set of objects.

Each class attribute typically has a name, scope and data type. One class attribute of the Pizza class might be named “pizzaPrice”. Its scope can be defined as public or private. A public attribute is available for use by any routine in the program. A private attribute can be accessed only from the routine in which it is defined. The pizzaPrice attribute’s data type can be defined as “double”, which means that it can be any decimal number. OO programmers often use UML (Unified Modeling Language) diagrams to plan the classes for a program.

Although a programmer completes the overall program plan before coding, jump ahead to take a quick look at the Java code for the attributes in the Pizza class.

The first line of code defines the name of the class. Each subsequent line defines the scope, data type, and name of an attribute. The curly brackets simply define the start and end of the class.

```
Class Pizza
{
        public string pizzaShape;
        public double pizzaPrice;
        public double pizzaSize;
}
```

Вариант 5

1. *Перепишите предложения, подчеркните Participle I или Participle II. Письменно переведите предложения на русский язык.*

1. The syntax and semantics of these languages are very sophisticated, making the translation to a machine language a complex process.
2. Cybernetics is applied in various branches of industry and research.
3. Linux being created and maintained by a worldwide army of programmers belongs to no one and is open to all.
4. Graphic files contain pictures in a specific graphics format used for storing digitally encoded pictures.
5. While solving this problem I paid much attention to the correct computation.

2. *Перепишите предложения, найдите и подчеркните причастные обороты. Письменно переведите предложения на русский язык.*

1. They finished the program, the result being quite satisfactory.
2. The new methods having been introduced, the computer performance went up.
3. He regards this concept as being not a simple one.
4. The information stored, you can access it any time you need it.
5. Developing a program can be thought of as composed of six essential steps.

3. *Перепишите предложения, подчеркните и укажите, в роли какого члена предложения употребляется герундий. Письменно переведите предложения на русский язык.*

1. Programming a computer involves analyzing the problem to be solved and a plan to solve it.
2. Computer professionals are busy attending seminars, conferences and shows and participating in professional associations.
3. Computers have been important in saving, restoring and studying works of art from the past.

4. The value of allowing children the freedom to program computers rather than using educational programs is rather disputable.
5. He can't solve this problem without being given this program.

4. *Перепишите предложения, подчеркните герундиальные обороты. Письменно переведите предложения на русский язык.*

1. In spite of having met with failure they continued developing the program.
2. The systems analyst insisted on our sending programming specifications to the team leader.
3. Linus Torvalds' having written the Linux kernel was a new stage in the development of commercial software industry.
4. We know of these methods being used in programming process.
5. There is unmistakable proof of the programming language PHP being popular at creating Web sites.

5. *Перепишите и письменно переведите предложения на русский язык.*

1. If your computer cannot handle graphics, you will need to use a non-graphical browser.
2. I would use FORTRAN if I calculated checking account balances.
3. If we had performed a walkthrough to verify that algorithm works, we would have known the results.
4. You won't see a runtime error, unless you run a program.
5. I wish I knew the difference between a source program and an object program.

6. *Прочтите и письменно переведите текст.*

Programming Languages and Paradigms

A programming language, or "computer language", is a set of keywords and grammar rules designed for creating instructions that a computer can ultimately process or carry out. Programming languages are categorized in several ways. They can be divided into two major categories: low-level languages and high-level languages. They are also categorized by generation and by paradigm.

A low-level language typically includes commands specific to a particular CPU or microprocessor family. It requires a programmer to write instructions for the lowest level of the computer's hardware. Low-level languages include machine languages and assembly languages.

A high-level language uses command words and grammar based on human languages to provide what computer scientists call a "level of abstraction" that hides the underlying low-level assembly or machine language.

Machine languages were the first languages available for programming computers and, therefore, they are sometimes referred to as first-generation

languages. A machine language consists of a set of commands, represented as a series of 1s and 0s, corresponding to the instruction set that is hardwired into the circuitry of a microprocessor. Although machine languages still work on today's computers, programmers rarely use them to write programs.

