Уважаемые студенты!
Прочитайте тексты, ответьте на вопросы письменно и выполните все задания по теме «Компьютерная грамотность».
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Text A: «WHAT IS A COMPUTER?»

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

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

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

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

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

Vocabulary:

characters — символы
data — данные
decision — решение
device — устройство
hardware — оборудование
instruction — команда
intelligence — разум
manner — манера, способ
microwave — микроволновая
procedures — процедуры, операции
purpose — цель
raw — необработанный, сырой
to come to life — оживать
to connect — соединять
to convert — превращать, преобразовывать
to create — создавать
to evaluate — оценивать
to refer to as — называть что-либо
to refine — очищать
to respond — отвечать
transmission — передача

various — различные

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

Exercise 8.1. **Which of the listed below terms have Russian equivalents:**
computer, diskette, metal, processor, scanner, information, data, microphones, printer, modem, Internet.

Exercise 8.2. **Which of the listed above statements are true/false. Specify your answer using the text.**
1) Computer is made of electronic components so it is referred to as electronic device.
2) Computer has no intelligence until software is loaded.
3) There are five elements of computer system: hardware, software, people, diskettes and data.
4) The manner in which computers are connected is the connectivity.
5) Without software instructions hardware doesn't know what to do.
6) The software is the most important component because it is made by people.
7) The user inputs data into computer to get information as an output.
8) Computer is used to help people in decision making process.

Exercise 8.3. **Match the following:**
1) ... doesn't come to life until it is connected to other parts of a system.
2) ... is the term used to describe the instructions that tell the hardware how to perform a task.
3) ... create the computer software instructions and respond to the procedures that those instructions present
4) Information in the form of instruction is called a...
5) The manner in which the various individual systems are connected is...
6) ... is organized, processed and useful for decision making
7) The basic job of the computer is the...
   a) program
   b) information
   c) processing of information
   d) software
   e) connectivity
   f) computer
   g) people

Text B: «HARDWARE»
What is hardware? Webster's dictionary gives us the following definition of the hardware — **the mechanical, magnetic, electronic, and electrical devices composing a computer system.**
Computer hardware can be divided into four categories:
1) input hardware
2) processing hardware
3) storage hardware
4) output hardware.
Input hardware

The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a **keyboard.** It looks very much like a typewriter. The **mouse** is a hand held device connected to the computer by small cable. As the mouse is rolled across the mouse pad, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

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

Processing hardware

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

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

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

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

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

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

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are Hard disk, floppy disk and CD-ROM.

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

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

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

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

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

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

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

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

Vocabulary:

amount — количество
capacity — вместительность
circuitry — эл. цепи
CPU, microprocessor — микропроцессор
hard disk — жесткий диск, «винчестер»
input hardware — устройства ввода данных
keyboard — клавиатура
lap — колени
modem — модем
mouse — устройство для перемещения объектов на экране, «мышь»
output hardware — выходные устройства отображения информации
printer — принтер
processing hardware — устройства обработки данных
RAM — ОЗУ (оперативное запоминающее устройство)
ROM — ПЗУ (постоянное запоминающее устройство)
CD-ROM — накопитель на компакт-дисках (CD)
scanner — сканер
sensitive — чувствительный
sophisticated — сложный
storage **hardware** — устройства хранения данных
temporarily — временно
temporary — временный
the purpose — цель
tier — ярус
to affect — влиять
to connect — соединять
to convert — преобразовывать
to direct — управлять
to execute — выполнять
to interpret — переводить
to provide — обеспечивать
to reach — достигать
to retrieve — извлекать
to roll — катать, перекатывать
volatile — летучий, нестойкий, временный

General understanding:

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware? What are the examples of input hardware?
4. What is mouse designed for? What is a light pen?
5. What is processing hardware? What are the basic types of memory used in a PC?
6. Can a PC-user change the ROM? Who records the information in ROM?
7. What is storage hardware? What is CD-ROM used for? Can a user record his or her data on a CD? What kind of storage hardware can contain more information: CD-ROM, RAM or ROM?
8. What is modem used for? Can PC-user communicate with other people without a modem?

Exercise 8.6. Which of the listed below statements are true/false. Specify your answer using the text.

1) Computer is an electronic device therefore hardware is a system of electronic devices.
2) The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
3) Scanner is used to input graphics only.
4) The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.
5) CPU reads and interprets software and prints the results on paper.
6) User is unable to change the contents of ROM.
7) Printer is a processing hardware because its purpose is to show the information produced by the system.
8) Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.
9) The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed for processing.