At the time assembly languages were first introduced, they were hailed as a significant improvement over machine languages, and came to be known as second-generation languages. An assembly language allows programmers to use abbreviated command words, called op codes, such as LDA for "load", rather than the 1s and 0s used in machine languages. Today, programmers typically use assembly languages to write system software, such as compilers, operating systems, and device drivers.

When high-level languages were originally conceived in the 1950s, they were dubbed third-generation languages, because they seemed a major improvement over machine and assembly languages. Third-generation languages used easy-to-remember command words, such as PRINT and INPUT, to take the place of several lines of assembly language op codes or lengthy strings of machine language 0s and 1s. Such languages, as COBOL and FORTRAN, were used extensively for business and scientific applications. Pascal and BASIC were popular teaching languages.
C remains popular today for system and application software development.

In 1969, computer scientists began to develop high-level languages, called fourth-generation languages, which more closely resemble human languages, or "natural languages", than do third-generation languages. Fourth-generation languages eliminate many of the strict punctuation and grammar rules that complicate third-generation languages. Today, they are typically used for database applications.

In 1982, a group of Japanese researchers began work on a fifth generation computer project that used Prolog – a computer programming language based on a declarative programming paradigm. Prolog and other declarative languages became closely identified with the fifth-generation project and were classified by some experts as fifth-generation languages. Other experts disagree with this classification and instead define fifth-generation languages as those that allow programmers to use graphical or visual tools to construct programs, instead of typing lines of code.

КОНТРОЛЬНАЯ РАБОТА №6

Вариант 1

1. *Прочтите и устно переведите весь текст. Перепишите и письменно переведите 2-й и 5-й абзацы.*

Databases

1. A database is an integrated collection of logically-related records or files consolidated into a common pool that provides data for one or more multiple uses. Traditionally, data or information was organized into separate files that were not related or combined in any way. However, this approach has three drawbacks: It produces data dependence, creates data redundancy, and does not guarantee data integrity.

2. Computerized databases reduce data redundancy and help ensure data integrity because they can link related files using a common field. For example, the bank could include a customer identification field in all checking, savings, and loan files. Then each customer would be given a unique customer identification number. Changing a particular customer's address in one file in the database would automatically change it for all the transactions involving that customer. To put this point another way, computer databases can integrate data from separate files. This capability to integrate files increases the flexibility of the data, reduces data dependence, and makes the tasks of modifying reports and adding new data items easier.

3. Database packages may also include data security features to protect the data from individuals not authorized to use it. Specified records or fields, as well as the entire database, can be restricted to prevent modification or access.

4. Databases consist of software-based "containers" that are structured to collect and store information so users can retrieve, add, update or remove such information in an automatic fashion. Database programs are designed for users so that they can add or delete any information needed. The structure of a database is tabular, consisting of rows and columns of information. Online Transaction Processing systems (OLTP) often use a "row-oriented" or an "object-oriented" data store architecture, whereas data-warehouse and other retrieval-focused applications like Google's BigTable, or bibliographic database (library catalog) systems may use a column-oriented DBMS architecture. Document-oriented, XML, knowledge bases, as well as frame databases and RDF-stores (also known as triple stores), may also use a combination of these architectures in their implementation.

5. There are also other types of databases which cannot be classified as relational databases. Most notable is the object database management system, which stores language objects natively without using a separate data definition language and without translating into a separate storage schema. Unlike relational systems, these object databases store the relationship between complex data types as part of their storage model in a way that does not require runtime calculation of related data using relational algebra execution algorithms.

2. *Во 1-м абзаце найдите Participle II в функции определения. Перепишите и переведите предложение письменно.*

3. *В 4-м абзаце найдите предложение с инфинитивом в функции обстоятельства цели. Перепишите и переведите предложение письменно.*

4. *Прочтите 4-й абзац и письменно ответьте на вопрос:* ***What kinds of data store architectures exist?***

Вариант 2

1. *Прочтите и устно переведите весь текст. Перепишите и письменно переведите 2-й и 4-й абзацы.*

Types of Database Software

1. Two types of applications software have been developed to work with database files. File management can work with only one file at a time. Database management system can work with several separate files simultaneously.

2. A file management program enables users to create customized databases and to store and retrieve data from these databases. File management programs come in handy when an individual or small business needs to set up a computerized information storage and retrieval system. Because file management programs are less complex than database management systems, they are inexpensive and usually easy to use. File management programs create flat files. Flat files can be accessed sequentially when most of the records need to be processed, accessed randomly to retrieve a specific record, or sorted (so that the records can be accessed sequentially in a different order). The information stored in a flat file, however, cannot be linked to data in other files.

3. A database management system (DBMS) can link the data from several files. A DBMS controls the creation, maintenance, and use of the database storage structures of social organizations and of their users. It allows organizations to place control of organization wide database development in the hands of Database Administrators (DBAs) and other specialists. In large systems, a DBMS allows users and other software to store and retrieve data in a structured way.

4. Database management systems are usually categorized according to the database model that they support, such as the network, relational or object model. The model tends to determine the query languages that are available to access the database. One commonly used query language for the relational database is SQL, although SQL syntax and function can vary from one DBMS to another. A common query language for the object database is OQL, although not all vendors of object databases implement this, majority of them do implement this method. A great deal of the internal engineering of a DBMS is independent of the data model, and is concerned with managing factors such as performance, concurrency, integrity, and recovery from hardware failures. In these areas there are large differences between the products.

5. A relational database management system (RDBMS) implements features of the relational model. In this context, “Data’s Information Principle” states: “the entire information content of the database is represented in one and only one way; namely as explicit values in column positions (attributes) and rows in relations (tuples). Therefore, there are no explicit pointers between related tables.” This contrasts with the object database management system (ODBMS), which does store explicit pointers between related types.

6. Until recently, relational databases were considered the most flexible, and therefore most desirable, database structure. In a relational database, data in files are linked through the use of a common key field. The contents of a key field are unique to one record in the file, enabling the field to be used to identify a record.

2. *В 1-м абзаце найдите предложение с инфинитивом в функции обстоятельства цели. Перепишите и переведите предложение письменно.*

3. *В 6-м абзаце найдите предложение, содержащее прилагательное в превосходной степени. Перепишите и переведите предложение письменно.*

4. *Прочтите 5-й и 6-й абзацы и письменно ответьте на вопрос:* ***How does a relational database management system work?***

Вариант 3

1. *Прочтите и устно переведите весь текст. Перепишите и письменно переведите 3-й и 4-й абзацы.*

Digital Media

1. Digital media (as opposed to analog media) are usually electronic media that work on digital codes. Today, computing is primarily based on the binary numeral system. In this case "digital" refers to the discrete states of "0" and "1" for representing arbitrary data. Computers are machines that (usually) interpret binary digital data as information and thus represent the predominating class of digital information processing machines. Digital media like digital audio, digital video and any other digital "content" can be created, referred to and distributed via digital information processing machines. Digital media represents a profound change from previous (analog) media.

2. Digital data is per se independent of its interpretation (hence representation). An arbitrary sequence of digital code like "0100 0001" might be interpreted as the decimal number 65, the hexadecimal number 41 or the glyph "A".

3. Florida's digital media industry association, *Digital Media Alliance Florida*, defines digital media as "the creative convergence of digital arts, science, technology and business for human expression, communication, social interaction and education". Digital media can basically be defined as follows: They are enablers of interaction (i.e. they allow for exchange) particularly the communicative exchange between agents. Such interaction enablers can be structured into three main components:

4. First, a physical component (C-Component) allows for the actual interaction of physical agents. This component can also be referred to as carrier medium or channel system. Second, a logical component (L-Component) comprises a common "language" (i.e. symbols used for the communication between agents and their semantics). Without such a common understanding, the exchange of data is possible

(with the help of the C-Component), but not the exchange of knowledge. Third, an organizational component (O-Component) defines a structural organization of agents, their roles, rules which impact the agents' behavior as well as the process-oriented organization of agents' interactions.

5. Together, these three basic components have been identified to constitute various kinds of media. Among others, it is appropriate to describe electronic media such as those deployed to support cross-organizational collaboration. Based on these components which already represent a first, scientific approach to modeling, understanding and reorganizing media, a layer/phase reference model has been introduced as well.

6. As opposed to analog data, digital data is in many cases easier to manipulate and the end result can be reproduced indefinitely without any loss of quality. Mathematical operations can be applied to arbitrary digital information regardless of its interpretation (you can add "2" to the data "65" and interpret the result either as the hexadecimal number "43" or the letter "***C*** "). Therefore, it is possible to use the same compression operation onto a text file or an image file or a sound file.

2. *В 1-м абзаце найдите предложение, содержащее страдательный оборот. Перепишите и переведите предложение письменно.*

3. *В 5-м абзаце найдите предложение с инфинитивом в функции подлежащего. Перепишите и переведите предложение письменно.*

4. *Прочтите 6-й абзац и письменно ответьте на вопрос:* ***What are the advantages of digital data?***

Вариант 4

1. *Прочтите и устно переведите весь текст. Перепишите и письменно переведите 1-й и 6-й абзацы.*

Computer Viruses

1. Viruses are one of the biggest threats to the security of your computer files. Computer viruses invade all types of computers, including mainframes, servers, personal computers, and even handheld computers. To defend your computer against viruses, you should understand what they are, how they work, and how to use antivirus software. The term CV is often used to refer to any malicious code or software that invades a computer system. Many types of malicious code are created and unleashed by individuals referred to as hackers or crackers.

2. A computer virus is a set of program instructions that attaches itself to a file, reproduces itself, and spreads to other files. It can corrupt files, destroy data, display an irritating message, or otherwise disrupt computer operations. A common

misconception is that viruses spread themselves from one computer to another. They don't. Viruses can replicate themselves only on the host computer.

3. Viruses spread when people distribute infected files by exchanging disks and CDs, sending e-mail attachments, exchanging music on file-sharing networks, and downloading software from the Web. To avoid viruses, be cautious of floppy disks, homemade CDs, and Web sites that contain games and other supposedly fun stuff. Check these files with antivirus software before you copy or use them.

4. Many computer viruses infect files executed by your computer – files with extensions such as .exe, .com, or .vbs. When your computer executes an infected program, it also executes the attached virus instructions. These instructions then remain in RAM, waiting to infect the next program your computer runs or the next disk it accesses.

5. A key characteristic of viruses is their ability to "lurk" in a computer for days or months, quietly replicating themselves. While this replication takes place, you might not even know that your computer has contracted a virus; therefore, it is easy to inadvertently spread infected files to other files to other people's computers.

6. A virus can be classified as a file virus, boot sector virus, or macro virus. A *file virus* infects application programs, such as games. *A boot sector virus* infects the system files your computer uses every time you turn it on. These viruses can cause widespread damage to your computer files and recurring problems. *A macro virus* infects a set of instructions called a "macro" – a miniature program that usually contains legitimate instructions to automate document and worksheet production. When you view a document containing an infected macro, the macro virus duplicates itself into the general macro pool, where it is picked up by other documents.

2. *В 3-м абзаце найдите предложение с инфинитивом в функции обстоятельства цели. Перепишите и переведите предложение письменно.*

3. *В 5-м абзаце найдите предложение с инфинитивом в функции определения. Перепишите и переведите предложение письменно.*

4. *Прочтите 3-й, 4-й и 5-й абзацы и письменно ответьте на вопрос:* ***How do computer viruses spread?***

Вариант 5

1. *Прочтите и устно переведите весь текст. Перепишите и письменно переведите 3-й и 5-й абзацы.*

Internet

1. The Internet (also known simply as "the Net") can be briefly understood as "a network of networks". Specifically, it is the worldwide, publicly accessible network of interconnected computer networks that transmit data by packet switching

using the standard Internet Protocol (IP). It consists of millions of smaller domestic, academic, business, and governmental networks, which together carry various information and services, such as electronic mail, online chat, file transfer, and the interlinked Web pages and other documents of the World Wide Web.

2. Contrary to some common usage, the Internet and the World Wide Web are not synonymous: the Internet is a collection of interconnected computer networks, linked by copper wires, fiber-optic cables, wireless connections, etc.; the Web is a collection of interconnected documents, linked by hyperlinks and URLs. The World Wide Web is accessible via the Internet, along with many other services including e-mail, file sharing and others described below.

3. The best way to define and distinguish between these terms is to understand the Internet Protocol suite. This collection of protocols is organized into layers which communicate with IP (Internet protocol) and TCP (transfer control protocol). Once this networking structure is established, then other protocols can run "on top". These other protocols are sometimes called services or applications. Hypertext transfer protocol, or HTTP, is an application layer protocol that links billions of files together into the World Wide Web.

4. Toward the end of the 20th century, the advent of the World Wide Web marked the first era in which any individual could have a means of exposure on a scale comparable to that of mass media. For the first time, anyone with a web-site can address a global audience, although serving to high levels of web traffic is still relatively expensive. It is possible that the rise of peer-to-peer technologies may have begun the process of making the cost of bandwidth manageable. Although a vast amount of information, imagery, and commentary (i.e. "content") has been made available, it is often difficult to determine the authenticity and reliability of information contained in (in many cases, self-published) web pages. The invention of the Internet has also allowed breaking news stories to reach around the globe within minutes.

5. The rapid growth of instantaneous, decentralized communication is often deemed likely to change mass media and its relationship to society. "Cross-media" means the idea of distributing the same message through different media channels. A similar idea is expressed in the news industry as "convergence". Many authors understand cross-media publishing to be the ability to publish in both print and on the web without manual conversion effort. An interesting number of wireless devices with mutually incompatible data and screen formats make it even more difficult to achieve the objective "create once, publish many".

2. *В 1-м абзаце найдите Participle I в функции обстоятельства. Перепишите и переведите предложение письменно.*

3. *В 4-м абзаце найдите предложение с Participle I в функции подлежащего. Перепишите и переведите предложение письменно.*

4. *Прочтите 2-й абзац и письменно ответьте на вопрос:* ***How are the World Wide Web and the Internet interconnected?***

ТЕКСТЫ ДЛЯ ПРОСМОТРОВОГО ЧТЕНИЯ

Database Management Systems

Databases are used within a medical context for many purposes. For example, they are used to hold patient details so they can be accessed from anywhere within a hospital or network of hospitals. With the recent improvements in image compression techniques, X-rays and scan output can also be held in databases and accessed in the same way.

These multi-user databases are managed by a piece of software called a database management system (DBMS). It is this which differentiates a database from an ordinary computer file. Between the physical database itself (i.e. the data as actually stored) and the users of the system is the DBMS. All requests for access to data from users – whether people at terminals or other programs running in batch – are handled by the DBMS.

One general function of the DBMS is the shielding of database users from machine code (in much the same way that COBOL shields programmers from machine code). In other words, the DBMS provides a view of the data that is elevated above the hardware level, and supports user-requests such as "get the patient record for patient Smith", written in a higher-level language.

The DBMS also determines the amount and type of information that each user can access from a database. For example, a surgeon and a hospital administrator will require different views of a database.

When a user wishes to access a database, he makes an access request using a particular data-manipulation language understood by the DBMS. The DBMS receives the request, and checks it for syntax errors. The DBMS then inspects, in turn, the external scheme, the conceptual scheme, and the mapping between the conceptual scheme and the internal scheme. It then performs the necessary operations on stored data.

In general, fields may be required from several logical tables of data held in the database. Each logical record occurrence may, in turn, require data from more than one physical record held in the actual database. The DBMS must retrieve each of the required physical records and construct the logical view of the data requested by the user. In this way, users are protected from having to know anything about the physical layout of the database, which may be altered, say, for performance reasons, without the users having their logical view of the data structures altered.

To Whose Advantage Computer Viruses Are Written?

Copyleft (cl) is distribution of programs without registering the software, i.e. using a cracked copy. The practice is widely used in the territory of former USSR even by medium and big companies, to say nothing of ordinary users. This software is stolen, which involves criminal responsibility. One of the general valuables of our culture is generosity, and you can't do anything about it. But at least freeware lovers

should know that proceeding with the practice could be risky. That's the first use of computer viruses – as a sort of compensation to software developers.

In the very same way writing viruses usually does not bring profits to the author at least when the authors of a virus and a cure to it are different persons. The situation is quite different when they are not, especially if the person manages to hide the fact of the double-dealing. And that is the second advantage of computer viruses.

Yes, developers of antiviral software gain money from selling their remedy to a new widely hyped by the mass media virus. Agitation can grow so strong that all and everyone dash to buy an antiviral protection against even a most harmless virus. The ordinal behaviour of share indexes in stock exchanges while a computer virus epidemic is to fall. Somehow, the shares of such companies as symantec (which is famous for its Norton Antivirus) will soar up the sky.

The tendency is especially significant in the world of emerging New Economy. This fancy word means an economy, based on computer services as the engine of the development. The system takes place in the United States. That is why we hardly ever hear the names of Dow Jones and Standard & Poor's in the mass media nowadays. Their place is occupied by NASDAQ Composite index, based on the National Association of Securities Dealers Automated Quotations system. The index is responsible for the performance of high-tech companies, the base of the New Economy.

We can't say for sure, but maybe in the nearest future the index will be influenced more by computers themselves than brokers and dealers in the world stock exchanges. IBM Corporation has recently presented its new invention - an automated broker, which is indeed a mainframe (a very big computer) with specialized software. It is a descendant of mainframe DeepBlue, well known for its skills in chess field. Unfortunately, it seems that bad times have come for the whole economy of the USA, which also means problems for NASDAQ.

Nevertheless the initiative of IBM should certainly be greeted. Automated brokers seem to understand the volatility of indexes in a much quicker and rational way than human beings. There is an only drawback to eliminate – the problem of artificial intellect. Machine can't think as a human.

Maybe computer viruses could be of any use here too. After all, the flights to the Moon become a simple effect of inventing the new ways of civil population extermination during the Second World War (ballistic rockets). A wish to kill people made a fantastic daydream become reality within fifty years. The first computing machine was actively used in the first atomic bomb development. So sometimes even a very bad invention, much more dangerous than viruses (name at least one person being victim of a cruel computer virus), can highly assist to the progress and bring a greater profit.

The Internet

The Internet, a global computer network which embraces millions of users all over the world, began in the United States in 1969 as a military experiment. It was designed to survive nuclear war. Information sent over the Internet takes the shortest path available from one computer to another. Because of this, any two computers on

the Internet will be able to stay in touch with each other as long as there is a single route between them. This technology is called packet switching. Owing to this technology, if some computers on the network are knocked out (by a nuclear explosion, for example), information will just route around them.

Most of the Internet host computers (more than 50 %) are in the United States, while the rest are located in more than 100 others countries. Although the number of host computers can be counted fairly accurately, nobody knows exactly how many people use the Internet, there are millions, and their number is growing by thousands each month worldwide.

The most popular Internet service is e-mail. Most of 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, telnet, FTP and Gopher.

In many developing countries the Internet may provide businessmen with a reliable alternative to the expensive and unreliable telecommunications systems of these countries. Commercial users can communicate over the Internet with the rest of the world and can do it very cheaply. When they send e-mail messages, they only have to pay for phone calls to their local service providers, not for calls across their countries or around the world. The answer is very simple: a user pays his/her service a monthly or hourly fee. One part of this fee goes towards its hosts to connect to a larger service provider. And the rest of the fee got by the large provider goes to cover its costs of running a worldwide network of wire and wireless stations.

But saving money is only the first step. If people see that they can make money from the Internet, commercial use of this network will drastically increase.

However, some problems remain. The most important is security. When you send an e-mail message to somebody, this message can travel through many different networks and computers. The data are constantly being directed towards its destination by special computers called routers. Because of this, it is possible to get into any of computers along the route, intercept and even change the data being sent over the Internet. In spite of the fact that there are many strong encoding programs available, nearly all the information being sent over the Internet is transmitted without any form of encoding, i.e. “in the clear”. Some banks and companies even conduct transactions over the Internet; but they face both commercial and technical problems which will take time to be resolved.

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DIRECTIONS AND TESTS FOR CORRESPONDENCE STUDENTS

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